

An investigation into political connections: literature review and empirical tests of the impact and antecedent

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An Investigation into Political Connections: Literature Review and Empirical Tests of the Impact and Antecedent

Qiao Wei

This thesis is submitted in fulfilment of the requirements for the degree of Doctor of
Philosophy.



School of Management and Governance

UNSW Business School

The University of New South Wales, Sydney

August 2021

Thesis Title and Abstract

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An Investigation into Political Connections: Literature Review and Empirical Tests of the Impact and Antecedent

Thesis Abstract

Connections between business and political entities ("political connections") have received unprecedented research attention in the last decades. Studies investigate the relationships between political connections and firms' behavior, strategy, as well as various performance outcomes. Meanwhile, scholars have adopted diverse perspectives to explain the role of political connections in these relationships. Nevertheless, reviews designed to synthesize political connections studies has not kept pace with the explosive growth of this scholarship. In addition, there are still research gaps to be addressed within the scholarship. In particular, as political connections can generate both positive and negative impact on the firm, further research is needed to explain the reason behind and reconcile existing mixed findings. Furthermore, prior studies have predominantly focused on understanding the impact of political connections while leaving the antecedents of such connections underexplored. This thesis takes up these challenges by synthesizing prior political connections studies and addressing the research gaps above. This thesis consists of three studies. First, it combines bibliographic techniques and qualitative review techniques to conduct a comprehensive review of the political connections studies published during the last three decades (in Chapter 2). Next, based on the findings of Chapter 2 and guidance for future research provided therein, it includes two empirical studies to investigate how connections may paradoxically influence firms' resource acquisition and utilization for innovation performance (in Chapter 3) and to examine how the emphasis the firm places on financial vs. nonfinancial goals acts as an antecedent of formation of different types of political connections (in Chapter 4). In sum, this thesis offers a more complete and fine-grained understanding of political connections and provides research guidance for future development of the scholarship of political connections.

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Abstract

Connections between business and political entities (“political connections”) have received unprecedented research attention in the last decades. Studies investigate the relationships between political connections and firms’ behavior, strategy, as well as various performance outcomes. Meanwhile, scholars have adopted diverse perspectives to explain the role of political connections in these relationships. Nevertheless, reviews designed to synthesize political connections studies has not kept pace with the explosive growth of this scholarship. In addition, there are still research gaps to be addressed within the scholarship. In particular, as political connections can generate both positive and negative impact on the firm, further research is needed to explain the reason behind and reconcile existing mixed findings. Furthermore, prior studies have predominantly focused on understanding the impact of political connections while leaving the antecedents of such connections underexplored. This thesis takes up these challenges by synthesizing prior political connections studies and addressing the research gaps above. This thesis consists of three studies. First, it combines bibliographic techniques and qualitative review techniques to conduct a comprehensive review of the political connections studies published during the last three decades (in Chapter 2). Next, based on the findings of Chapter 2 and guidance for future research provided therein, it includes two empirical studies to investigate how connections may paradoxically influence firms’ resource acquisition and utilization for innovation performance (in Chapter 3) and to examine how the emphasis the firm places on financial vs. nonfinancial goals acts as an antecedent of formation of different types of political connections (in Chapter 4). In sum, this thesis offers a more complete and fine-grained understanding of political connections and provides research guidance for future development of the scholarship of political connections.

Keywords: Political connections, science mapping, bibliographic, resource acquisition, resource utilization, innovation, family firm, SEW.

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Abbreviations Used in Thesis

CEO	Chief Executive Officer
CIMO	Context, Intervention, Mechanism, and Outcome
CPA	Corporate Political Activity
CSMAR	China Security Market and Accounting Research
CSR	Corporate Social Responsibility
CV	Curriculum Vitae
FDI	Foreign Direct Investment
IPO	Initial Public Offerings
MNE	Multinational Enterprise
MNC	Multinational Corporation
M&A	Merge and Acquisition
NERI	National Economic Research Institute
NIE	New Institutional Economics
N/A	Not Applicable
QFII	Qualified Foreign Institutional Investor
RBV	Resource-Based View
RDT	Resource Dependence Theory
ROA	Ratio of Return to Total Assets
R&D	Research and Development
SEW	Socioemotional Wealth
SME	Small and Medium Enterprise
SOE	State-Owned Enterprise

Chapter 1 Introduction

1.1 Overview

Political connections, linkages between firms and political organizations (Faccio, 2006), has been increasingly studied in the last decades (Tihanyi et al., 2019). These studies encompass investigations into the relationships between political connections and firms' decisions, behaviors, as well as various performance outcomes (Fisman, 2001; Li, Meyer, Zhang, & Ding, 2018; Siegel, 2007; Sun, Mellahi, & Thun, 2010; Zheng, Singh, & Mitchell, 2015; Zhu & Chung, 2014). Meanwhile, scholars have adopted diverse perspectives to explain the role of political connections in these relationships. Nevertheless, reviews designed to synthesize political connections studies has not kept pace with this growth. In addition, despite the rapid growth, there are still research gaps to address within the scholarship. For example, political connections have been found to generate not only positive but also negative impact on firms' decisions, behaviors, and performance outcomes and further research is needed to explain the reason and rationale behind such conflicting findings. Furthermore, prior studies have predominantly focused on understanding the impact of political connections while leaving the antecedents of such connections underexplored. To synthesize prior political connections studies and address the research gaps above, this thesis consists of three studies. First, it relies on bibliographic techniques to conduct a review of the political connections research published during the last three decades (in Chapter 2). Next, based on the findings of Chapter 2 and guidance for future research provided therein, it includes two empirical studies to investigate how connections may paradoxically influence firms' resource acquisition and utilization for innovation performance (in Chapter 3) and examine how the emphasis the firm places on financial and nonfinancial goals acts as an antecedent of political connection

formation decision (in Chapter 4).

1.2 Research Motivation

This thesis is motivated by the growing scholarship of political connections. Researchers have studied political connections across social science disciplines, including economics (Fisman, 2001), finance (Boubakri, Guedhami, Mishra, & Saffar, 2012), management (Zhang, Marquis, & Qiao, 2016), political science (Alimadadi & Pahlberg, 2014), and sociology (Michelson, 2007). In other words, studies on political connections have been built on theories and evidence from these various disciplines. This wide range of political connections scholarship suggests that multiple social science disciplines can help clarify the role of various actors (i.e., political actors, firms, managers, and stakeholders) and can also help explain the factors that can influence and be influenced by political connections. To contribute to the political connections scholarship, this thesis first offers a multidisciplinary review of this scholarship in Chapter 2. Next, the empirical research questions in Chapters 3 and 4 arise from the guidance from the review in Chapter 2.

Chapter 2 aims to offer a more complete understanding of political connections and serve as a bridge for scholars from various academic disciplines to study issues associated with the phenomenon of political connectedness. To do so, it reviews the theoretical perspectives that have been used and research topics that have been studied within political connections scholarship. Meanwhile, it not only presents what these theoretical perspectives and research topics are, but also depicts how they have evolved over the last three decades.

For this purpose, Chapter 2 adopts a novel approach that combines bibliographic, science mapping, and qualitative review techniques. In that regard, it combines quantitative

analyses and qualitative interpretations to offer conclusions. There are significant advantages of this research design. It can help conduct systematic and objective analyses with quantitative method on one hand and allow deep understanding with qualitative method on the other. Accordingly, this chapter first employs bibliographic science mapping, which is a quantitative review method, to analyze thousands of political connections articles objectively. Using a large sample of political connections articles¹ derived from *Web of Science* and benefiting from the advanced techniques of science mapping, this chapter offers analytical results about theoretical perspectives and research topics, both in terms of overall status throughout the analysis window and evolution over time. Second, this chapter turns to qualitative review method to interpret all the results of science mapping. In particular, it interprets the linkages among theoretical perspectives, the linkages among research topics, and the changes to these linkages during the study period. In the end, to help further develop the scholarship of political connections, Chapter 2 offers guidance consisting of a set of research questions that remain unanswered. Specifically, it provides future research guidance for potential theoretical perspectives and potential combinations of theoretical perspectives that can be used to explain political connections and also highlights underexplored research topics related to political connections.

Regarding the impact of political connections on firms, findings from Chapter 2 show that little consensus has been reached on the relationship between political connections and firms' innovation performance (Kotabe, Jiang, & Murray, 2011; Lin, Zeng, Ma, Qi, & Tam, 2014). Herein, an unanswered question that may help to reconcile the mixed findings around this relationship raised by Chapter 2 is: *what are the mechanisms through which political*

¹ An article is included in the sample if it discusses political connections defined as the boundary-spanning linkages between firms and political organizations.

connections influence firms' innovation performance? To address this research question, Chapter 3 of this thesis focuses on the mechanisms of resource acquisition and resource utilization and investigates how political connections influence firms' innovation performance through these two mechanisms. Further, Chapter 3 differentiates the type of political connections the firm has and the type of resources instrumental for firm innovation performance. It proposes that connections to different political branches (i.e., the administrative branch vs. the legislative branch) have distinctive impact on acquiring different types of resources (i.e., financial capital and human capital) and utilizing these resources for innovation.

Chapter 3 utilizes a quantitative research design as the primary analytical method, complemented by qualitative evidence. This chapter employs quantitative analysis to test its hypotheses on a dataset that contains all Chinese listed firms, which is generated by merging China Security Market and Accounting Research (CSMAR) and National Economic Research Institute (NERI) databases. In testing the impact of political connections on the acquisition of managerial human capital (i.e., R&D talents), we expected to know how individuals' perception of political connections shape their decision to join the connected firms. To support our theory, we conducted additional in-depth interviews with China-based R&D talents. These individuals talk about how their evaluation of firms' political connections affects their decision to work for the connected firms. By doing so, qualitative evidence lends stronger support for the results of quantitative tests.

Findings support the proposed framework. Specifically, connections to the administrative branch offer greater financial capital while hindering access to human capital; connections to the legislative branch do not offer more financial capital but enable firms to

attract more specialized human capital for innovation. Next, connections to the administrative branch hamper the utilization of financial capital for innovation but do not impact the use of human capital, while connections to the legislative branch do not help transform financial capital to innovation outputs but contribute to more effective use of human capital for innovation. Based on these findings, Chapter 3 suggests that prior conflicting findings of the impact of political connections on innovation performance can be due to not attending both to the heterogeneity of political connections and the complex resource acquisition and utilization mechanisms in-between.

As to the antecedents of political connections, Chapter 2 highlights that prior studies remain largely silent on why and how political connections are established. The very few studies on antecedents of connections share the assumption that firms pursue political connections for the associated gains (Jia, 2016; Li & Liang, 2015; White III, Fainshmidt, & Rajwani, 2018). However, as Chapter 2 shows, studies on the impact of political connections have demonstrated both gains and losses associated with political connections (Chen, Li, Luo, & Zhang, 2017; Sun, Hu, & Hillman, 2016). Therefore, an unanswered question concerning the antecedents of political connections is: *how do firms trade off the prospective gains and losses when forming political connections?* In this thesis, Chapter 4 responds to this research question by developing a mixed gamble decision-making model. It proposes that firms selectively choose the type of political connections to seek gains and avoid losses simultaneously. To validate this model, Chapter 4 attends to the differences between family versus nonfamily firms and differentiates connections to the administrative and legislative branches. Since family firms focus more on nonfinancial (i.e., socioemotional wealth (SEW)) gains and losses while nonfamily firms have a more balanced interest between financial and

nonfinancial gains and losses, Chapter 4 argues that family firms are more likely to form the type of political connections that allows SEW gains but less likely to form the type of political connections that may induce SEW losses. Moreover, consistent with the decision-making model, Chapter 4 further argues that firms' decisions to form political connections will change as the weight they put on financial and nonfinancial goals changes.

To test the proposed model, Chapter 4 adopts a quantitative research methodology. Using a data set of Chinese listed non-SOEs, which include family firms and nonfamily firms, findings support the proposed mixed gamble decision-making model. Namely, compared to nonfamily firms, family firms are less likely to form connections to the administrative branch as these connections are expected to bring SEW losses and they are more likely to form connections to the legislative branch since family firms expect significant SEW gains from such connections. Moreover, the differences in decisions of family and nonfamily firms are enhanced if SEW goals are more important for the family firm and such differences diminish if the financial performance of the family firm is under threat, such that firms' financial goals are more important. As a result, Chapter 4 suggests that the emphases firms place on the expected financial and non-financial gains and losses from different types of political connections help them make trade-off decisions thus explaining a potential antecedent of political connections.

1.3 Research Context

The two empirical studies in Chapter 3 and Chapter 4 are conducted in the context of China. China is an excellent research site for studying political connections. First, political organizations remain influential in economic and social systems in China (Zheng & Weng,

2016). In particular, the Chinese government (i.e., the administrative branch) continued to have a substantial influence on resource allocation (Stuart & Wang, 2016), policymaking, and market regulation (Guillén & Capron, 2016). Connections to political organizations thus remained prevalent and important to the firm (Zhang et al., 2016). Second, Chinese firms have increasingly strived to innovate (Jia, Huang, & Man Zhang, 2019), implying that it is appropriate to focus on Chinese firms' innovation performance in Chapter 3. Third, Chinese non-SOEs still face legitimacy-related disadvantages and unfavorable institutional conditions by the nature of their ownership type, compared to SOEs. In such a setting, it is common for non-SOEs to establish connections with political organizations (Jia, 2014). Therefore, the context of China is also suitable for Chapter 4.

1.4 Contributions of Thesis

This thesis makes four major contributions to the scholarship of political connections. First, this thesis contributes to a more complete understanding of political connections scholarship. It reviews political connections studies across various social science disciplines (Chapter 2) and advances investigations into both impact and antecedent of political connections (Chapters 3 and 4, respectively). Such efforts help scholars understand political connections from multiple research perspectives and uncover factors that both influence and are influenced by political connections.

Second, this thesis brings to the fore the heterogeneity of political connections, which is currently underexamined in the literature. It does so by first showing various categorizations of political connections (Chapter 2) and then by differentiating connections to the administrative branch and the legislative branch (Chapters 3 and 4). Moreover, drawing

upon two political branches' different functions, interests, and resources, it demonstrates that connections to different political branches can generate heterogeneous impact for the firm. Further, firms can perceive differences between these two types of connections and make connection formation decisions to different political branches taking into account their heterogeneity. Therefore, this thesis responds to the calls for more nuanced analyses for political connections (Siegel, 2007; Zheng et al., 2015).

Third, this thesis extends research on political connections with new understandings of their dark side, given that prior research has focused on the bright side of political connections. To this end, it not only presents the dark side of political connections by summarizing prior findings (Chapter 2), but also investigates which type of political connections has a dark side and through what channel can such a dark side be manifested. Testing on firms' innovation performance (Chapter 3), this thesis suggests that the dark side is generated by connections to the administrative branch not connections to the legislative branch. Meanwhile, one channel for manifesting the dark side is outsider stakeholders' undesirable perceptions to political connections. Turning to firms' decision to form political connections (Chapter 4), this thesis further validates that firms can recognize the dark side of connections to the administrative branch and so avoid such connections if they view the dark side as very important.

Fourth, this thesis contributes to the scholarship of political connections by offering guidance for future development. Based on the findings of the multidisciplinary review in Chapter 2, it suggests scholars further develop research on political connections with theoretical perspectives and research topics across social science disciplines. By conducting empirical tests in Chapters 3 and 4, it suggests new approaches to investigate the role of

political connections in the strategic management field. Taken together, our focus on social science disciplines in Chapter 2 and the strategic management field in Chapters 3 and 4 provides examples of political connections research with a range of perspectives and guides research on political connections within different fields.

1.5 Organization of Thesis

The remainder of this thesis is organized into five chapters. A brief description of each of these chapters is as follows. Chapter 2 is the literature review for the scholarship of political connections. Special attention is paid to the intellectual structure underlying this scholarship and research topics related to this scholarship. For both aspects, overall status analysis and evolution analysis are conducted. Chapter 3 is an empirical study examining the relationship between political connections and firms' innovation performance through the mechanisms of resource acquisition and resource utilization. Chapter 4 conducts an empirical study investigating the influence of firms' priorities in financial and nonfinancial goals on firms' decisions to form political connections and how such decisions change with the variance in firms' priorities. Chapter 5 is the concluding chapter which synthesizes the findings from Chapters 2—4, outlines how these chapters contribute to the scholarship of political connections, discusses the contributions and limitations of the thesis, and proposes further research directions.

Chapter 2 A Multidisciplinary Mapping of Political Connections Research: Looking Back and Looking Ahead

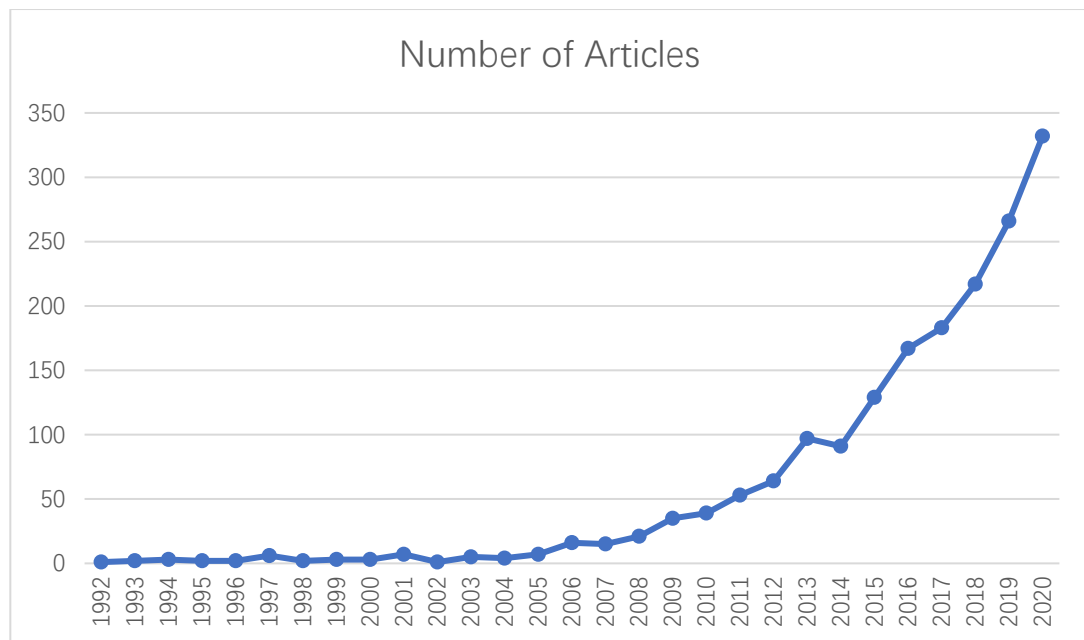
2.1 Introduction

Organizations establish boundary-spanning connections with political entities (i.e., political connections) (Faccio, 2006). Political connections can be established through individuals across business-political domains. For instance, organizations establish political connections by inviting political actors to serve on the board or as top managers (Zheng, Singh, & Mitchell, 2015), or through executives' personal service in politics (Yan & Chang, 2018). Political connections may also occur at the organizational level through organizations' affiliation to political entities (Ding, Jia, Qu & Wu, 2015). Scholars across social science disciplines have shown increasing interest in understanding the nature, antecedents, and outcomes of political connections to organizations. During the past decades, scholarship on political connections has experienced explosive growth (see Figure 2-1)², which can be caused by the increasingly recognized state power on the firm and the development of nonmarket strategy studies in general. These research efforts have associated political connections with a variety of research topics, such as firm performance (Haveman et al., 2017; Zheng et al., 2015), resource access (Khwaja & Mian, 2005; Nee & Oppen, 2010), investment efficiency (Chen, Sun, Tang, & Wu, 2011), market orientation (Chung, 2012), and public procurement allocation (Titl & Geys, 2019). Such rapid growth in volume and scope of research on political connections indicate that scholarship of political connections has grown to a point where a specific review is needed to move research forward. However, existing literature reviews typically treat political connections studies as a stream nested in

² A total of 1,537 articles on political connections were published between 1992 and 2020. The Web of Science does not systematically contain articles published before 1992 (Clarivate Analytics, 2016).

the broader landscape, such as nonmarket strategy (Doh, Lawton, & Rajwani, 2012) and corporate political activity (Rajwani & Liedong, 2015). It is important that we develop a more comprehensive and nuanced understanding of political connections through a specific review for political connection scholarship from various disciplines.

Figure 2-1 Number of publications on political connections by year.



Political connections have been researched by scholars from multiple social science disciplines, including economics (Fisman, 2001), finance (Boubakri, Guedhami, Mishra, & Saffar, 2012), management (Zhang, Marquis, & Qiao, 2016), political science (Alimadadi & Pahlberg, 2014) and sociology (Michelson, 2007). While scholarship *within* each discipline may have flourished, existing research continues to feature fragmentations *between* different disciplines (Rajwani & Liedong, 2015). In particular, literature from each discipline has focused on perspectives and topics to cater for different target audiences. These fragmentations result in research silos and redundant research efforts. This limits our ability to identify research trends and opportunities for meaningful conversations between

management and other research communities. To overcome such limitations, an effort is needed to guide how management scholars can enrich research on political connections by borrowing novel and/or complementary insights from other disciplines (Gao, Sun, Grosman, & Okhmatovskiy, 2021). Aligned with this mission, a multidisciplinary review for the scholarship of political connections is necessary.

Furthermore, a systematic review that unearths the recent development of research on political connections is timely. Among the manuscripts identified by our search, 1294 (72.98 percent) were published after 2015, which is the final year of the articles contained in the most recently published literature review by Tihanyi et al. (2019). Seventy-nine percent of these publications appeared in journals that have not published research on political connections before 2015, highlighting the explosive growth of coverage in more recent years. As such, a review of political connections scholarship promises the potential to update knowledge from existing reviews.

Taking up the challenges above, we rely on recent advances in science mapping techniques and advantages of qualitative review techniques to adopt a multidisciplinary perspective to systematically review the scholarship of political connections. The science mapping technique allows us to structurally review a large number of scholarly outputs to generate novel knowledge by better linking insights across multiple disciplines (Lee, Felps, & Baruch, 2014). The qualitative review technique enables us to conduct in-depth interpretation on such multidisciplinary linkages and offer summaries. In doing so, our study can add value to the political connections research and in turn help to invigorate future research with theory development and topic extension.

2.2 Roadmap of the Review

While existing reviews have offered great insights into political connections, these reviews are constrained by two key limitations: (1) narrow scope and (2) subjectivity.

Table 2-1 provides a summary of recent reviews involving political connections studies. Existing reviews typically focus on examining a small number of articles (i.e., 29-214 articles as shown in Table 2-1) and research outlets (i.e., 6-37 distinct journals), predominantly focusing on specific research topics or specific disciplines. For example, Mellahi, Frynas, Sun, and Siegel (2016) examine the largest number of articles (i.e., 214 articles) but their review primarily focuses on the performance impact of corporate political activity whilst treating political connections as one corporate political activity. This narrow focus may lack the scope to provide a complete overview and thus not be able to contribute directly to a multidisciplinary view of political connections scholarship.

By contrast, the technique of science mapping allows a broader and structured review of research from multiple disciplines and helps generate new insights. This approach enables researchers to take stock of the corpus of the research from across research disciplines. In particular, the science mapping technique allows us to zoom into each research area to study the specific topics and trends established by each discipline, as well as zoom out further to capture the relationships and potential complementarities across disciplines (Lee et al., 2014). By looking at the “trees” within disciplines and the “forest” of political connections scholarship in general, our review helps bridge the theories and topics across disciplines and add value to management studies from a multidisciplinary perspective.

Second, traditional narrative reviews primarily rely on the authors' subjective evaluation of the scholarship. Contributions may thus be limited to the idiosyncrasies of the authors' sensemaking and influenced by normative and cognitive biases of the researchers (Rosenbusch et al., 2011). As a quantification and objective analytical method, science mapping can "improve the review process by synthesizing research in a systematic, transparent, and reproducible manner" (Tranfield, Denyer, & Smart, 2003: 207). In doing so, a review using the science mapping technique helps overcome the limitation of subjectivity in narrative reviews.

Furthermore, science mapping allows additional advantages over other traditional review methods. Science mapping employs bibliometric techniques to generate visual representations of the articles being reviewed. Specifically, it serves to visualize citations and texts (i.e., texts in the sections of title, abstract and keywords), which are respectively the research objects for two types of visualization (Lee et al., 2014; N. Van Eck & Waltman, 2010). Both types of visualization go through the processes of (a) extracting and selecting research objects, (b) mapping research objects and (c) clustering research objects. As a result, visualization helps to identify the shared knowledge as well as the disconnected knowledge in the manner of citations or texts, which can respectively be interpreted as the intellectual structure and research topics in the research area. Citation visualization is well-suited to identifying an area's intellectual structure as the most highly cited papers form the intellectual foundations for the following research endeavor; text visualization allows to identify an area's research topics because a term will appear in the maps only when it has frequently occurred in a certain number of articles. With maps that show the intellectual structure or distribution of research topics, scholars can overcome barriers to scholarly conversations

Table 2-1 Summary of recent reviews related to political connections.

Literature Review	Research Method	Number of Articles Reviewed	Number of Journals Covered	Time Window Covered	Disciplines Covered	Theoretical Perspectives Reviewed	Issues Reviewed
Tihanyi et al. (2019)	Meta-analysis	210	15	1961-2015	Management, Economics, Finance	N/A	(a) How do state ownership and political connections affect firm strategies and financial performance? (b) How does firm-level strategic decision making mediate these effects.
Cui, Hu, Li, and Meyer (2018)	Narrative reviews	111	6	1990-2018	Management (International Business)	NIE, Neo-institutional Perspectives, RDT, Corporate Governance, Resource and Learning, Political Power	The motivations, processes, and outcomes of political connection in global strategy considering the research phenomena, contexts, and theoretical lenses.
Dorobantu, Kaul, and Zelner (2017)	Conceptual work	63	32	1971-2016	Management, Economic(Cui et al., 2018)s, Sociology	NIE	A review for various non-market strategies.
Mellahi et al. (2016)	Narrative reviews	214	14	2000-2014	Management, Economics, Politics, Public Administration	RBV, RDT, Agency Theory, Institutional Theory and Stakeholder Theory	The outcomes of CPA and CSR.
Rajwani and Liedong (2015)	Systematic review using CIMO-logic	56	37	1988-2013	Management, Economics, Finance, Accounting, Politics, Public Policy.	RBV, RDT, Agency Theory, Institutional Theory and Social Capital Theories.	The strategies, mechanisms, and outcomes of CPA in different institutional contexts.
Fan, Liang, Liu, and Hou (2013)	Meta-analysis	29	15	1999-2011	Management, Marketing	Resource-based View and Institutional Theory	Whether contextual factors, industry setting, firm size and measurements influence the managerial ties–firm performance link.

across disconnected research communities and also make contributions by bridging those that remain disconnected.

In addition to the research objects, science mapping techniques also vary in the analytic dimensions. One can apply a static dimension to visualize the overall status of research, and a dynamic dimension to visualize the research evolution over time. In the maps of overall status visualization, the distance between research objects reflects their relatedness, such that the citations located closer have been cited together by a larger amount of literature or the texts located closer have occurred together in a larger amount of literature. In the maps of evolution visualization, research objects are colored according to the time they occurred in literature. Combining static and dynamic dimensions of analyses, scholars can obtain insights about the connectedness of knowledge at a distinct time point and also generate insights from the research trends by tracing maps over time.

Given the benefits of science mapping above, scholars within the field of management have begun to visualize research in areas such as international management (Acedo & Casillas, 2005), strategic management (Ramos-Rodríguez & Ruíz-Navarro, 2004), human resource management (Markoulli, Lee, Byington, & Felps, 2017) and business ethics (Uysal, 2010). Likewise, our review takes advantage of this technique and conduct more completed and objective analyses on political connections studies.

Our review follows a three-step approach. First, we employ bibliographic science mapping to analyze all the political connections studies. By this process, we obtain objective results about the most highly cited papers and most frequently occurred terms, both in terms of overall status till now and evolution over time. Second, we leverage the qualitative method to offer an in-depth and meaningful interpretation of the results from science mapping.

Specifically, we identify the theoretical perspectives used by the most highly cited papers and understand the linkages among these theoretical perspectives. We also summarize the research topics reflected by the most frequently occurred terms and elaborate the linkages among research topics. Meanwhile, our interpretations include their overall status and evolutions over time. Third, based on our interpretations and summaries, we provide research guidance that aims to further develop the scholarship of political connections with theoretical perspectives and research topics across social science disciplines.

2.3 Methodology

2.3.1 Sample and Data

We went through two complementary search processes to identify sample articles for review. First, we conducted an exhaustive search in the *Web of Science* using key terms. An article will be included in our sample if it discussed political connections between organizations and political entities. To this end, we employed two sets of key terms for our search, one indicates political connections including “*political connection*”, “*political tie*”, “*political network*”, or “*political embeddedness*” (plus any suffix), in combination with the other which was used to make the article relevant to an organizational context, including “*firm*”, “*organization*”, “*enterprise*”, “*corporate*”, “*venture*”, “*company*”, or “*business*” (plus any suffix). We identified 1,521 articles from this process. Since we have not filtered with the journal, the identified articles are published in journals across social science disciplines. According to the categorization by *Web of Science*, these journals belong to management (349 sample articles), economics (633 sample articles), political science (67 sample articles), sociology (90 sample articles), and multidiscipline. The distribution of articles across social science

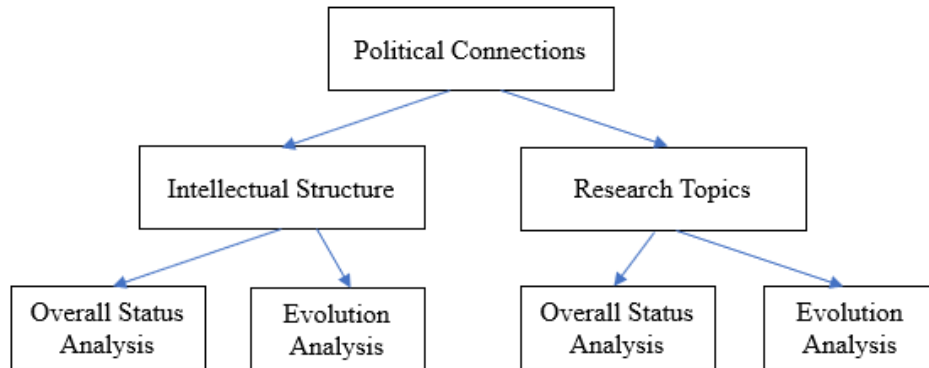
outlets highlights the multidisciplinary nature of political connections research. Second, we performed snowball sampling to track all the references to identify the most highly cited articles which were absent from the results of automated searching. This process generated an additional 16 articles. As a result, we obtained 1,537 sample articles in total for years from 1992 to 2020. We next input all sample articles to *VOSviewer* (N. J. Van Eck & Waltman, 2011b) to perform automated bibliometric analyses.

2.3.2 Analysis Method

Relying on the technique to review two types of research objects (i.e., citations and texts), we examine the scholarship of political connections in terms of (1) intellectual structures and (2) research topics. Examining the intellectual structure and research topics together offers a complete understanding of the political connections scholarship and offers an avenue to provide guidance for future research opportunities for scholars. To analyze intellectual structure, we identify and interpret the most important social science theoretical perspectives for understanding political connections with a view that these theoretical perspectives together build the intellectual structure for the whole scholarship. To analyze research topics, we identify and interpret the most important topics that have been discussed together with political connections. In addition, to identify the overall and temporal trends in the literature, we conduct analyses on intellectual structure and research topics with two dimensions (i.e., static dimension and dynamic dimension), which respectively analyzes their overall status and the evolution. The overall status analyses investigate “what theoretical perspectives have been applied and what research topics have been studied in this scholarship” while the evolution analyses study “how did the theoretical perspectives and research topics in this scholarship change over time”. The analyses across social science disciplines and over time

in turn allow us to identify promising future research opportunities. The structure of our review is depicted in Figure 2-2.

Figure 2-2 Structure of science mapping analyses.



Analyses for intellectual structure (co-citation). As mentioned afore, analysis of intellectual structure is based on the identification and interpretation of the most important social science theoretical perspectives. First, we employ the quantitative, co-citation technique of science mapping to help identify the most important theoretical perspectives for the scholarship of political connections. In doing so, science mapping counts the frequency with which two papers are cited together in our sample (Ramos-Rodríguez & Ruíz-Navarro, 2004). Then, it displays the most highly cited papers in the map based on the counts (i.e., frequency of being cited by sample articles) and visualize the location relations among these highly cited papers in the map according to their co-citation relations (i.e., frequency of being cited together). Second, we use the qualitative method to interpret the results and capture the theoretical perspectives that constitute the intellectual structure of the political connections scholarship. We consider that articles cite papers to refer to the knowledge of these papers, so the perspectives demonstrated by the most highly cited papers have been widely referred to by our sample articles to know political connections. Following this logic, we read the

most highly cited papers and capture their perspectives, which are the most important theoretical perspectives for the scholarship of political connections. Further, to understand how these perspectives together construct the intellectual structure of this scholarship, we interpret the location relations of these perspectives in the map. Specifically, the closer two influential papers are located on the map, the more likely their perspectives are combined in the intellectual structure. As a result, co-citation analyses enable us to identify the most important perspectives and interpret how these perspectives construct the intellectual structure with their relations (Pilkington & Liston-Heyes, 1999).

Next, we introduce how we conduct co-citation analyses for our study. We identified and interpreted 100 most co-cited papers and conducted analyses on a 100 by 100 co-citation matrix. These papers had at least 47 cited references out from the total 50,679. We chose the most co-cited 100 papers to improve the quality of the analyses. This is because many of the papers have very few co-citations and are either unlikely to have had a significant impact on the development of the field or are too recent to have had time to impact the field.

Once the citation counts were obtained, we used the *Network Visualization* technique to map the overall status of the intellectual structure according to the citation frequency of the highly cited papers and the co-citation relationships among these highly cited papers. In the map, each circle represents a highly cited paper, and the size of the circle corresponds to the frequency of its citation. In addition, these influential papers were grouped into clusters. Papers that have been cited more often together are located closer to each other and papers located closer to the center has been co-cited with a broader range of other papers. This approach is instrumental in understanding the way in which these clusters of papers

interrelate (Pilkington & Liston-Heyes, 1999), hence, the way in which the perspectives carried by these papers has been structured.

Next, to assess changes in the most co-cited papers and trace the evolution of intellectual structure pertaining to the scholarship of political connections, it was necessary to divide the sample articles into sub-periods (Ramos-Rodríguez & Ruíz-Navarro, 2004), and then compare the co-citation relations at different periods (Hou, Yang, & Chen, 2018). Moreover, as aforementioned, because large amounts of sample articles were published in the latest few years, it may not be appropriate to divide sample articles into equal sub-periods as previous bibliometric studies do. This is because an influential paper may be published recently and hence could not accumulate enough co-citations compared to the earlier literature. Considering that the influential papers that were published recently may have been cited frequently by the recent sample articles, we referred to the cutting time point of 2014, which is the publishing year of the latest highly cited literature in the overall status analysis, to divide sample articles (i.e., the early group covering the sample articles published before 2014 and the recent group covering the articles published after 2015). Likewise, for each group, we filtered papers with the criteria of 100 most co-cited papers. At last, influential literature have at least 13 cited references out of a total of 17,049 from the early group while at least 36 cited references out of the total 35,821 references from the recent group.

Analyses for research topics (co-occurrence). Analysis of research topics is based on the identification and interpretation of the most widely discussed topics. Again, we first adopt the quantitative method, namely, the co-occurrence technique of science mapping, to help identify the most widely discussed topics. In this process, science mapping uses natural language processing to count the frequency that two noun terms (i.e., groups of nouns and

preceding adjectives) occurred together in the title or abstract of sample articles. Then, it displays the most frequently occurred terms in the map based on the counts (i.e., frequency of occurring in the sample articles' title or abstract) and visualizes the location relations among these highly occurred terms in the map according to their co-occurrence relations (i.e., frequency of occurring together). Second, we use the qualitative method to interpret results and capture the research topics of the political connections scholarship. We read the representative sample articles wherein the most highly occurred terms occur and understand how these terms are discussed with political connections. Going beyond these understandings, we summarize the research topics related to political connections.

We identified and interpreted 491 most co-occurred terms. These terms were selected since they met the threshold we applied for analyses and thus appearing in the maps. Namely, only those that occurred in the title/abstract of at least 10 different articles are extracted. This threshold helps ensure reliable placement of term relations in the map and remove meaningless terms (N. J. Van Eck & Waltman, 2011a, 2011b). Next, the generic noun terms such as “impact” and “panel-data” were removed as such phrases co-occur indiscriminately across the corpus and thus are not helpful for distinguishing specific research topics. Furthermore, we normalized terms to ensure appropriate treatment for synonyms, antonyms, and subordinate words. For instance, “political connectedness” was replaced by “political connections” since they are indicating the same topic; although “non-SOE” is the antonym of “SOE”, we converted “non-SOE” to “SOE” because both terms were used to study state ownership. At last, 491 out of 22945 terms met the threshold and were prepared to appear on the maps.

To prepare terms for the overall status map, *Network Visualization* counts each term's frequency of occurrence also measures the relations among these identified terms. The frequency of the term's occurrence determines the size of the circle that is named with the term. The relations among terms, which are calculated with the ratio of co-occurrence between two terms over the total occurrence counts of the two terms, determine terms' locations in the map. Specifically, terms that are located closer to each other are more likely to occur in the same article's title or abstract, and terms at the center of the map co-occur with a wider range of terms than terms at the periphery of the map. At last, terms are assigned to clusters based on the rules that terms with high relatedness are categorized into the same cluster and colored accordingly.

To map the evolution of research topics, *Overlay Visualization* technique was applied. In this map, the terms and their locations are the same as those in the overall status map, but these terms are re-colored according to the time they most frequently occur in sample articles' title or abstract. Basically, terms with a darker color were more likely discussed earlier while those with a lighter color more likely occurred in recent sample articles.

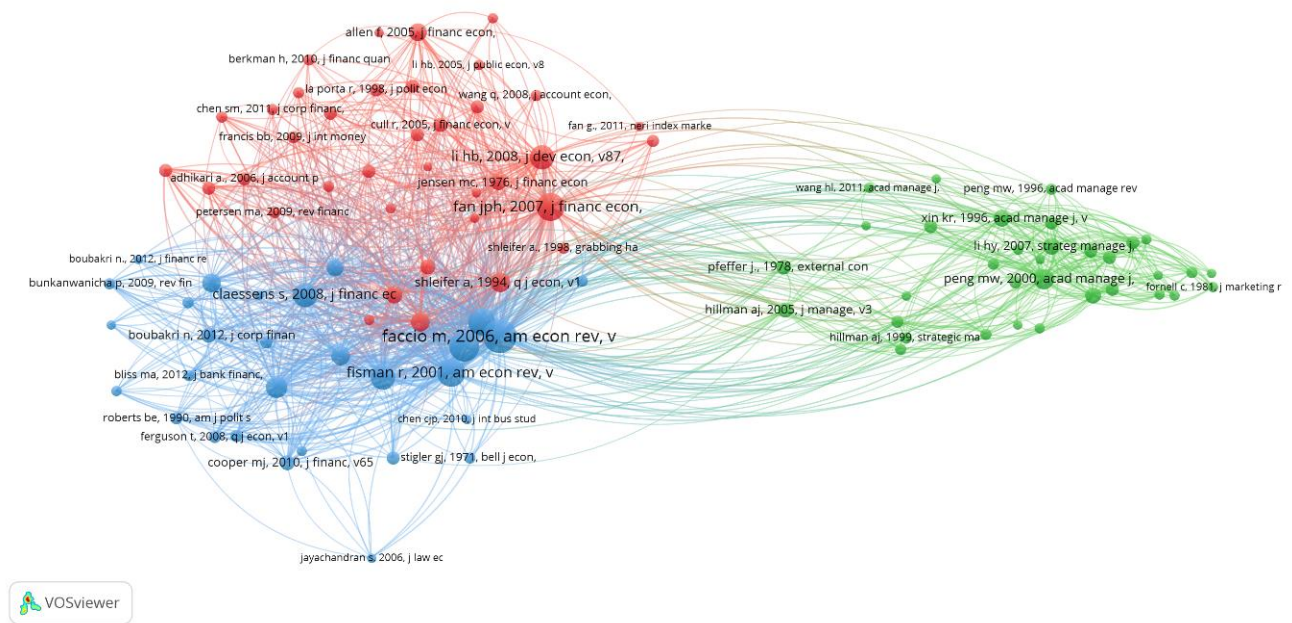
2.4 Results

2.4.1 Overall Status of Intellectual Structure

The result of our analysis is presented visually in Figure 2-3, where influential papers are grouped into three clusters, identifiable by different colors. The size of the circles in the map is proportional to the number of citations the paper presented by that circle has received from all the 1,537 papers in our sample. In other words, papers that have been more influential are displayed with a larger circle. And, papers that have been cited together more frequently are

located closer in the figure. This means those who have been frequently cited together tend to appear in the same cluster, while those rarely cited together tend to appear in different clusters. Also using the logic of location, papers that have been co-cited with more papers in the cluster they belong to will occupy a central position within that cluster, while those cited with few others will be on the periphery of it (White & McCain, 1998). Based on these observations, we next provide insights into (1) the impact of intellectual perspectives these influential papers have and (2) how different intellectual perspectives are used together.

Figure 2-3 Visualizing the overall status of intellectual structure in the political connections literature.



2.4.1.1 Impact of intellectual perspectives

First, we focus on the papers that have been cited most frequently to capture the perspectives that have strongly impacted the scholarship of political connections and hence became the components of its intellectual structure. For this purpose, we record the highly cited papers'

number of citations they received from the 1,537 papers in our sample in Table 2-2. Note that these frequencies are in accordance with these papers' circle size in Figure 2-3. Column A of Table 2-2 lists the 50 most cited papers, arranged in order of the number of citations they received. By reading, we identify the key intellectual perspectives used by a given paper in Column B. As can be seen from Column B, 18 papers contain organizational theories (e.g., resource-based view and resource dependency theory), 16 apply various perspectives from economics (e.g., economic theories of growth, regulation, property rights et al.) and finance theories (e.g., agency theory), 6 are founded on political science, 5 engage in network theories in sociology, 1 is a methodology paper, and 14 papers are descriptive quantitative studies. In addition, most papers apply theories from a singular discipline.

We can interpret these results as follows. First, influential papers in political connections scholarship were conducted using perspectives across social science disciplines. However, as can be seen from Column B, these influential papers predominantly contain a single intellectual perspective within them. Second, while perspectives from multiple disciplines have been applied, investigating the total number of papers that used a specific perspective, we note that these perspectives are not of equal importance. Organizational theories are the most important perspectives, having been used by 18 of the 50 most influential articles. The political and sociological theories, in contrast, are used less by these influential papers on political connections. Such a difference may be because political connections have been most widely studied as a characteristic of the firm compared to that of individuals, political bodies, or social communities. In other words, the articles in our sample have emphasized firms' actions and decisions for political connections more than states'. Third, we note that there are 14 papers we classified as descriptive quantitative studies.

Table 2-2 The clusters in the overall status analysis of intellectual foundations.

		Whole Study Period			Early Period			Recent Period			Changes from the Early Period to the Recent Period		
Column A	Column B	Column C			Column D			Column E			Column F		
Influential Papers	Intellectual Perspective	Cluster	Rank	Citation Frequency	Cluster	Rank	Citation Percentage	Cluster	Rank	Citation Percentage	Change in Rank	Change in Citation Percentage	Change in Cluster
Faccio (2006)	Empirical evidence	3	1	7.23%	3	1	7.99%	3	1	7.07%	0	-11.56%	
Faccio et al. (2006)	Economics theory of regulation	3	2	5.57%	3	3	5.96%	3	2	5.51%	1	-7.48%	
Fisman (2001)	Empirical evidence	3	3	5.08%	3	2	6.62%	3	4	4.60%	-2	-30.53%	
J. Fan et al. (2007)	Economic theory of regulation, Political theory	1	4	4.98%	1	6	5.20%	1	3	4.97%	3	-4.43%	
Khawaja and Mian (2005)	Economic theory of political rents	3	5	4.76%	3	4	5.49%	3	5	4.57%	-1	-16.77%	
Johnson and Mitton (2003)	Macroeconomics, Institution-based view	3	6	3.88%	3	5	5.25%	3	8	3.45%	-3	-34.28%	
H. Li et al. (2008)	Institution-based view	1	7	3.82%	1	9	3.07%	1	6	4.14%	3	34.78%	
Claessens et al. (2008)	Economic theory of growth	3	8	3.62%	3	8	3.22%	3	7	3.82%	1	18.84%	
Goldman et al. (2009)	Empirical evidence	3	9	3.04%	3	12	2.27%	3	9	3.37%	3	48.25%	
M. W. Peng and Luo (2000)	Resource-based view	2	10	2.74%	2	11	2.65%	2	10	2.81%	1	6.00%	
Shleifer and Vishny (1994)	Political economy	1	11	2.57%	1	7	3.26%	3	12	2.37%	-5	-27.45%	1-3
Chaney et al. (2011)	Empirical evidence	3	12	2.24%	3	37	1.14%	3	11	2.67%	31	135.41%	
Leuz and Oberholzer-Gee (2006)	Transaction cost economics	3	13	2.18%	3	18	1.89%	3	13	2.32%	5	22.47%	
Agrawal and Knoeber (2001)	Empirical evidence	1	14	2.17%	3	10	2.74%	1	16	2.00%	-6	-27.25%	3-1
Allen et al. (2005)	Economic theory of growth, Finance theory	1	15	1.96%	1	14	1.99%	1	17	1.98%	-3	-0.39%	
Faccio (2010)	Empirical evidence	3	16	1.92%	3	28	1.37%	3	14	2.15%	15	56.59%	
Boubakri et al. (2008)	Economics theory	1	17	1.81%	1	19	1.80%	1	20	1.84%	-1	2.57%	
Haiyang Li and Zhang (2007)	Resource-based view, Transaction cost economics	2	18	1.75%	2	21	1.61%	2	21	1.83%	2	13.58%	
Xin and Pearce (1996)	Theories of organization behavior	2	19	1.74%	2	13	2.08%	2	23	1.64%	-10	-21.17%	
Jensen and Meckling (1976)	Economic theory of property rights, Finance theory	1	20	1.71%	1	31	1.28%	1	19	1.89%	15	48.33%	
Sheng et al. (2011)	Network theory and Institutional theory	2	21	1.66%	2	45	0.71%	2	15	2.03%	30	186.06%	
Boubakri et al. (2012)	Agency theory, Economic theory of costs	3	22	1.52%	n. a	n. a	n. a	3	18	1.93%	New	New	New 3
Dinç (2005)	Empirical evidence	1	23	1.49%	3	15	1.99%	1	29	1.34%	-14	-32.74%	3-1
Hillman (2005)	Resource dependence	2	24	1.42%	2	43	0.76%	2	22	1.67%	45	121.25%	

Pfeffer and Gerald (1978)	theory	2	25	1.42%	2	23	1.56%	2	26	1.39%	-1	-11.15%	
Cooper et al. (2010)	Resource dependence theory	3	26	1.39%	3	36	1.18%	3	25	1.49%	14	25.87%	
Cull and Xu (2005)	Empirical evidence	1	27	1.32%	1	22	1.61%	1	32	1.23%	-10	-23.23%	
North (1990)	Economic theory of growth and development	2	28	1.18%	2	25	1.47%	2	36	1.10%	-9	-25.02%	
Porta et al. (1998)	Institutional theory	1	29	1.18%	1	20	1.80%	1	42	0.98%	-27	-45.42%	
Park and Luo (2001)	Political theory	2	30	1.17%	2	38	1.14%	2	33	1.20%	10	5.78%	
Wu, Wu, Zhou, and Wu (2012)	Social philosophy, Network theory	1	31	1.17%	n. a	n. a	n. a	1	24	1.52%	New	New	New 1
J. J. Li et al. (2008)	Empirical evidence	2	32	1.16%	2	39	1.09%	2	34	1.20%	13	10.38%	
Adhikari et al. (2006)	Social network theory	1	33	1.16%	3	42	0.90%	1	31	1.27%	23	41.15%	3-1
La Porta et al. (1999)	Empirical evidence	1	34	1.16%	1	17	1.94%	1	46	0.90%	-45	-53.78%	
Sapienza (2004)	Finance theory, Political theory	1	35	1.13%	3	29	1.32%	1	37	1.08%	-9	-18.27%	3-1
Aiken, West, and Reno (1991)	Economic theory of institutions, Political theory, Agency theory	2	36	1.12%	2	40	1.09%	2	35	1.15%	10	5.72%	
M. W. Peng (2003)	Multiple regression	2	37	1.12%	2	32	1.28%	2	38	1.08%	-1	-15.24%	
Charumilind, Kali, and Wiwattanakantang (2006)	Institutional theory, Resource-based view	1	38	1.12%	1	33	1.28%	1	39	1.08%	-5	-15.24%	
C. J. Chen, Li, Su, and Sun (2011)	Agency theory	1	39	1.10%	n. a	n. a	n. a	1	27	1.37%	New	New	New 1
Claessens et al. (2000)	Economic theory of property rights	1	40	1.10%	1	24	1.56%	1	44	0.95%	-26	-39.32%	
Shleifer and Vishny (1997)	Agency theory	1	41	1.10%	1	27	1.42%	n. a	n. a	n. a	Old	Old	Old 1
Goldman et al. (2013)	Corporate governance theory	3	42	1.07%	n. a	n. a	n. a		30	1.32%	New	New	New 3
Hoskisson et al. (2000)	Empirical evidence	2	43	1.06%	2	30	1.32%	2	43	0.98%	-16	-25.93%	
Houston et al. (2014)	Institutional theory, Transaction cost economics, Resource-based view	3	44	1.01%	n. a	n. a	n. a	3	28	1.37%	New	New	New 3
Li, Meng, and Zhang (2006)	Empirical evidence	1	45	1.01%	1	34	1.28%	1	45	0.93%	-24	-27.16%	
Roberts (1990)	Institutional theory	3	46	0.99%	3	16	1.99%	3	49	0.64%	-71	-67.65%	
Siegel (2007)	Political theory	2	47	0.99%	2	41	0.95%	2	41	1.01%	10	7.27%	
Petersen (2009)	Network embeddedness theory	1	48	0.99%	1	44	0.76%	1	40	1.08%	29	43.03%	
Ferguson and Voth (2008)	Empirical evidence	3	49	0.97%	3	35	1.28%	3	47	0.88%	-31	-31.13%	
Granovetter (1985)	Empirical evidence	2	50	0.97%	2	26	1.47%	2	48	0.81%	-44	-44.63%	
	Social theory												

These papers predominantly provide empirical evidence for the role of political connections for the firm. In doing so, they do not use any of the intellectual perspectives we highlighted above. This means that many articles in our sample benefit not only from those articles that build on social science theories but also from papers that present descriptive quantitative evidence.

Next, we focus on Figure 2-3 and analyze which influential papers are co-cited with which other influential papers. An influential paper using a particular intellectual perspective being co-cited together frequently with another influential paper from a different intellectual perspective helps us uncover potential relations among different perspectives. Further, the amalgamation of relations among different intellectual perspectives shows the underlying intellectual structure of political connections literature.

2.4.2.1 Combinations of intellectual perspectives

Cluster 1: combining economic theories and political theories

In Cluster 1 (red, found on the top left of Figure 2-3), the most important theoretical perspectives are economic theories and political theories. For example, the political intervention perspective has been applied to suggest that political connections induce strong political intervention so as to decrease firm performance (Fan, Wong, and Zhang, 2007), and the economic theory of institutions has been used to argue that political connections can benefit firms with the resources under the state's control (Sapienza, 2004). Moreover, the most influential papers of this cluster include those by Fan et al. (2007, cited 404 times, uses political intervention perspective), Li, Meng, Wang, and Zhou (2008, cited 310 times, uses new institutional economics), Shleifer and Vishny (1994, cited 209 times, uses political economy theory), Agrawal and Knoeber (2001, cited 176 times, uses political perspective),

Allen, Qian, and Qian (2005, cited 159 times, uses the economic theory of growth and finance theory), Boubakri, Cosset, and Saffar (2008, cited 147 times, uses the economic theory of privatization) and Jensen and Meckling (1976, cited 139 times, uses the economic theory of property rights and finance theories). These papers being together in the same cluster reflects their frequent co-citation with each other by the sample articles. In that sense, the existence of this Cluster 1 suggests that several sample articles combined economic theories and political theories. In sum, the combination of economic theories and political theories contributes to the establishment of intellectual structure.

According to the locations of the more influential papers in Cluster 1 with respect to each other, we can conclude that the ways to combine economic theories and political theories are diverse. First, political connections studies usually combine economic theories and political theories by integrating the external political regulations and internal ownership structure. As evidence, papers by Fan et al. (2007), Li et al. (2008) and Jensen and Meckling (1976) appear close to each other in Figure 2-3, denoting that they are co-cited often. Since papers by Fan et al. (2007) and Li et al. (2008) highlight the perspectives of regulation (e.g., economic theory of regulation, institutional regulation) while the paper by Jensen and Meckling (1976) is a classic work that develops theories for ownership structure (e.g., agency theory, the economic theory of property rights), external political regulations and internal ownership structure have been usually used together by political connections articles. Second, studying the state as an agent is another way to combined economic theories and political theories. Papers by Agrawal and Knoeber (2001), Boubakri et al. (2008) and Shleifer and Vishny (1994) are located closer to each other at the bottom of Cluster 1. These three influential papers share the perspectives of privatization, government residual ownership,

asymmetric information, and economic bargaining. Their being co-cited frequently suggests that a group of articles in our sample has combined economic and political theories by studying the state as an agent. These three articles also enjoy a linking position as they are closer to (i.e., co-cited with) papers from Cluster 3 (blue cluster, bottom left). We argue that this can be caused by their contributions to empirical findings as well as their focus on economic theories, which the papers in Cluster 3 build upon. Third, articles have also combined economic theories and political theories by integrating law, finance, and economic growth. We note the paper by Allen et al. (2005) on the top of Cluster 1. This paper combines economic theories and political theories through integrating law, finance, and economic growth, indicating that articles citing this paper have referred to a similar theoretical combination. However, this influential paper does not appear close enough to other more influential papers within this cluster, suggesting that the perspective of law remains isolated from other perspectives of this scholarship.

Cluster 2: combining organizational theories and sociological theories

On the right-hand of Figure 2-3 is the dense Cluster 2 (green), which consists of a series of papers using various organizational theories and a few papers built on sociological theories. In particular, located in this cluster are the pioneers of resource-based view (Hoskisson, Eden, Lau, & Wright, 2000, cited 86 times), resource dependence theory (Pfeffer & Gerald, 1978, cited 115 times), and social embeddedness theory (Granovetter, 1985, cited 79 times). And, other influential papers in this cluster have applied these theoretical perspectives. For example, resource-based view suggests that political connections allow firms advantages to overcome the environmental uncertainties thus reducing transaction costs (Peng & Luo, 2000). This view emphasizes that political connections represent a unique type of resource

for achieving firm performance (Li & Zhang, 2007). Resource dependence theory, on the other hand, helps elaborate that political connections are effective for addressing the external uncertainties and interdependence created by the government (Hillman, 2005). In addition to the organizational theories, Park and Luo (2001) analyze political connections with the perspective of Confucianism, which underpins the concept of *guanxi* (i.e., network) in the area of social philosophy. Since these papers' influences are due to a large number of co-citations they received from articles in our sample, we argue that many articles in our sample have used various organizational theories and sociological theories together. Therefore, the combination of organizational and sociological theories is another component of the intellectual structure of political connections scholarship.

The locations of these more influential papers in the figure show how different types of organizational theories have been combined. First, among various organizational theories, resource-based view and behavioral theory were used together often, and these organizational theories were also very likely combined with sociological theories. The majority of the papers in this cluster are located closely on the right side, including papers by Peng and Luo (2000), Li and Zhang (2007), Xin and Pearce (1996), Park and Luo (2001), Li, Poppo, and Zhou (2008), and Peng (2003). These papers are classic works that use resource-based view, organizational behavior theory and sociological theories (e.g., social network theory, social philosophy) to investigate political connections. As such, sample articles have combined these perspectives very frequently.

Second, resource dependence theory was less frequently integrated with other organizational theories when studying political connections. Papers by Hillman (2005) and Pfeffer and Gerald (1978) adopt resource dependence theory. These papers are located far

away from other papers in Cluster 2, but they occupy the middle area of the map hence linking Cluster 2 with the other two clusters. Their locations imply that while resource dependence theory has less been combined with other organizational theories, it is usually used to link organizational theories to economic theories and political theories (in Cluster 1 and Cluster 3). Third, embeddedness theory has helped bridge the gaps in Cluster 2 by indirectly linking different organizational theories (i.e., resource dependence theory and other organizational theories). We can observe a few papers located between the papers representing resource dependence theory on the left-hand side of Cluster 2 and the papers using other organizational theories on the right-hand side of Cluster 2. These papers are by Siegel (2007), Okhmatovskiy (2010), Hillman, Keim, and Schuler (2004), and Hillman and Hitt (1999). The former two papers are founded on the embeddedness theory while the latter two papers are reviews for political connections. Therefore, we suggest that embeddedness theory have been combined with other organizational theories when they are applied to study political connections.

Cluster 3: combining economic theories and empirical evidence

The papers in Cluster 3 (blue, bottom left) are mainly built on economic theories and/or contribute empirical findings to this literature. In particular, some papers rely on economic theories to resolve the mixed impacts of political connections. For example, the economic theory of regulation has been applied to suggests that political connections increase value through the government's financial assistance but such regulative action will ultimately decrease firm performance (Faccio, Masulis & McConnell, 2006). The costs and growth perspective from economic theories has lent support for the argument that political connections provide resources for firms to grow but generate costs to the growth of the national economy (Khwaja & Mian, 2005; Claessens, Feijen & Laeven, 2008). In addition to

those papers that build upon a theoretical perspective, another group of papers in this cluster focus on providing empirical evidence for the impact political connections have as well as the conditions that may shape these impacts. For instance, these papers find that political connections help add firm value and channel resources, but such impacts vary with the political branch (Faccio, 2006), the party that the firms are connected to (Goldman, Rocholl, & So, 2009), and the environment within which political connections take effect (Faccio, 2010). Compared to the papers in other clusters in Figure 2-3, the papers in Cluster 3 are more influential according to the citations they received from articles in our sample. In particular, papers by Faccio (2006), Faccio et al. (2006), Fisman (2001), and Khwaja and Mian (2005) are represented by the largest size of the circle in the whole of Figure 2-3, meaning that they are the most influential papers among all political connections studies. The strong influence of these papers is due to the large amount of sample articles having cited these papers together. These sample articles not only referred to the economic theory perspectives but also to the empirical findings and quantitative evidence these papers provide. In sum combining economic theories and key empirical findings contributes to the establishment of the intellectual structure of political connections scholarship.

The location of the more influential papers in Cluster 3 displays how economic theories and empirical findings are combined. On one hand, economic theories are often used together with empirical findings. The most influential papers aforementioned appear close to each other on the right-hand side of Cluster 3. Since papers by Faccio et al. (2006) and Khwaja et al. (2005) respectively use the economic theory of regulation and political rent, while the other two papers are empirical studies, their close locations denote the frequent combination of economic theories and empirical findings. On the other hand, economic theories and/or

empirical findings are often used with other disciplinary theories. The influential papers aforementioned also occupy the figures' central area where the papers' circles are closer to Cluster 1 and Cluster 2. This means that these more influential papers in Cluster 3 have been cited together with papers in other Clusters very frequently. This means, for the sample articles that have done so, economic theories and/or empirical findings are often combined with other disciplinary theories to investigate political connections. Therefore, we argue that economic theories serve as the nexus of scholarship for political connections studies.

2.4.2 Evolution of Intellectual Structure

To display how the underlying structure of intellectual perspectives evolves over the duration of the study period, we compare the intellectual structure in the early period (1992—2014) to that in the recent period (2015—2020). Specifically, we analyze the changes to (1) the degree of influence of all the perspectives, and (2) how various perspectives are combined.

2.4.2.1 Evolution of influence of intellectual perspectives

The changes to a perspective's importance can be captured by investigating (1) whether those influential papers that use this perspective increased or decreased in the citation rankings on average and (2) whether the total citation percentage of this perspective, calculated through summing the citation percentages of all influential papers that use the perspective, increased, or decreased. First, we break down influential papers' rankings and citation percentages during the whole study period (presented in Column C of Table 2-2) into the early period (presented in Column D) and the recent period (presented in Column E). Next, we record the changes in the rankings and in citation percentages of each paper from the early to the recent period in Column F. Then, we aggregate the results in Column F of Table 2-2 to intellectual

perspectives level and present the changes in the total citation percentage and ranking for each intellectual perspective in Table 2-3.

Table 2-3 The evolution analysis of intellectual perspectives' influence

Intellectual Perspectives	Change in Citation Percentage	Change in Ranking	Perspectives of Organizational Theories	Change in Citation Percentage	Change in Ranking
Empirical evidence	3.89%	7.57			
Sociological theories	0.89%	3.60			
			Resource dependence theory	0.74%	9.00
Organizational theories	0.57%	-0.63	Transaction cost economics	0.31%	-2.67
			Resource-based view	-0.16%	-4.50
Economics theories	-1.62%	-1.77	Organizational behavior theory	-0.44%	-10.00
Political theories	-4.57%	-15.67			

The perspectives that have experienced an increase in rankings and citation percentages would have become more important for political connections scholarship over the study period. According to Table 2-3, perspectives exhibiting this pattern are empirical evidence and sociological theories. Notably, empirical evidence has increased most significantly (i.e., 3.89% more total citations and 7.57 higher average rankings). This can be indicated in the growing impact of papers by Chaney, Faccio, and Parsley (2011, 135.41% more citations and 31 higher rankings), Faccio (2010, 56.59% more citations and 15 higher rankings), Goldman et al. (2009, 48.25% more citations and 3 higher rankings), Petersen (2009, 43.03% more citations and 29 higher rankings), Adhikari, Derashid, and Zhang (2006, 41.15% more citations and 23 higher rankings), Cooper et al. (2010, 25.87% more citations and 14 higher

rankings). This is also contributed by the recent influential papers, such as those by Wu, Wu, and Rui (2012), Houston, Jiang, Lin, and Ma (2014), and Goldman, Rocholl, and So (2013). This tendency suggests that political connections articles are increasingly relying on papers that provide empirical findings, and such reliance is becoming stronger than those on theories. Among the disciplinary theories, only sociological theories have grown in terms of both citation percentage (0.89% more citations) and ranking (i.e., 3.60 higher average rankings). This trend is can be reflected by the increasing impact of papers by Sheng, Zhou, and Li (2011, 186.06% more citations and 30 higher rankings), Li et al. (2008, 10.38% more citations and 13 higher rankings), Siegel (2007, 7.27% more citations and 10 higher rankings) and Park and Luo (2001, 5.78% more citations and 10 higher rankings).

Next, we observe that organizational theories' overall citation percentage (0.57% more citations) has increased but its average ranking has slightly dropped. To better understand this outcome, we further analyze the changes for each sub-perspective of organizational theories. As shown by right-hand side of Table 2-3, some organizational theories are becoming increasingly more important while others are decreasing in their importance. In terms of the citation percentage, resource dependency theory (0.74% more citations) and transaction cost economies (0.31% more citations) are becoming more important, while the impacts of resource-based view (0.16% fewer citations) and organizational behavior theory (0.44% fewer citations) are decreasing. In terms of the average rankings, only resource dependence theory has significantly moved up (on average by 9.00 ranks). The increasing importance of resource dependence theory results from the stronger influence of papers using this perspective. For example, the paper by Hillman (2005), which is based on resource dependence theory, has received 121.25% more citations and risen by 45 ranks. For the

papers using transaction cost economies, some became more influential (e.g., paper by Leuz and Oberholzer-Gee (2006)) while others became less influential (e.g., paper by Hoskisson et al. (2000)), leading to its increase in citations received but decrease in average rankings. Furthermore, the decreasing impact of resource-based view and organizational behavior theory is caused by the fewer citations and lower rankings the early period influential papers using these perspectives, such as the papers by Xin and Pearce (1996) and Peng (2003) received and the lack of recent period influential papers using these perspectives that could fill the gap they left. In sum, our findings explain that the stronger impact of resource dependence theory contributes to the growing importance of organizational theories while the weaker impact of resource-based view and organizational behavior theory diminishes the importance of organizational theories.

By contrast, political theories and economics theories show a declining trend, implying their diminishing impacts on the scholarship of political connections. In particular, the impact of political theories (4.57% fewer citations, 15.67 lower rankings) has varied most and dropped significantly. This pattern can be reflected in the decreasing importance of papers using either political theories (e.g., papers by Roberts (1990, 67.65% fewer citations and 71 lower rankings) and Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998, 45.42% fewer citations and 27 lower rankings)) or economics theories (e.g., papers by Claessens, Djankov, and Lang (2000, 39.32% fewer citations and 26 lower rankings) and Johnson and Mitton (2003, 34.24% fewer citations and 3 lower rankings)), also the papers combining political theories and economic theories (e.g., La Porta, Lopez-de-Silanes, and Shleifer (1999, 53.78% fewer citations and 45 lower rankings) and Sapienza (2004, 18.27% fewer citations and 9 lower rankings)). Moreover, since there is literally no new political theory influential paper

that is introduced into the table in the recent period to fill the gap the earlier influential papers left, the impact of political theories has decreased most significantly.

2.4.2.2 Evolution of combinations of intellectual perspectives

The evolution of combinations of intellectual perspectives can be captured by changes in co-citation relations among the influential papers that use these perspectives. Figure 2-4a and Figure 2-4b respectively show the citation relations among the influential papers in the early period and that in the recent period. We then compare Figure 2-4a and Figure 2-4b to identify the changes.

Figure 2-4a Visualizing the of intellectual foundations in the political connections literature before 2014.

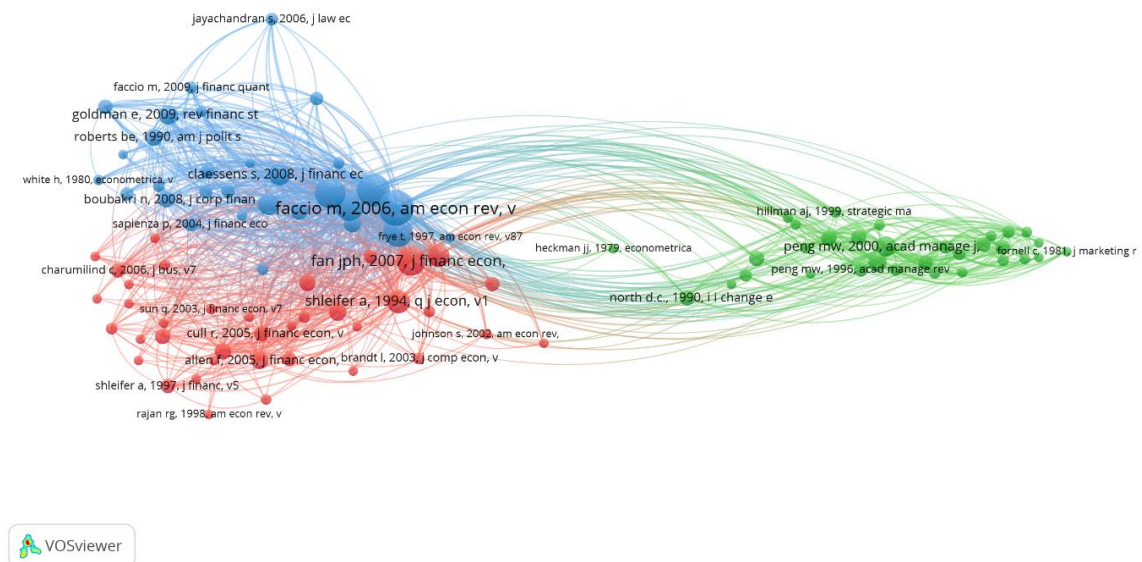
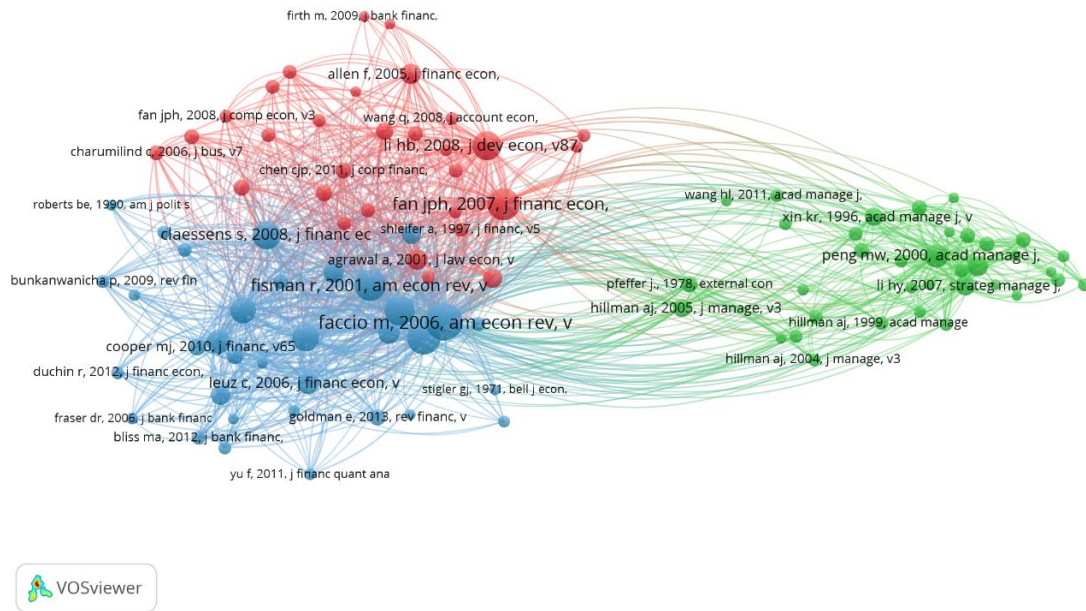


Figure 2-4b Visualizing the of intellectual foundations in the political connections literature after 2015.



Cluster 1: changes in combining economic theories and political theories

Cluster 1 (red) occupies the bottom left area in Figure 2-4a and the top left area in Figure 2-4b. The most prominent change to the theoretical perspectives of this cluster is that articles based on the combination of economics theories and political theories tend to integrate empirical evidence less. The most influential papers in this cluster relocate further from Cluster 3 (blue). In the early period, papers by Fan et al. (2007), Li et al. (2008) and La Porta et al. (1999) are located close to papers in Cluster 3. These three articles used either economic theories or political theories and Cluster 3 represents articles using economic theory or providing empirical evidence, as we discussed before. This means that our sample articles co-cited these articles with those from Cluster 3 as well, indicating a frequent combination of economics theories, political theories, and empirical evidence in the early period. However, Figure 2-4b shows that these three influential articles move to the upper area and become

more remote to Cluster 3 in the recent period. In other words, in the recent period, sample articles that frequently combine economics theories and political theories increasingly ignore papers that provide empirical evidence.

Cluster 2: changes in combining organizational theories and sociological theories

Cluster 2 (green) is on the right-hand side of Figure 2-4a and Figure 2-4b. By comparing these two figures, we can observe two major changes for Cluster 2. First, more perspectives of organizational theories and sociological theories are being combined. The shape of Cluster 2 in the early period (i.e., in Figure 2-4a) is wide and narrow while it becomes more compact and densely clustered in the recent period (i.e., in Figure 2-4b). This implies that some influential papers in the early period are located further from each other and are linked to other papers in this cluster through in-between papers. By contrast, papers in the recent period are related to each other more directly and closely. For example, the paper by Peng and Luo (2000, uses resource-based view) is located at the center of Cluster 2 in the early period, and it bridges the papers by Sheng et al. (2011, uses network theory) and Hillman et al. (2004); Siegel (2007, uses embeddedness theory). Whereas these three papers are linked directly to each other in the recent period. Since such relations are based on sample articles' citations, we argue that early articles usually use resource-based view with network theory or embeddedness theory but are less likely to combine network theory and embeddedness theory, whereas recent articles tend to combine either pair of perspectives or all of them together. In other words, the combination of organizational theories and sociological theories become more diverse over time in the political connections scholarship.

Second, organizational theories and sociological theories are disconnected from other disciplinary theories in the early period, but resource dependence theory narrows this

disconnection during the recent period. We also note that papers using resource dependence theory (i.e., papers by Pfeffer and Gerald (1978) and Hillman (2005)) emerge on the left side of Cluster 3 in Figure 2-4b prominently, while they don't carry a similar level of influence in Figure 2-4a. Moreover, they are also located in the center of the whole Figure 2-4b. These papers' increased influence and associated location in Figure 2-4b mean that resource dependence theory is combined with other organizational theories and sociological theories as well as other disciplinary theories frequently in the recent period. Therefore, resource dependence theory has contributed to the progress in combining organizational theories, sociological theories, and other disciplinary theories.

Cluster 3: changes in combining economic theories and empirical evidence

Cluster 3 (blue) is on the top left in Figure 2-4a, and the bottom left in Figure 2-4b. A key change to this cluster is that the combination of economics theories and empirical evidence grows to be more various. In Figure 2-4a, the dense area of Cluster 3, which is occupied by the most influential papers such as those by Faccio (2006), Fisman (2001) and Khwaja and Mian (2005), is located close to the most influential papers in Cluster 1 (e.g., papers by J. Fan et al. (2007)) but further from other papers within Cluster 3. In Figure 2-4b, while the aforementioned dense area remains, another dense area appears on the left-hand side of this cluster. The new dense area consists of the increasingly influential papers, including those by Claessens et al. (2008), Goldman et al. (2009), Cooper et al. (2010) and Chaney et al. (2011). Notably, among these increasingly influential papers, only Claessens et al. (2008) use economics theories (i.e., macroeconomics theory and new institutional economics) and the others are all empirical works. The appearance of the new dense area in the recent period shows that there are more ways to combine economics theories and empirical evidence. In

addition, considering that most of the papers in the new dense area provide empirical findings, the importance of empirical evidence tends to be stronger in the recent period than that of economics theories for combining economics theories and empirical evidence.

Changes between clusters

Furthermore, we observe some influential papers' relocation between clusters. Also shown in Table 2-2, such changes mainly happen between Cluster 1 and Cluster 3. On one hand, changes suggest that studying government ownership is an emerging way for political connections articles to combine economic theories and political theories. Papers by Sapienza (2004), Adhikari et al. (2006) and Dinç (2005) belong to Cluster 3 in the early period but appear in Cluster 1 in the recent period, implying that these papers become more likely co-cited with papers in Cluster 1. More specifically, the paper by Sapienza (2004) integrates economic theories (i.e., economic theory of institutions and agency theory) and political theory of government ownership, while the other two papers are empirical observations for the government-owned banks, so their relocation can reflect the increasing importance of government ownership for articles combining economic theories and political theories. On the contrary, the economic theory of bargaining, asymmetric information and incentive contracts becomes more important for political connections articles that use economic theories or conduct empirical works while becoming less important for articles that integrate political theories with economic theories. This change is indicated by the relocation of paper by Shleifer and Vishny (1994), namely, it relocated from Cluster 1 to Cluster 3.

2.4.3 Overall Status of Research Topics

Figure 2-5 displays the overall status of research topics in the political connections scholarship. We note that these highly occurring topics are organized into five clusters. To

Table 2-4 The clusters in the overall status analysis of research topics.

Cluster	Overall Status of Research Topics	Prominent Articles	Terms
1	Corporate governance	Bliss and Gul (2012)	Political connections, Cost of debt, CEO duality, Audit committees
		Tee (2017)	Political connections, Malaysia, Institutional investors, Stock price synchronicity, Institutional domiciles
		Shin et al. (2018)	Politically connections, Corporate governance, Chaebol, Korea, Outside directors
		He, Rui, Zheng, and Zhu (2014)	Foreign investor, Auditor choice, Institutional environment, Party transactions, Political connections
		Huyghebaert and Wang (2019)	Value creation, Value distribution, Corporate governance, Ownership structure, Board of directors
		Attia et al. (2016)	Earning management, State control, Political costs, Political connections,
		Tee (2019)	Political connections, Cost of debt, Audit committee, Board diversity, Family ownership
		Fernandez-Suarez and Cano-Ruiz (2018)	African immigrant, Social capital, Political connections
		Jia and Zhang (2012)	Women directors, Political connections, Marketization, Corporate philanthropy
		Enache and García-Meca (2019)	Accounting conservatism, Board composition, Political ties, Earning sensitivity
2	Political system	Strauss (2018)	Societal freedom, Unified ecclesiastical culture, Societal differentiation, Humanism, Atheism, Legal interests, Just state
		Chong and Leon (2009)	Labor productivity, Privatisation, Wages
		Yazhborovskaya (2016)	European Union, Crisis, Poland, Constitutional state, Politic system, Populism
		Nicolay (2019)	Farming system, Socio-ecological system, Organic agriculture, Communication, Sociology, Organic cotton, Mali, Sustainable development
		Fan et al. (2014)	Business-politics relationships, Earning management, Performance, Corruption,
		Sakaeva (2019)	Entrepreneurship, Everyday legality, Mobilization of law. Post-Soviet studies, Politically connected business, State regulation
		Liao and Jeng (2005)	E-government, Cross-country business disputes, Business contract legal support, Web-based decision support, Information technology
		Goldman et al. (2009)	Political connections, Stock return, Board, Presidential election
		Vanhonacker (1996)	Entry mode, China, Political connections
		Ahmad et al. (2017)	Event management, Attendee perception, Sustainable efforts, Event greening
3	Innovation and entrepreneurship	Blanutsa (2012)	Information network, Network business, Social network, Political network, Network paradigm of geography, Regionalization, Forecasting.
		Liu et al. (2019)	Innovation, Political ties, Human capital, Social capital, Business tie
		Zhang (2014)	Political connections, SME, Credit financing, Rent-seeking
		Zhu (2020)	Functional experience, managerial ties, new venture performance, transition economies

		Liu, Shi, and Zhang (2018)	Political connections, Absorptive capacity, Moderated mediation model, Pro-self behavior, Pro-social behavior
		Neneh (2018)	Social network, Customer orientation, Business network, SME performance, Political network
		Chitsaz, Liang, and Khoshsoroor (2017)	Technology firm performance, Resources configuration, Individual resources, Organizational resources
		Chung et al. (2016)	Organizational capability, Organizational networking, Political and business ties, Dark side, Personalized relationships, Resource dependence theory
		Na and FuSheng (2013)	Political connections, Multivariate regression model, Three-way interaction
		Xiongyuan and Shan (2013)	Government background, Excess employment, Government intervention
4	International business and sustainability	Klarin and Sharmelly (2019)	Social networks, Qualitative research, Decisions under risk/uncertainty, Developing countries, Entrepreneurship
		Cai, Yang, Jiang, and Xu (2017)	Rent-seeking, Political connections, Government subsidy, Research and development
		Gou, Huang, and Xu (2018)	Credit-rationing, Ownership discrimination, China, Probit Model with Censoring
		Peng and Liu (2016)	Eco-innovation, Managerial environmental awareness, Resource acquisition, Managerial cognition theory, Resource dependency theory
		Nyuur, Brečić, and Simintiras (2016)	Marketing function, SME, Network ties, Strategic adaptiveness
		Lin et al. (2015)	Corporate social responsibility (CSR), Firm performance, Political connection, Transition economy, Strategic CSR
		Hassan, Kabir Hassan, Mohamad, and Chaw Min (2012)	Political connections, Share price, Firm performance, Rent-seeking, Economic upturn/downturn, Government ownership
		Dieleman and Boddewyn (2012)	Buffering, Political ties, Resource dependence
		Klarin and Ray (2019)	Russia, Transition economies, Institutional environment, Strategic choices, Government relations
		Yuhua Wang (2017)	Political connections, Firm value, Politician removal
5	IPO	Bing and Li (2019)	CSR, ESG, Firm value, China, Sustainable development
		Li, Dong, Luan, and Wang (2020)	Environmental regulations, Shareholder value, Event study, China's stock markets
		Abolhassani, Wang, and de Haan (2020)	Government ownership, Firm performance, China
		Tao, Sun, Zhu, and Yang (2017)	Delisting, Financial distress, Government subsidies, Political connections
		Fisman and Wang (2015)	Political connections, Mortality, Social cost
		Cheung, Rau, and Stouraitis (2010)	State ownership, Political connections, Board of director, Corruption, Party transaction
		Murshed (2008)	Conflict, Inequality, Resources
		Thakur, Kannadhasan, Charan, and Gupta (2019)	Corruption, Emerging markets, Firm value, Panel data

Cluster 1 (red cluster, located on the right-hand side of Figure 2-5) is dominated by the articles that concern the linkage between political connections and corporate governance, especially in the context of emerging economies. Prominent terms in this cluster are “ownership”, “board”, “director”, “institutional investor”, “SOE”, “monitoring”. In addition, terms such as “Malaysia” and “Chinese listed firms” reflect the context of these studies.

As defined earlier, political connections can be established at the organizational level and individual level. Articles that focus on the corporate governance associated with political connections find that individual level and organizational level political connections yield different outcomes. Those focusing on the individual level political connections typically show a negative effect of political connections on the standard of corporate governance. For instance, while the individual level political connections can help firms reduce the cost of debt (Tee, 2019), they are perceived to be riskier by actors outside the firm (e.g., market actors like auditor firms and lenders) (Bliss & Gul, 2012), weaken monitoring abilities (Shin, Hyun, Oh, & Yang, 2018), and harm board performance (Pascual-Fuster & Crespi-Cladera, 2018). By contrast, articles that investigate the organizational level political connections suggest that such connections create both advantages and disadvantages to the connected firm. Specifically, firms with organizational level political connections receive will favorable audit opinions (He, Pan, & Tian, 2017), benefit from institutional investors’ monitoring (Benjamin, Zain, & Wahab, 2016), improve stock price informativeness (Tee, 2017), and therefore perceived more positively by market actors. However, pressures coming from these connections will decrease firms’ earnings and increase political costs (Attia, Lassoued, & Attia, 2016) because political organizations can easily intervene in firm business by formally using their control rights. Furthermore, some articles compare the impacts of political

connections at different levels. As shown by Tang, Lin, Peng, Du, and Chan (2016), although both levels of political connections can facilitate firm performance, the effects of the individual level political connections would be more pronounced than those of the organizational level political connections. In sum, political connections formed at the individual level versus organizational level not only create heterogeneous impacts (i.e., advantages and disadvantages) but also differ in terms of creating certain impact.

Moreover, articles in this cluster suggest that corporate governance practices may moderate the impact of political connections on firm level outcomes. For example, at the individual political connections level, CEO duality may worsen the negative outsider perceptions of political connections (Bliss & Gul, 2012), the independent directors can generate monitoring forces thereby reduce the performance benefits of political connections (Tee, 2019), and there is a nonlinear influence of board size on the effect of political connection on performance (Haris, Yao, Tariq, Javaid, & Ain, 2019). Further, the increasing power of independent directors can further facilitate the value creation of political connections at the organizational level (Huyghebaert & Wang, 2019). These investigations of how various corporate governance elements affect the potential advantages and disadvantages of political connections generate a more complete understanding of the impact of political connections.

Cluster 2: political system

Cluster 2 (green cluster, located on the bottom left hand-side of Figure 2-5) is constituted by the articles that discuss political connections with factors belonging to political systems. Key terms such as “network” and “political network” in this cluster correspond to political connections, while a number of the key terms are typical concepts coming from the studies

about the political system, including “system”, “politics”, “conflict”, “law”, “authority”, “congress”, “rule”, and “leader”.

The major stream of articles in this cluster studies how political connections help firms navigate political systems. First, formal political connections, which are created based on formalized linkages (e.g., equity ownership and employment contract of politicians), allow firms to gain rich experiences in networking with the state. These experiences equip firms with the ability to maneuver in the political system so as to protect themselves from political threats (Sakaeva, 2019). More notably, while firms may sometimes be exposed to intense political conflicts and wars, they can leverage those political connections to secure business in such unstable environments (Machado, 2017; Perchard, 2019) or even make transactions between the opposite parties happen (Liao & Jeng, 2005). Second, the value firms generate from formal political connections would vary if the political system changes. Evidence from articles in this cluster show that major political events such as revolutions, coups, and electoral cycles reduce the value of political connections (Wisniewski, 2016). For example, Goldman et al. (2009) find that connections with the winning party bring benefits whereas connections with the rival party create damages after an election. These findings imply the importance of “choosing political connections wisely”. Third, formal political connections are essential for foreign firms to survive the political system in the host country. For example, foreign firms must be prepared to bring value to the host country and avoid expropriation created by the host country’s sovereignty, while having formal political connections can be an approach to do so (Vanhonacker, 1996).

The second stream within this cluster shifts the focus from formal political connections to informal political connections to deal with the political system. Informal political

connections define those established based on social interactions. For instance, one form of informal political connections comes from corruption. Such political connections are illegal and may create great changes to the connected firms after corruption scandals. For instance, connected firms will increase informativeness significantly following corruption scandals in order to survive the exogenous break of networks in the political system (Fan, Guan, Li, & Yang, 2014). Another form of informal political connections is based on cronyism—the practice of appointing personal acquaintances of political leaders to key positions in the organization. Different from the formal rule-based systems, leaders in such informal relationship-based systems usually have little interests in institutional development, such as property right protection (Lamberova & Sonin, 2018) and rule-based environment (Machado, 2017) that firms need in order to pursue sustainable development. Those firms that form informal political connections by joining in the personal circle of these political leaders can deal with the lack of institutional development and even benefit from its absence by obtaining abnormal benefits more easily.

Cluster 3: innovation and entrepreneurship

Articles in Cluster 3 (blue cluster) study the role of political connections in innovation and entrepreneurship. Specifically, these articles suggest that political connections (i.e., political tie, managerial tie, or social tie used in these articles) impact innovation and entrepreneurship by acquiring or utilizing firms' resources and capabilities. Reflecting this theme, frequent topics in this cluster include “political ties”, “innovation”, “entrepreneur”, “capability”, “social capital”, “new venture”, “finance”, and “competitive advantage”.

Political connections are found to create heterogeneous impact on the outcome of innovation and entrepreneurship. With regard to innovation, there is increasing consensus

that having political connections allows acquiring a wide range of resources for innovation (Liu, Chang, & Fang, 2019; Thongsri & Chang, 2019; Xu & Yano, 2017). For instance, political connections may bring firms debt finance (Tee, 2019), human capital (Liu et al., 2019), and social capital (Chung, Wang, Huang, & Yang, 2016), all of which are essential inputs for firms to innovate. Thus, political connections can facilitate innovation through acquiring resources, even though Li (2020) argue that political connections cannot help firms develop the necessary capability to make use of resources to produce higher innovation outputs. Another strand of articles shows similar findings by investigating how political connections affect entrepreneurship. For example, while political connections can enhance entrepreneurs' risk-taking activities by offering necessary resources (Wang, 2019; Xu & Xiao, 2014; Zhang, Ma, Wang, Li, & Huo, 2016), the positive role of political connections in entrepreneurial activities may vary if the entrepreneurs lack the capability to integrate and utilize resources (Xu & Xiao, 2014). In sum, articles in this cluster examine the heterogeneous mechanisms through which political connections influence innovation and entrepreneurship.

Moreover, articles in this cluster also explore the conditions that may moderate the impact of political connections on innovation and entrepreneurship. At the firm level, the positive impact of political connections decreases with the duration of connectedness (Tee, 2018) while the negative impact of political connections reduces with the strength of governance (Liedong & Rajwani, 2018). At the institutional level, political connections become less influential if firms are situated in more regulated industries (Ying & Liu, 2018), developed economies (Bliss, Goodwin, Gul, & Wong, 2018), and stable political institutions (Cumming, Rui, & Wu, 2016), meaning that they substitute weak institutional environment

to influence firms' innovation and entrepreneurial activities. In addition, the existence of an anti-corruption policy not only changes the effectiveness of political connections but also flips the dual effects of political connections. On one hand, the negative effects of political connections in terms of utilizing resources would be mitigated if firms experience an anti-corruption policy (He & Ying, 2017). On the other hand, the positive effects of political connections in accessing resources may turn negative due to the introduction of an anti-corruption policy (Wang, Yao, & Kang, 2019).

Cluster 4: international business and socio-environmental activities

Cluster 4 (yellow cluster) represents a collection of articles that focus on the relationship between political connections and a range of corporate strategies, which mainly include international business and sustainability. Simply looking at the terms on the map (i.e., Figure 2-5), the theme of this cluster is not immediately clear because terms that belong to this cluster are scattered in the center of the map and closely adhere to the clusters around it. Upon reading the articles underlying this cluster, it becomes apparent that this cluster links political connections to international business and sustainable business. In addition to the terms that indicate political connections, such as “government support”, “former politician”, “political relation”, “political participation”, “revolving door”, the remaining terms can reflect the theme of this cluster, for example, “internationalization”, “corporate philanthropy”, “merger”. In addition, “Japan” and “Spain” also imply the topic of international business because multinational enterprises coming from these two countries have been widely studied.

According to the international business articles underlining this cluster, how political connections are used to address the hazards in the international environment is emphasized. The hazardous international environment often creates more extreme forms of political-

business relations, especially that political organizations can impose overwhelming power on the connected firms (Zhu, 2015). Political connections in the host country are particularly needed to secure business in such contexts. For instance, political connections can help firms make sense of the international environment and gain legitimacy (Klarin & Sharmelly, 2019), offer firms opportunities to influence policymakers of the host countries, and enable firms to build new socio-political networks to further facilitate business in the local markets (Ritvala, Andersson, & Salmi, 2014). In general, political connections in the context of international business are positive to the firm.

Another stream of articles shed light on environmental strategies and corporate social responsibility (CSR). Political connections significantly influence environmental strategies. First, political connections make firms increase investments into environmental strategies, which in turn reduce energy consumption and emission (Wang et al., 2018). Moreover, political connections contribute to the breakthroughs in environmental technologies such as eco-innovation, because political connections allow firms to access greater financial support, green procurement and policy information, and these are needed to deploy the related technical projects (Peng & Liu, 2016). Furthermore, findings also show that firms with political connections can achieve higher environmental performance due to green subsidies from the state (Lin, Zeng, Ma, & Chen, 2015). As such, this cluster also displays the positive role of political connections in pursuing environmental strategies.

With regard to CSR, articles within the cluster find that political connections not only influence CSR but also can be an outcome of CSR activity. First, political connections can generate heterogeneous impact on engaging in CSR. In larger-sized firms, political connections bring firms a higher degree of scrutiny and pressure from private stakeholders,

resulting in increased CSR (Wang, Reimsbach, & Braam, 2018). In contrast, political connections in smaller-sized firms act as political patronage and shelter firms' moral wrongdoing, thereby reducing CSR (Jia, Shi, & Wang, 2018). Second, firms can build political connections by undertaking CSR, which is the so-called politically motivated CSR (Lin, Tan, Zhao, & Karim, 2015). This is because CSR, such as philanthropy, enables firms to approach political organizations. Therefore, articles in this cluster show that political connections and CSR mutually reinforce each other.

Cluster 5: IPO

Cluster 5, located at the upper right edge, only recently developed into a succinct area within the political connections scholarship. Only 8 sample articles belong to this cluster and they are all after the year 2015. The articles in this cluster extend the relationship between political connections and corporate governance to the stock market. In line with this theme, some key terms in this cluster originate from corporate governance such as “non-SOE” and “government director”; also, some key terms related to the stock market also appear, including “IPO”, “underwriter”, “underwriter fee”.

2.4.4 Evolution of Research Topics

To detect the evolution of research topics across clusters, we identify the average publication year of all key terms (see the averaged publication year for each term in Appendix 2-2) and then overlay their timeline onto Figure 2-6 by color coding them. While the darker (dark blue) circles represent key terms that have an average publication year before 2013, as the circle color becomes lighter (from dark blue to blue to green to yellow) the average publication year becomes more recent.

Figure 2-6 Visualizing the evolution of research topics in political connections scholarship.

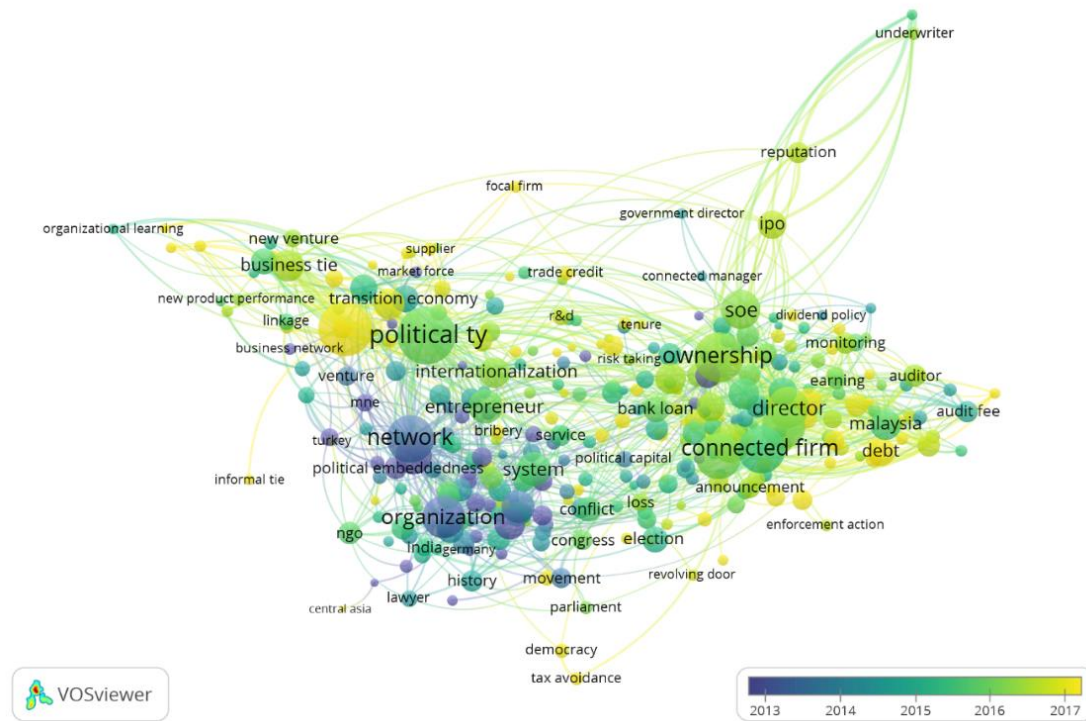


Figure 2-6 shows a clear evolutionary path for the topics related to political connections. At the cluster level, topics in Cluster 2 are older than topics in other clusters. First, this reflects that the association between political connections and political system is discussed earlier in the political connections scholarship. As we concentrate on the older (i.e., dark colored) terms, we note that these terms are predominantly located within and around Cluster 2. According to the color-timeline bar on the bottom right, these terms were used to discuss political connections at least before 2015. Recalling that Cluster 2 contained terms related to political system, articles that study political connections associated with political systems are earlier. Second, research related to political connections is extending to economics and management literature recently. When we attend to the more recent (i.e., light green and yellow) terms, these terms are scattered across clusters except for Cluster 2. Based on the color-timeline bar,

these terms are discussed widely from 2015 onwards. Considering that these clusters concern issues coming from economics and management (e.g., corporate governance, innovation and entrepreneurship, international business and sustainability, and IPO), we suggest that recent articles tend to study political connections with topics from these disciplines. Taken together, we can summarize a trend for the research attention associated with political connections, namely, the scholarship of political connections has evolved from political system to the fields of economics and management.

At the term level, Figure 2-6 enables us to draw conclusions about the evolution of the context and level of these studies, as well as the focus of research topics. First, we note that developed country contexts terms are older while terms related to emerging country contexts are more recent. For example, the terms named with typical developed countries such as “United States”, “Germany” and “Europe” are on averaged discussed on or before 2014, while terms indicating emerging market contexts, and especially Asian counties such as “Malaysia”, “India”, “Pakistan”, “Bangladesh”, “Vietnam”, “Thailand”, “Chinese”, and “Central Asia”, are discussed after 2015.

Second, we find that research topics at the macro level are older while those at the micro level are more recent. For example, the macro level terms including “movement”, “evolution”, “society”, “culture”, “transition economy”, “financial crisis”, “community” and “city” are most popular before the year 2014. By contrast, the micro level terms such as “shareholder”, “leader”, “investor”, “entrepreneur”, “director”, “worker”, “regulator”, “auditor”, “commissioner” and “underwriter” are studied after 2015. Further, we note that the term “upper echelons”, which is discussed in 2017 on average, implies that the micro

level theory has potentially lent support for investigating the meso level research topics, such as “connected firm” and “new venture”.

Third, we find that focus of research topics on political connections scholarship in management has changed from outcomes related to the firm’s relationship with other entities to outcomes for the focal firm itself. The older topics that reflect the firm’s relationship outcomes include acquisition (indicated by terms “M&A” and “merger”) and networking activities (indicated by terms “social network”, “collaboration”, “embeddedness”, “alliance” and “cronyism”). The more recent topics focus on the focal firms’ stock market (indicated by terms “stock return”, “stock market”, “stock price”, “underwriter fee”, “IPO”, et. al); governance (indicated by terms “executive compensation”, “agency cost”, “ownership structure”, “earning quality”, “board size”, “family control”, et. al); innovation (indicated by terms “R&D investment”, “new product performance”, “exploratory innovation”, “innovation performance”, et. al); and sustainability (indicated by terms “sustainable development”, “environmental disclosure”, “corporate philanthropy”, et. al).

Furthermore, some topics have garnered research interest throughout the study period. For instance, firm growth, internationalization, and entrepreneurship are discussed both in the earlier periods (e.g., “growth”, “production”; “MNE”, “MNC”, “foreign firm”, “domestic firm”, and “subsidiary”; and “entrepreneurship”) and more recent periods (e.g., “productivity”, “competitive advantage”, and “firm profitability”; “internationalization”, “FDI”, “focal firm”, “host country”; and “entrepreneur”, “Chinese entrepreneur”, “entrepreneurial orientation”).

2.5 Discussion

Future research can be designed to further develop intellectual structure and extend research topics in the political connections scholarship. This section provides guidance and recommendations for future explorations based on our findings above.

2.5.1 Research Guidance Stemming from Intellectual Structure Analysis

2.5.1.1 Addressing theoretical fragmentations in the underlying intellectual structure

Our analyses exhibit that the perspectives used to understand political connections are rather fragmented. Future research can contribute to the process of political connections scholarship by offering understandings based on the combination of different theories. In Table 2-5, we list such potential combinations and propose a set of research questions that can be answered by using these theoretical combinations. Next, we take some examples from Table 2-5 and offer more in-depth elaborations.

Combine theories from different disciplines

The overall status of intellectual perspectives shows that organizational theories are isolated from political theories and economic theories. Such a fragmentation implies that political connections, while widely studied through different perspectives, are usually studied with a focus on a single perspective at a time, independent of what other perspectives may provide. Further, our analyses showed that this fragmentation had implications for the evolution of the importance of these theories, such that some organizational theories are becoming more important for political connections scholarship while the importance of political theories and economic theories are decreasing. While political connections involve actors from firms and political and economic systems and while political connections can be shaped by the rules in all these three systems, the rising importance of organizational theories means that political

Table 2-5 Research guidance for addressing the theoretical fragmentations in the underlying intellectual structure.

Research Question	Theoretical Combination	Description of Research Question
1	Combining Organization Theories and Economic Theories	<p><i>How do firms strategically use political competitions to address competitive pressures?</i></p> <p>The essence of economics theories, such as competition theory, is that one's actions and performance rely on the other related actors' actions. Applying this logic to organization studies, competitors' actions can impact firms' political connections. On one hand, the focal firm may be motivated to establish political connections since the firm may potentially benefit from political connections and obtain competitive advantages from the state. On the other hand, the focal firm may not establish political connections considering that political connections may decrease firms' efficiency in building competitive advantages. Given such conflict, there is a dilemma about the formation of political connections in competitive environments.</p> <p>Addressing this question requires scholars to combine the economic theory of competition for competitive behavior, resource dependence theory for competitive dependence on rivals and symbiotic dependence on resource providers (i.e., political actors), and resource-based view for competitive advantage.</p>
2	Combining Organization Theories and Economic Theories	<p><i>How do political connections and other political strategies combine to generate competitive advantages?</i></p> <p>To obtain competitive advantages, firms can rely on and combine various political strategies, including political connections, political donation, and lobby. While these strategies share the aim of seeking benefits from the state, they may create heterogeneous impact on the firm. Researchers can investigate whether these various political strategies are complements or substitutes to each other.</p> <p>Addressing this question requires scholars to combine institutional theory for the combination of various political strategies and resource-based view for competitive advantages.</p>
3	Combining Organization Theories and Sociology Theories	<p><i>How do political actors' individual characteristics shape the impact of political connections on firms' access to state-controlled resources? Specifically, how does political actors' ideology of state autonomy and community moderate the impact of political connections on firms' access to state-controlled resources?</i></p> <p>Since the ideology of state autonomy and community emphasize equality, political actors with a strong ideology of state autonomy and community may behave differently when allocating resources to their connected firms and as a result may affect the resources offered to their connected firms.</p> <p>Addressing this question requires scholars to combine social philosophy for political actors' characteristics, and resource dependence theory for firms' access to resources.</p>

4	Combining Organization Theories, Economic Theories, and Political Theories	<p><i>How do firms' business leaders' goals and political actors' political interests together determine the impact of political connections on firm performance / firm strategic decision-making?</i></p> <p>Firms and political actors may have conflicts on firms' decisions and behaviors as they come from different systems and form distinctive interests and goals. Therefore, the impact of political connections is the result of negotiations between these individuals and the trade-offs between their goals. While prior research has investigated how do firms proactively use political connections to pursue business-based interests and goals, understanding regarding "whether political connections buffer firms from or bind firms to political actors' agenda?" is still insufficient. To answer this question, an angle could be studying firms' reactions to the connected political actors' interests and goals.</p> <p>Addressing these questions require scholars to combine institutional theory for firms' reactive behaviors, political economics and political sociology for political actors' interests and goals, and resource dependence theory for the outcomes.</p>
5	Combining Organization Theories, Economic Theories, and Political Theories	<p><i>How do political connections influence firms' competitive advantages through the mechanism of political intervention?</i></p> <p>Political intervention has been widely argued as an important mechanism for political connections to harm firms' competitive advantage (e.g., firms' efficiency to utilize resources). This happens if firms utilize resources to satisfy the state's goals and the connected political actors lack expertise in managing such productions. However, the state may also intervene business for economic growth in the long term, meaning that political intervention is likely to benefit firms' competitive advantages. Despite this conflict, political connections studies on the mechanism of political intervention remain underdeveloped.</p> <p>Addressing this question requires scholars to combine the political theory of intervention for the mechanism of political intervention, the economic theory of growth for the state's goals, and resource-based view for firms' competitive advantages.</p>
6	Combining Organization Theories, Economic Theories, and Sociology Theories	<p><i>How do firms form political connections? What are the roles of individual leaders and their social networks in the process?</i></p> <p>Prior research that investigates why firms form political connections focuses on the firm level factors. Researchers can also investigate how and why firms form connections by focusing on the role and actions of the firm leaders and various resources they hold such as their social capital through their personal social networks in the process.</p> <p>Addressing this question requires scholars to combine social network theory and embeddedness for leaders' social networks, resource-based view for leaders' resources, and upper echelon theory and corporate governance for leaders' behaviors.</p>
7	Combining Organization Theories, Economic Theories and Sociology Theories	<p><i>How do political connections influence managerial behaviors to address institutional coercive and normative pressures?</i></p> <p>Organizations face significant institutional coercive and normative pressures that may be seemingly contradictory, and they need to address these pressures, for example, by combining institutional accounts with others. Researchers can investigate how having political connections help manage such pressures actively and obtain the support of stakeholders.</p> <p>Addressing this question requires scholars to combine institutional theory for institutional coercive and normative pressures and stakeholder theory for social support.</p>

8	Combining Organization Theories, Economic Theories and Sociology Theories	<p><i>How does connected political actors' balance between interests in the business profits and political achievements influence the impact (or formation) of political connections?</i></p> <p>Political actors may have multiple interests when forming political connections with firms. For example, due to their identities as political actors and business managers, they may show interest in both political achievements and business profits. Given that political achievements and business profits may not always be consistent, scholars can investigate how the connected political actors balance their multiple interests and how such balance influence the formation and impact of political connections.</p> <p>Addressing this question requires scholars to combine social identity theory for the connected political actors' multiple interests and corporate governance for these political actors' behaviors in the firm.</p>
9	Combining different Organization Theories	<p><i>How do political connections influence the cost of writing contracts or coordinating the relationship with other parties and how does this impact engaging in buy (from the market) vs make (through internal coordination) decisions of the firm?</i></p> <p>Political connections can serve as a substitute for writing a complete contract or developing a relationship with the other party in developing countries. For example, this can happen in innovation or technology development within a joint venture or an alliance context, where managing property rights is crucial.</p> <p>Addressing this question requires scholars to combine resource dependence theory for relationships with other parties and transaction cost economic for the cost of the contract.</p>
10	Combining different Organization Theories	<p><i>How do political connections impact firms' strategy through structuring their resource portfolio?</i></p> <p>Firms structure their resource portfolio with external and internal resources, and their resource portfolio determines firms' strategies. While political connections can help firms access external resources, it may also intervene in the utilization of the resources within the firm., Researchers can investigate how political connections help firms structure their resource portfolio and consequently how their resource portfolio impact firms' strategy and performance.</p> <p>Addressing this question requires scholars to combine resource dependence theory for the access to resources and resource-based view for the utilization of resources.</p>
11	Combining different Organization Theories	<p><i>What is the impact of firms' characteristics on their decision to combine various political strategies?</i></p> <p>As RQ2 presented above highlighted, combination of various political strategies, including political connections, political donation, and lobbying can generate competitive advantage for the firm. However, different firms may have varying capabilities to go after these political strategies and these strategies may also create heterogeneous impact on the firm. Researchers can investigate how different types of firms make decisions when selecting and combining political strategies.</p> <p>Addressing this question requires scholars to combine resource-based view for firms' capabilities and organization behaviors theories for decision-making models.</p>

connections are increasingly explained within the firm, without considering the political and economic environments that organizations are situated in. To offer more complete understandings of political connections, we suggest scholars conduct studies by combining organization theories, political theories, and economic theories (see more guidance in Table 2-5).

To combine organizational theories and political theories, one can focus on what can be analyzed using both organizational and political theories, for example, resources. Among organizational theories, the resource dependence theory particularly suggests that firms rely on political connections to access the necessary resources for doing business (Li & Zhang, 2007). As to the political theories, the theory of political competition suggests that the power to allocate resource is a weapon for political actors to win political competition and sustain authority (Matsusaka & McCarty, 2001). This is because the power to allocate resources helps shape firms' (e.g., politically connected firms') preferences and can be used to convince them to support political campaigns. Yet how firms' business goals and political actors' political interests together determine the impact of political connections remains underdeveloped. This may be resolved by integrating organizational theories and political theories.

Our analyses further showed that organizational theories are usually applied to account for the role of political connections in firms' decisions, behaviors, and outcomes, while economic theories are used to understand the role of various economic stakeholders in the markets. Therefore, to combine organizational theories and economic theories, scholars can look to the interactions between firms and various economic stakeholders such as consumers, suppliers, competitors, and partners. The essence of economics theories, such as game theory

and economic theory of competition, is that one's actions and performance rely on the other related actors' actions (McNulty, 1968; Osborne & Rubinstein, 1994). Combining this logic with that of organization studies, scholars can investigate how economic stakeholders' reactions to the firm would shape firms' political connections related decisions, behaviors, and outcomes. For example, if a job seeker's perceptions of a firm's political connections impact their likelihood to apply for a job, this may have profound implications for the human capital within the firm and the outcomes such a politically connected firm can achieve.

Combine different organizational theories

Our analyses showed that usage of various organizational theories is also fragmented in political connections scholarship. While resource-based view has been combined frequently with other organizational theories, these theories are disconnected from resource dependence theory. This fragmentation means that the majority of political connections articles study firms' reliance on political actors as outsiders and firms' internal resources, capabilities, and behaviors independently. Further, we note that resource dependence theory, i.e., attention on the outsider political actors, has grown in importance, while resource-based view, i.e., consideration for the firm itself, became less important. We argue that both outsiders and insiders of the firm are important for organization studies (Hillman, Withers, & Collins, 2009) including those that study political connections. Therefore, it would be valuable for scholars to combine the organizational theories accounting for outsiders (i.e., resource dependence theory) and insiders (e.g., resource-based view) in their studies.

To combine resource dependence theory and resource-based view, studies can incorporate factors both outside and inside the firm. First, it is possible to explore the relationship between firms' dependence on the political system and their focus on inside

resources and capabilities. For example, Jia (2018) found that firms' such dependencies vary with their own capabilities. However, it is not clear how firms can actually reduce their dependence since resources inside and outside the firm are not similar. Also, the outcome of such substitution is also uncertain, considering that firms' capability to utilize resources may also be constrained by the number of resources they can obtain. By combining resource dependence theory and resource-based view, future studies can further investigate these questions.

Second, since resource dependence theory and resource-based view share the subject of resources, it is valuable to analyze political connections in terms of firms' resource portfolios. The resource portfolio of a firm is the collection of all the resources, including those obtained from outside and controlled inside by the firm. And, firms' activities are based on the process of structuring resource portfolio, which consists of acquiring, accumulating and diversifying resources (Sirmon, Hitt, & Ireland, 2007). More importantly, the impact of political connections can be heterogeneous on the firm's ability to acquire and accumulate outside and inside resources as they structure their resource portfolio (Wei, Zheng, & Ozdemir, 2021). However, literature still lacks studies that investigate such heterogeneity. To fix this underdevelopment, scholars can combine resource dependence theory and resource-based view to further analyze how and why political connections generate differed impact on structuring firms' resource portfolios.

2.5.1.2 Adding perspectives to current intellectual structure

Apply individual level theories

Our review clearly shows that political connections have been primarily studied at firm-, industry- and institutional- levels with various organizational, political, economic, and

sociological theories. Nevertheless, this finding also implies that perspectives at the individual level have not been well integrated into political connections scholarship. This is surprising especially given that political connections are essentially relationships between individuals, namely, firm leaders and politicians (Faccio, 2006). Also, both firm leaders and politicians are key actors to shape firms' decisions and behaviors to form political connections and influence the outcomes the firms can garner from these connections (Fan et al., 2007). To obtain more nuanced understandings about the formation as well as the outcomes of political connections, we need studies focusing on these individuals with the lens of individual level theories.

Our suggestion is to investigate firm leaders' and politicians' unique characteristics. Firm leaders and politicians come from different systems (i.e., organizations and political system respectively) wherein they form distinctive interests and goals. Due to such a distinction, firm leaders and politicians may have conflicts on firms' decision-making and behaviors. In this sense, the decision to form political connections and the behaviors that determine the outcomes of political connections are the results of negotiations between individuals involved in political connections and the trade-offs those individuals make among alternatives they face. However, prior studies have not shed light on such negotiations and trade-offs and remain silent on how various individuals involved in political connections together influence the formation as well as the outcomes of political connections. Future studies can offer answers by utilizing individual level theories, especially those that account for individuals' goal setting and behaviors. For example, such theories include upper echelons theory and organizational behavior theories.

2.5.1.3 Addressing generalization issue caused by a strong reliance on pure empirical works

One issue reflected in our findings is that political connections studies may face the problem of generalization. As we have observed earlier, political connections scholarship largely relies on empirical works and in recent periods such reliance is becoming even stronger compared to the reliance on the works that apply disciplinary theories. Since empirical explorations are carried out within certain contexts while political systems vary across different contexts, the results and learnings regarding the formation and outcomes of political connections may not be transferable to the contexts outside of the one being studied. As a result, the knowledge generated by political connections studies that strongly rely on empirical works cannot be generalized easily, thus limiting the value of these studies. To resolve this issue, we suggest that future studies not only be based solely on empirical observations but also be driven by theory.

2.5.2 Research Guidance Stemming from Research Topics

2.5.2.1 Guidance for future research on the impact of political connections

Resolve the mixed impacts of political connections

Our analyses for the research topics related to political connections show that the impact of political connections on various outcomes (e.g., innovation and entrepreneurship) are mixed, so future research can contribute to the impact studies by resolving these mixed results. Our first suggestion is that scholars can attend to the heterogeneity of political connections and investigate the impacts by differentiating the type of political connections. For example, they can study political connections at different levels. Our review shows that political connections formed at the individual level differ in their impacts from those formed at the

organizational level. Therefore, scholars should pay attention to not combining different levels of political connections into a single construct that may then confound the findings and produce mixed results. In addition, political connections can be viewed as formal or informal. Moreover, the informal political connections can be categorized into those based on family, friendship, corruption, or cronyism, even though overlaps between these categories also exist. However, studies sometimes combine these various forms of political connections into a single construct, possibly leading to the prior mixed findings. Studies that instead distinguish between these different formal and informal forms are still limited. Thus, we suggest that scholars study both forms of political connections and study them separately. In sum, we suggest scholars be aware of the heterogeneity of political connections and study the impacts of political connections by disaggregating political connections at different levels and in different forms.

Second, we also suggest scholars identify the contingencies that can shape the impact of political connections and the mechanisms through which political connections generate this impact. This is because contingencies and mechanisms can help unpack why and how political connections lead to the outcome. Regarding the contingencies, our findings have shown significant moderation effects of political connection on various aspects of performance by corporate governance and institutional environments. This implies that the approach that political connections generate impact may change with corporate governance and institutional environments. Inspired by this implication, scholars can start to identify contingencies by investigating the potential moderation effects of corporate governance and institutional environments if they intend to resolve the mixed findings of the impact of political connections on the emerging topics (e.g., innovation). As to the mediating

mechanisms, we suggest scholars conduct more nuanced analyses of the specific mechanisms through which political connections generate their impact. Political connections may generate impact through various mechanisms such as resources, legitimacy, policy, protection, and firm reputation. At the same time, however, the impact of political connections may be complementary or opposing through these different mechanisms. For example, on one hand, political connections may help the firm access resources thus help improve firm performance while on the other hand these political connections may raise the public's doubt about the firm's capability, reduce its reputation, and as a result harm firm performance. In that sense, it is possible that the mixed findings of the impact of political connections are due to the hidden combination of various mechanisms. One way for future research is then to address this concern by distinguishing among and analyzing specific mechanisms. This would also enable scholars to compare the impacts created through different mechanisms and enhance our understanding of the processes through which political connections generate their impact.

Investigate the impact of political connections with cross-level factors

Our analyses show that the impact of political connections is related to factors across micro- and macro- level. Further, we also note that earlier studies attend more to macro level factors while recent studies increasingly look to micro level factors, even though combining factors at different levels and investigating the cross-level factors still need further attention. We argue that factors at different levels could jointly shape the impact of political connections rather than independently, so we may not be able to develop a complete picture of the impact of political connections if studies do not consider factors at different levels together or study cross-level factors. As displayed by our analyses afore, political connections are associated

with micro-level factors such as the characteristics and behaviors of firm leaders, political actors, and multiple stakeholders. They also involve macro-level factors, especially the indicators of institutional environments like industrial regulation, economic development, political stability, and social movements. Scholars can combine factors at different levels to study the impact of political connections. In particular, while prior studies have presented that the impact of political connections depends on the institutional environments, it remains unclear how such dependence would change if individuals involved in political connections (i.e., firm leaders and political actors) proactively react to institutional environments. In addition, since various stakeholders, who are outside the relations between the firm and the state, are important components of the institutional environments, they may also shape the relationship between institutional environments and political connections' impact through their behaviors in the environments. Therefore, to have more complete understandings, we suggest future studies go beyond a single level and instead investigate the impact of political connections with factors across different levels and if scholars attempt to conduct cross-level studies. This can add fresh understandings of the impact of political connections.

Investigate the impact of political connections on emerging research topics

According to the evolution analyses, some emerging research topics are still less studied in the political connections scholarship, such as innovation, family business, social media, political risks, and IPO. Future studies can contribute to this scholarship by further investigating the impacts of political connections associated with these emerging topics.

2.5.2.2 Guidance regarding the studies on the antecedents of political connections

We note that our analyses for the research topics of political connections are dominated by the impacts of political connections, while prior studies remain rather silent on the

antecedents of these political connections. Specifically, a major question can be “why some firms are more active in seeking political connections than the others” (Lux, Crook, & Woehr, 2011). In addition, studies that emphasize the impact of political connections without examining the reason for the existence of political connections may be challenged with the potential causality problems. For instance, while political connections can generate impact on firms’ various outcomes, the existence of political connections may be determined by firms’ intention to impact these outcomes in ex-ante. Therefore, to further develop our understanding of antecedents and impacts of political connections, future studies can make efforts to investigate why and how political connections are formed.

Scholars can examine the antecedents focusing on different systems and different levels. Our analyses show that political connections are associated with factors from various systems, including organizations, politics, economy, and society. At the same time, factors in each system can be further categorized into individual-, organizational-, and institutional- levels. Except that we cannot identify institutional-level factors in organizations, future research can explore the antecedents of political connections from potentially eleven different aspects. While all these eleven aspects represent promising avenues for research, we exemplify three of them below.

Among these, the individual level antecedents are most underdeveloped, and scholars can contribute to political connections scholarship by addressing this underdevelopment. At the individual level of the economic system, political connections of the leaders of the competitor firms can help explain the focal firm’s leaders’ motivation and opportunity to establish political connections. On one hand, if competitors’ leaders have political connections, the focal firm’s leaders may be more motivated to establish political connections

due to upward social comparison. On the other hand, focal firm's leaders may have fewer opportunities to establish political connections if competitors' leaders are already connected to political actors. In such settings, focal firm's leaders may not be able to convince those political actors to also form connections with them, hence being crowded out of the political system. Given that both explanations may work, there is a dilemma about "whether firm leaders are more or less likely to pursue political connections if competitor firms' leaders have political connections". We believe it would be valuable for scholars to address this question.

In addition, at the individual level of the political system, politicians' elections may be a reason for the formation of political connections. Usually, elected politicians need to collect votes and need sponsorship from the firms if they intend to win the election. This implies that firms can leverage such an opportunity to connect with the politicians, so the likelihood of forming political connections may be higher during election years. Nevertheless, politicians may also be concerned about potential negative perceptions from the public such as conflict of interests, biased representation, or even corruption, thus avoiding close connections to firms during the election years. Future studies can address this potential trade-off that political actors face and its implications for firms forming political connections.

Moreover, at the organizational level, future studies can further investigate antecedents by referring to the political connections' impact on organizations. This suggestion is inspired by our finding that there may exist a reciprocal causal relationship between political connections and organizational level outcomes such as CSR. More generally, firms' formation of political connections may be driven by the aim to achieve certain outcomes in organizations, politics, economy, and society systems. So, we strongly suggest scholars

examine the causal relationship between political connections and the various organizational level outcomes and use appropriate modelling and analyses techniques that can capture this potentially reciprocal relationship and better identify the antecedents and outcomes of political connections.

Finally, while prior studies have investigated some antecedents at the institutional level such as industrial dynamics and institutional environment (Doh et al., 2012; White III, Fainshmidt, & Rajwani, 2018), these factors are mainly investigated through focusing on organization and economy systems. Literature is still unclear on how the institutional level factors from the social systems (e.g., social movement) determine the formation of political connections. As indicated by our analyses on the relationship between CSR and political connections, the public's expectations can influence firms' decisions on forming political connections. For example, firms may choose to form connections to buffer themselves from these social pressures or they sometimes may do so to satisfy the public's expectations. Future studies can investigate under what conditions certain motivation dominates firms' political connection formation decisions and how would such motivation change in different contexts.

In conclusion, the research guidance above is based on our findings from the *results* section. We summarize those results and the corresponding research guidance in Table 2-6.

2.6 Conclusion

This study maps political connections scholarship by using a bibliometric literature review technique to understand (1) what the intellectual structure of political connections research is; (2) how the intellectual structure developed over time; (3) what the research topics

Table 2-6 Summary for results and research guidance.

		Results	Underdevelopment	Research Guidance
Overall status of intellectual perspectives	Impact of intellectual perspectives	<p>(1) Perspectives are across social science disciplines, but the influential papers predominantly contain a single intellectual perspective within them.</p> <p>(2) Perspectives are not of equal importance: organizational theories are the most important perspectives; the political and sociological theories are used less.</p> <p>(3) Descriptive quantitative studies are dominant.</p>	<p>(1) Theories from different disciplines are less combined.</p> <p>(2) Political theories and sociological theories are underdeveloped.</p> <p>(3) Strong reliance on pure empirical works.</p>	<p>(1) Combine theories from different disciplines to understand political connections.</p> <p>(2) Employ political theories and sociological theories to understand political connections studies.</p> <p>(3) Address the generalizability of political connections studies by enhancing the theoretical basis of empirical tests.</p>
	Combination of intellectual perspectives	<p>(1) Combination of economic theories and political theories: A. this combination is achieved by integrating the external political regulations and internal ownership structure; B. this combination is achieved by studying the state as an agent; C. this combination is achieved by integrating law, finance, and economic growth, while the perspective of law remains isolated from other perspectives of this scholarship.</p> <p>(2) Combination of organizational theories and sociological theories: A. resource-based view and behavioral theory were used together often, meanwhile, they were also very likely combined with sociological theories; B. resource dependence theory was less frequently integrated with other organizational theories but used to link organizational theories to economic theories and political theories; C. embeddedness theory has linked different organizational theories (i.e., resource dependence theory and other organizational theories).</p> <p>(3) Combination of economic theories and empirical evidence: A. economic theories are often used together with empirical</p>	<p>(1) The approach to combine theories from different disciplines is limited.</p> <p>(2) The combination between resource dependence theory and other organizational theories is limited.</p>	<p>(1) Investigate the combinations between theories from different disciplines.</p> <p>(2) Investigate the combinations between resource dependence theory and other organizational theories.</p>

		findings; B. economics theories and/or empirical findings are often used with other disciplinary theories (economic theories serve as the nexus).		
Evolution of intellectual perspectives	Evolution of impact	(1) Increasingly important empirical evidence and sociological theories: A. empirical evidence becomes stronger than those on theories; B. only sociological theories have grown in terms of both citation percentage and ranking. (2) Unequal evolution among various organizational theories: resource dependence theory contributes to the growing importance of organizational theories while the weaker impact of resource-based view and organizational behavior theory diminishes the importance of organizational theories. (3) Political theories and economics theories show a declining trend: the impact of political theories has varied most and dropped significantly.	(1) The development of theory application is slower than the development of empirical findings. (2) The development of various organizational theories is unbalanced. (3) Political theories are outdated.	(1) Further use the emerging while still less applied sociological theories (2) Further develop the application of resource-based view and organizational behavior theory. (3) Incorporate political theories into political connections studies.
	Evolution of combination	(1) Changes in the combination of economic theories and political theories: this combination increasingly ignores empirical evidence. (2) Changes in the combination of organizational theories and sociological theories: A. this combination grows to be more diverse; B. resource dependence theory emerges to narrow the disconnection among organizational theories and sociological theories. (3) Changes in the combination of economic theories and empirical evidence: A. this combination grows to be more diverse; B. empirical evidence tends to be more important than economics theories for this combination; (4) Changes between clusters: A. government ownership is an emerging way to combine economic theories and political theories; B. economic theory of bargaining, asymmetric information and incentive contracts are becoming more important for the combination of economic theories and empirical works but less important for the combination of political theories and economic theories.		

Overall status of research topics	Cluster 1 corporate governance	<p>(1) The impact of individual level and organizational level political connections is heterogeneous.</p> <p>(2) Various corporate governance elements moderate the impact of political connections on firms' strategic outcomes.</p>	(1) There is less attention on the difference between political connections formed at different levels.	<p>(1) Investigate the impact of political connections formed at different.</p> <p>(2) Investigate new moderators and further identify the moderation effects by corporate governance.</p>
	Cluster 2 political system	<p>(1) Formal political connections:</p> <p>A. formal political connections allow firms to gain rich experiences in networking with the state;</p> <p>B. the value firms generate from formal political connections would vary if the political system changes;</p> <p>C. formal political connections are essential for foreign firms to survive the political system in the host country.</p> <p>(2) Informal political connections:</p> <p>A. one form of informal political connections is established through corruption;</p> <p>B. another form of informal political connections is based on cronyism.</p>	<p>(1) There is less attention on the negative impact of formal political connections.</p> <p>(2) There is less attention on informal political connections.</p>	<p>(1) Investigate the negative impact of formal political connections.</p> <p>(2) Investigate more forms of informal political connections, such as friendship and family.</p>
	Cluster 3 innovation and entrepreneurship	<p>(1) Innovation: political connections allows acquiring a wide range of resources for innovation, but cannot help firms develop the necessary capability to make use of resources to produce higher innovation outputs.</p> <p>(2) Entrepreneurship: political connections can enhance entrepreneurs' risk-taking activities by offering necessary resources, the positive role of political connections in entrepreneurial activities may vary if the entrepreneurs lack the capability to integrate and utilize resources.</p> <p>(3) Conditions for the effects of political connections: :</p> <p>A. the influence of political connections decrease with the duration of connectedness, and the strength of governance, and institutional environments (industry regulation, economic development, and political stability).</p> <p>B. anti-corruption policy not only changes the effectiveness of political connections but also flips the dual effects of political connections.</p>	<p>(1) Studies on the influence of political connections on innovation and entrepreneurship focus on the mechanism of resources.</p> <p>(2) Findings regarding the influence of political connections on innovation and entrepreneurship are mixed.</p>	<p>(1) Investigate more mechanisms through which political connections impact innovation and entrepreneurship.</p> <p>(2) Resolve the mixed finding regarding the influence of political connections on innovation and entrepreneurship.</p>

	Cluster 4 international business and sustainability	<p>(1) International business: political connections positively influence international business by addressing the hazards in the international environment.</p> <p>(2) Sustainability:</p> <p>A. political connections positively influence environmental strategies by making firms increase investments into environmental strategies, contributing to the breakthroughs in environmental technologies, helping achieve higher environmental performance;</p> <p>B. political connections not only influence CSR but also can be an outcome of CSR activity.</p>	<p>(1) There is less attention on the negative impact of political connections on international business and sustainability.</p> <p>(2) There is a causality issue regarding the relationship between political connections and CSR.</p>	<p>(1) Investigate the negative impact of political connections on international business and sustainability.</p> <p>(2) Test and explain the causality relationship between political connections and CSR.</p>
	Cluster 5 IPO	IPO is only recently developed within the political connections scholarship.	Research on the relationship between political connections and IPO is underdeveloped.	(1) Investigate the relationship between political connections and IPO.
	Overall	Studies predominantly focus on the impact of political connections.	Research on the antecedent of political connections is underdeveloped.	(1) Investigate why and how political connections are formed.
Evolution of research topics	Cluster level evolution	<p>The key topics have evolved from political system to the fields of economics and management.</p> <p>(1) older terms are predominantly located around the area that indicates the association between political connections and political system.</p> <p>(2) more recent terms are scattered across the areas of economics and management.</p>	(1) Outdated topics in political science.	(1) Study political connections with topics from political science.
	Term level evolution	<p>(1) Topics in developed countries are older while those in emerging countries are more recent.</p> <p>(2) Topics at macro level are older while those at micro level are more recent.</p> <p>(3) The evolutionary tendency for the topics in management:</p> <p>A. the older topics are management on acquisition and networking activities;</p> <p>B. the more recent topics are management on the stock market, governance, innovation and sustainability;</p> <p>C. some topics are popular throughout the studying period, which are firm growth, internationalization and entrepreneurship.</p>	<p>(1) Political connections are largely studied in a singular research context.</p> <p>(2) Political connections are largely studied with factors at a singular level.</p> <p>(3) Some emerging research topics are underdeveloped.</p>	<p>(1) Study and compare the formation as well as the impact of political connections in different countries.</p> <p>(2) Study the formation as well as the impact of political connections with considering cross-level factors.</p> <p>(3) Study the emerging research topics.</p>

associated with political connections are; and (4) how these research topics evolved over time. By conducting this review, we intended to contribute to the literature on political connections on two fronts. First, we aimed to provide a comprehensive and systematic review of research on political connections by offering scholars a bibliographically grounded taxonomy of this literature. Second, we aimed to generate insights about what we know so far and offer valuable and practical recommendations for future research in this field through examining the intellectual structure and research topics across disciplines and over time.

This review is the first to apply bibliometric techniques to political connections literature. The particular bibliometric technique, science-mapping approach, we take in this literature review is intended to complement and extend the findings of other review studies. Prior literature reviews of political connections have done narrative analyses (Lawton, McGuire, & Rajwani, 2013; Mellahi et al., 2016; Rajwani & Liedong, 2015) and meta-analysis (Tihanyi et al., 2019). These reviews are useful for understanding this scholarship from specific aspects asking focused questions, such as the linkage between political connections and firm performance (e.g., the paper by Rajwani & Liedong, 2015) and the role of political connections within international business (e.g., the paper by Lawton et al., 2013). The science-mapping approach we use broadens these reviews by bringing significant methodological advantages that enable us to present a more complete picture of the whole scholarship. This picture shows how all the disciplinary theories have been applied and the research topics have been discussed. In that sense, the approach we use in this study contributes to and extends current reviews as it helps identify more potential theoretical lenses and more potential linkages among topics, which prior reviews have limited ability to do. For instance, findings from the intellectual structure analyses suggested how future

research can contribute to the theoretical foundation of this scholarship by integrating cross-discipline theoretical perspectives. And, findings from the research topic analyses guided scholars to extend our understanding of political connections by further investigating the cross-level and cross-system impact and antecedents of political connections.

Chapter 3 The Paradox of Political Embeddedness: How do Political Connections

Influence Firms' Acquisition and Utilization of Resources for Innovation?

3.1 Introduction

Management scholars are increasingly paying attention to how connections with political actors influence firm innovation in emerging markets (Gao, Shu, Jiang, Gao, & Page, 2017; Wang, Li, & Furman, 2017; Wu, 2011). Innovation requires acquiring and using resources (Klingebiel & Rammer, 2014); existing research suggests that embeddedness in political organizations through such connections can potentially benefit innovative activities by providing privileged access to state-controlled resources (Stuart & Wang, 2016). However, resources may come from different sources, some controlled by the state, and others from the market (Arikan, 2009); meanwhile, political embeddedness is heterogeneous, depending on, for example, to which political branch the firm is connected (Zhang, Marquis, & Qiao, 2016; Zheng, Singh, & Chung, 2017). Embeddedness in different political branches may have varying influences on how embedded firms seek and use various resources. Ignoring the heterogeneity of political embeddedness or of resources has likely contributed to the mixed theoretical predictions and empirical findings of how political embeddedness impacts firm innovation (Kotabe, Jiang, & Murray, 2011; Lin, Zeng, Ma, Qi, & Tam, 2014).

The state is not a monolithic entity and comprises heterogeneous political organizations. While recent studies have begun to unpack complexity within the state by studying firms' connections to different political parties (Zhu & Chung, 2014) or different levels of political organizations (Zheng, Singh, & Mitchell, 2015), less is known about how embeddedness in the administrative or legislative branches influences firms. Given the fundamental power division and the distinct roles, interests, and resources of the two branches, embeddedness in

these branches will likely influence the way firms to seek and use resources differently, as well as how different sources of resource (e.g., the state and the market) evaluate specific embeddedness differently and differentially grant firms the resources they seek.

In this study, we develop a theoretical framework to explain how embeddedness in the administrative vs. legislative branch influences firms' acquisition and utilization of resources for innovation, distinguishing between types of resources—financial resources controlled by the state and human resources originating from the market.

First, we propose that embeddedness in different political branches yields different outcomes for acquiring financial and human resources for innovation through shaping firm behavior on the one hand and influencing the perception of resource providers on the other. Drawing on the theory of embeddedness (Granovetter, 1985) and political embeddedness (Haveman, Jia, Shi & Wang, 2017; Michelson, 2007) in particular, we suggest that firms embedded in either administrative or legislative branch can access more financial resources from the state, though this would be stronger for firms connected to the administrators who control resources. Meanwhile, embeddedness in the administrative branch may direct managerial attention to managing the business-state exchanges thus engendering less attention to the acquisition of resources from the market such as innovation-specialized managerial human capital, whereas embeddedness in the legislative branch may lead firms to value such human capital and also enjoy more opportunities to hire them given the legislators' institutional role and interactions with innovation elites.

In parallel, drawing on insights from signaling theory (Connelly, Certo, Ireland, & Reutzel, 2011), we posit that while some audiences (resource providers, herein) perceive embeddedness in a particular political branch favorably and are more willing to grant the

firms the resources they seek, such embeddedness may, at the same time, make the firm less appealing to other audiences. Specifically, we argue that state actors tend to perceive both types of political embeddedness favorably; while market actors, such as firms' potential new hires—managers with innovation experience—may perceive firms' embeddedness in the administrative branch as reflective of the tendency of sacrificing innovation for political goals while embeddedness in the legislative branch a better fit for them as such embeddedness can signal firms' stronger aspiration to engage in innovation and better support of employees' innovative activities.

Second, in addition to resources acquisition, we suggest that embeddedness in different political branches also varyingly impacts firms' utilization of the acquired resources for innovation, as either embeddedness may differently shape firms' incentives and capabilities in transforming resources. Firms embedded in the administrative branch focus heavily on sustaining firm-state relations, resulting in both lower motivation for and efficiency of using resources for innovation, while firms embedded in the legislative branch see the value of innovation and can more effectively develop organizational routines to support innovation by leveraging their embedded relations, leading to more effective use of resources for innovation.

We test our framework on listed firms in China during 2007–2016, when Chinese firms have increasingly strived to innovate (Jia, Huang, & Zhang, 2019). During this period, the Chinese government continued to have a substantial influence on resource allocation (Stuart & Wang, 2016), and corporate connections to the two political branches remained prevalent (Zhang et al., 2016). Findings from this context lend strong support to our theory.

Our study makes two key contributions. First, this study advances research on political embeddedness (Hiatt, Carlos, & Sine, 2018; Siegel, 2007; Zhu & Chung, 2014) by distinguishing the impact of the two political branches in which firms are embedded. Importantly, our findings highlight that political embeddedness has paradoxical effects in firms' acquisition and utilization of resources: embeddedness viewed favorably by the state can be perceived negatively by market actors, undermining firms' acquisition of specific resources; moreover, embeddedness that helps firms obtain more state-controlled resources leads to less efficient utilization of such resources for innovation. Our study thus addresses recent calls to "pay closer attention to the mechanisms by which different state structures and institutional arrangements affect organizations" (Grandy and Hiatt, 2020: 27). Second, this study helps resolve the mixed findings regarding the relationship between political embeddedness and innovation performance (Kotabe, Jiang, & Murray, 2017; Lin, Lin, Song, & Li, 2011; Sinkovics & Zagelmeyer, 2018) by demonstrating that the embeddedness-innovation relationship is determined by both firms' resource acquisition and resource utilization. Our findings establish that different political embeddedness not only guide the firm towards different resources needed for innovation but also lead the firms to use resources differently: the combined effects impact innovation performance. Examining both the resource acquisition and utilization mechanisms provides a more complete answer to the question "*how* does political embeddedness affects firm innovation?".

3.2 Theoretical Framework

Political embeddedness, defined as firms' boundary-spanning connections with political organizations through having political actors in the firms (Faccio, 2006; Haveman et al.,

2017), is suggested to impact a number of business outcomes (Mellahi, Frynas, Sun, & Siegel, 2016; Tihanyi et al., 2019). Thus far, there is no consensus on whether political embeddedness is beneficial or detrimental for innovation performance (Gao et al., 2017; He et al., 2014). Political embeddedness may benefit innovation performance as it enables firms to acquire the essential resources for innovation (Kotabe et al., 2011), but it may also constrain the creation of new resources, negatively influencing innovation performance (Shu, Page, Gao, & Jiang, 2012). We argue that the conflicting relationship between political embeddedness and innovation performance may be because prior studies either focused on a single resource or viewed political embeddedness as homogeneous. Instead, we need to jointly consider (1) the various types of resources needed for innovation and (2) the heterogeneity of political embeddedness.

Innovation needs various resources, which are mainly seen as comprising of financial capital and human capital (Furman & Hayes, 2004). Financial capital is essential, given the costs associated with investments and production of innovation. In emerging markets where financial markets are underdeveloped, firms usually do not have as many financing options as their developed-economy peers enjoy such as the stock market (Hall, 2001) or venture capitalists (Black & Gilson, 1998); they instead rely heavily on financial resources from the state to innovate (Guo, Guo, & Jiang, 2016). Second, human capital—especially top managers with functional experience in R&D (Li & Zhang, 2007)—is required to make investment decisions in innovation (Hambrick & Mason, 1984) and manage the innovation process (Cooper & Kleinschmidt, 1995). Therefore, having R&D talents (i.e. individuals with knowledge and experience in R&D) as TMT members (R&D TMT, hereafter) can help motivate and guide innovation (Kianto, Sáenz, & Aramburu, 2017).

Meanwhile, studies investigating political embeddedness and innovation relationship are commonly conducted on the supposition that connections to different political organizations do not vary in their impact. However, emerging research evidence has demonstrated the differential impact of being embedded in one versus another political organization. For instance, connections to the ruling political party offer the benefits of market entry in contrast to the constraints imposed by connections to the opposition party (Zhu & Chung, 2014) and embeddedness in the local level political organizations, but not the national level ones, can buffer firms from threats and increase firm performance (Zheng et al., 2015). However, we know little about the impact of the embeddedness created by a fundamental power division within the state—the administrative vs. legislative branch.

The administrative branch, usually known as the government, functions to implement policies, regulations, and resources allocation (Zheng et al., 2017). Particularly, it controls financial resources (Sun, Mellahi, & Thun, 2010), mainly in the manner of planning subsidies (Guo et al., 2016) and influencing the loan allocation of state-owned banks (Cull, Li, Sun, & Xu, 2015). In addition, the administrative branch regulates market institutions by imposing principles authoritatively (Schneiberg & Bartley, 2008). By contrast, the legislative branch indirectly influences the allocation of financial capital by working or interacting with the administrators or associated state actors such as state-owned banks (De Figueiredo, 2009). In addition, because legislators serve as a communication channel between the government and their constituencies (Li, Meng, & Zhang, 2006; Samuels & Shugart, 2003), they also interact with a broader range of market actors³, including R&D talents. Such interactions

³ Market actors define any individuals or entities in the market. All the market actors will have a perception of the firm. Since we study firms' acquisition of market actors for innovation, our focus is on the individuals that have R&D background (i.e., R&D talents).

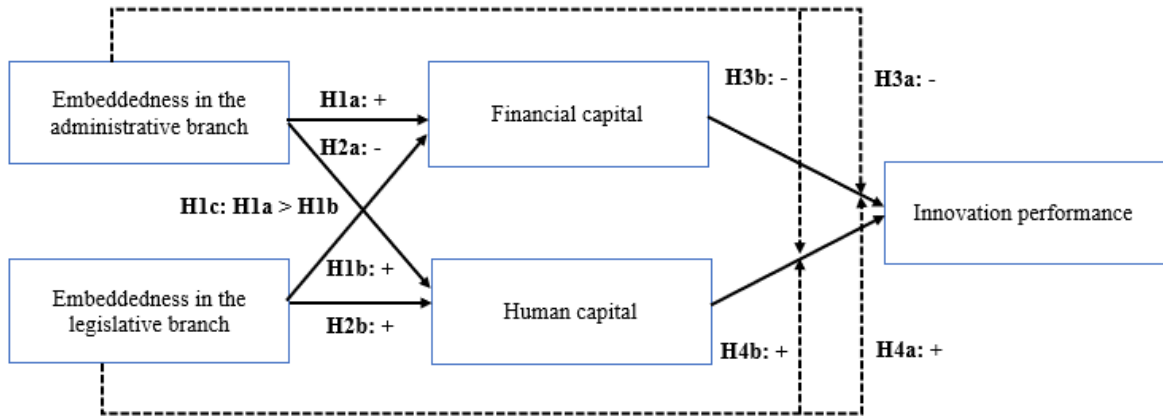
create opportunities for legislators to meet and approach managerial R&D talents for recruitment purposes on behalf of the firms they are connected to.

Due to the distinct functions of the administrative and legislative branches, embeddedness in one or the other may drive firms to seek and use resources differently. On the one hand, it creates heterogeneity of attention that firms allocate to specific activities (or resources) and provides heterogeneity of opportunities that shape firms' acquisition and utilization of those resources. On the other hand, resource providers may have unequal willingness to provide resources to firms embedded in different political branches. Market actors, as providers of human capital, usually face information constraints. Such constraints are particularly salient in emerging markets where corporate disclosure is weak (Ding Y, 2002) and there are inadequate information intermediaries such as analysts and credit-checking sources (Khanna & Palepu, 1997). Market actors, therefore, tend to rely on salient and easily comprehensible cues (political embeddedness, in this case) to make interpretations about firms (Connelly et al., 2011). Through a "heuristic shortcut" that allows them to use salient and easily comprehensible cues (political embeddedness, in this case) to make their judgments, they evaluate these signals and make interpretations about firms (Hsu, Hannan, & Koçak, 2009). Since a fit with employer is an important determinant for employees' career decisions (Campbell, Kryscynski, & Olson., 2017), they further compare such interpretations with their own expectations or interests and react positively to firms whose features are perceived as a better fit with their expectations or interests and react negatively to others (Dineen, Ash, & Noe, 2002). Since the administrative and legislative branches have distinct functions and serve and interact with the market differently, being embedded in either

provide different signals to the market actors. This yields different willingness for market actors to self-select into those firms that are perceived as more desirable vs. others.

We next elaborate on how heterogenous political embeddedness influences innovation performance via the mechanisms of acquiring and utilizing financial and human capital. Figure 3-1 previews our theoretical framework and predictions.

Figure 3-1 Theoretical framework of Chapter 3.



3.3 Hypotheses Development

3.3.1 Political Embeddedness and Acquisition of Financial Capital

The distinct roles of the administrative and legislative branches in allocating financial capital may lead firms embedded in different branches to acquire financial capital from the state heterogeneously via two mechanisms: (1) firms' opportunities in seeking financial capital from the state and (2) the state's willingness to provide financial capital to firms.

3.3.1.1 Embeddedness in the administrative branch and acquisition of financial capital

Firms embedded in the administrative branch have better access to information on financial opportunities and enjoy more opportunities to influence political actors for financial capital.

Embeddedness in the administrative branch offers firms exclusive information about various financing schemes (Sun et al., 2010), which is critical for firms to clarify the administrative processes and improve understanding of public policy related to financial resources (Haveman et al., 2017). In particular, this exclusive information may contain implicit or more detailed criteria for securing financial capital, yielding better a understanding for embedded firms to take advantage of the financial opportunities. In addition, embeddedness in the administrative branch offers access to key decision makers in the government (Lin, Tan, Zhao, & Karim, 2015), creating a communication channel between the firms and the state (Hillman, 2005) and providing opportunities for firms to influence the state actors for financial capital (Yang, Ma, Zhang, & Hong, 2018).

At the same time, the state may be more willing to grant financial capital to firms embedded in the administrative branch. Connections between the firms and the administrative branch align business and political interests through shared norms and goals (Dyer & Nobeoka, 2000; Wank, 2001). For instance, firms embedded in the administrative branch are more likely to commit to political norms (Hillman, 2005) and pursue political goals (Huang & Kung, 2010), allowing the embedded firms to gain political legitimacy and trust from the state (Feng & Wang, 2010; Haveman et al., 2017). This reduces costs of, and uncertainty associated with resource transfer. Thus, the state would be more likely to allocate financial capital to firms embedded in the administrative branch. Therefore, we propose:

Hypothesis (H1a). *Embeddedness in the administrative branch is positively associated with firms' access to state-controlled financial capital.*

3.3.1.2 Embeddedness in the legislative branch and acquisition of financial capital

Embeddedness in the legislative branch may also channel financial capital, albeit being weaker than what embeddedness in the administrative branch provides due to the legislative

branch's weaker influence over financial capital allocation. Embeddedness in the legislative branch creates a channel for firms to access financial capital largely due to the interactions between legislators and administrators (De Figueiredo, 2009). For instance, legislators may vote to pass the administrative agendas (Bonardi, Hillman, & Keim, 2005), and put forward proposals or feedback on administration (O'Brien, 1990). In China, the legislative bodies act as a forum for legislators to work and interact with administrators (Marquis & Qian, 2014). Such interactions may enable firms connected to legislators to access administrators who control budgets and the awarding of grants (Zheng et al., 2017), helping them to obtain exclusive information on financial schemes and opportunities to communicate and influence administrators for financial resources (Prechel & Morris, 2010).

Nevertheless, embeddedness in the legislative branch may offer less exclusive information and may be less useful in influencing the state for resources because, again, firms embedded in the legislative branch could only rely on the interactions between the two branches to reach the administrators for financial capital. This means that firms embedded in the legislative branch are more likely to have incomplete and less timely information than those embedded in the administrative branch (De Figueiredo, 2009). In addition, compared to direct connections with the administrators, connections with legislators provides indirect access to administrators and is likely less effective in communicating and influencing state actors for financial resources.

In the meantime, the state may generally be willing to offer financial capital to firms embedded in the legislative branch, viewing the legislative branch as part of the state apparatus and firms connected to legislators politically legitimate. However, the legislative branch may sometimes pursue divergent goals from the state administration and not

consistently adhere to the state's interests (Samuels & Shugart, 2003). Even in an authoritarian state like China where the government maintains a strong influence over the legislature (Li et al., 2006), firms embedded in the political system through connected legislators are sometimes questioned for their symbolic embeddedness (O'Brien, 1990). This may result in the state actors having concerns in fully engaging in resource exchanges with firms embedded in the legislative branch. Studies have shown that in underdeveloped institutional environments, strong ties characterized by trust and obligations are more effective in mobilizing resources (Bian, 1997). Therefore, compared to firms embedded in the administrative branch, the state may find firms embedded in the legislative branch less trustworthy and may be less willing to offer financial capital to such firms. Thus, we predict:

Hypothesis (H1b). *Embeddedness in the legislative branch is positively associated with firms' access to state-controlled financial capital.*

Hypothesis (H1c). *Embeddedness in the administrative branch has a stronger positive association with firms' access to state-controlled financial capital than embeddedness in the legislative branch.*

3.3.2 Political Embeddedness and Acquisition of Human Capital

Beyond financial capital, firm innovation requires human capital, especially top managers specializing in R&D. Firms' acquisition of R&D talents to the TMT is a strategic decision in which firm leaders have discretion. At the same time, which firms to work for is a career-related decision for the R&D talents. Taking both sides together, we argue that political embeddedness will influence firms' acquisition of human capital via affecting (1) firm leaders' decision to recruit and select R&D talents to the TMT and (2) R&D talents' decisions to join the firm.

3.3.2.1 Embeddedness in the administrative branch and acquisition of human capital

From the firms' side, embeddedness in the administrative branch may direct managerial attention to business-state exchanges, leaving less attention to seeking resources from the market, such as innovation-specialized talents.

Two mechanisms are at play, both shaping managerial attention and decision-making. First, firms connected to administrators enjoy market-distorting powers that generate benefits on nonmarket terms, including influence over regulations (Zheng et al., 2017), privileged access to state resources (cheaply and quickly) (Khwaja & Mian 2005), and selectively enforcing regulations to aid connected firms and hinder competitors (Agrawal & Knoeber, 2001). Put simply, these firms survive and thrive based on state-controlled resource distribution rather than market-based process of value creation. The competitive advantages rooted in the business-state exchanges may drive firms embedded in the administrative branch to value and attend more to managing their relationships with the state administrators. Due to firms' limited attention capacity (Ocasio, 1997), less attention will be allocated to market-based resource acquisitions that help develop competitive advantages.

Second, managerial attention is also influenced by organizational routines (Ocasio, 1997, 2011), which are repetitive patterns of coordinated activities through which tasks are performed (Nelson & Winter, 1982). In emerging markets where the state administrators tend to have strong discretionary power and control, the desire to maintain connections to the state administrators may drive the embedded firms to develop routines and procedures specific for sustaining such relationships. For instance, firms connected to the administrators may focus on "wine and dine" with government officials (Cai, Fang, and Xu, 2011) to maintain their access to the state, repeatedly deploying resources to obtain state-controlled licenses and land

(Li, He, Lan, & Yiu, 2012), and pleasing the administrators in the firm who tend to value individuals' political background based on their own career experiences (Jia, Kudamatsu, & Seim, 2015). Such routines institutionalized in the firms distract managerial attention away from the market-based resource acquisitions.

Consequently, the embedded firms' focused attention on the firm-state relations will lead them to make decisions in line with the goal of sustaining such relations rather than that of seeking market-based resources to build competitive advantages. Specifically, these firms may be eager to recruit and select the type of top managers whose attributes allow them to better connect with the state actors. In this sense, the embedded firms may emphasize candidates' political background, while devaluing their professional credentials (Fan, Wong, & Zhang, 2007) including innovation experience and capabilities. Therefore, firms embedded in the administrative branch are less likely to choose R&D talents for TMT.

From the R&D talents' perspective, we argue that R&D talents would be less attracted to firms embedded in the administrative branch. R&D talents prefer to work for firms to which they believe they can add value (Coad, Daunfeldt, Johansson, & Wennberg, 2014), especially through innovation breakthroughs. However, R&D talents may perceive a less desirable environment for themselves to innovate in firms embedded in the administrative branch. First, embeddedness in the administrative branch signals strong influence from the state and in turn, embedded firms would be perceived to inherit the culture of bureaucracy (Michelson, 2007). For instance, as one R&D talent working in a petroleum company explained to us, *"I think firms having bureaucrats are characterized with stronger bureaucracy. But I feel uncomfortable about working in a firm with strong bureaucracy, because people in such firms may attend much to relations and other rules that less fit for*

me... ”. ‘Other rules’ here include joining and staying committed to an internal coalition. The implicit rule of being valued or getting promoted is to choose and support the more promising leaders. In other words, to R&D talents, bureaucracy features personal authority (Pye, 1995) and implies that relations are an important factor in determining career trajectories (Shih, Adolph, & Liu, 2012). These perceptions mismatch with R&D talents’ expectations for a working environment and career development based on their innovation capabilities.

Second, embeddedness in the administrative branch may also signal firms’ possibility of sacrificing innovation for political goals. For example, embeddedness in the administrative branch signals potential political interventions from the state or the connected administrators (Marquis & Qian, 2014; Okhmatovskiy, 2010; Wang & Qian, 2011): connected administrators are found to install unqualified cronies in the firm to reinforce political agendas (Fan et al., 2007). As a result, embeddedness in the administrative branch may signal prioritizing political objectives more than business growth or innovation. According to one R&D talent (in engineering) we interviewed, *“firms guided by bureaucrats may merely care about the completion of a project rather than its innovativeness or effectiveness in the long term, because the completion of projects is targeted by government’s assessments”*. Hence, to R&D talents, the perceived stringent state oversight through the connected administrators can lead to a mismatch for R&D talents’ desired working environment and make them less willing to join firms embedded in the administrative branch. Taking both firms’ and R&D talents’ perspectives into consideration, we posit that

Hypothesis (H2a). *Embeddedness in the administrative branch is negatively associated with firms’ appointment of R&D talents to the TMT.*

3.3.2.2 Embeddedness in the legislative branch and acquisition of human capital

In contrast to embeddedness in the administrative branch, embeddedness in the legislative branch may make firms more eager and able to recruit and select R&D talents to the TMT. First, firms connected to the legislators have strong motivation to appoint R&D talents to the TMT. The connected legislators are public representatives who share the mission of advancing economic and social development (Meng, & Zhang, 2006; Li, Liu, & Li, 2012). Such responsibilities make the connected legislators value firm growth, leading the embedded firms to attend to market-based activities and forces that can help firms grow. Influenced by such attention structure, the embedded firms will be motivated to hire and select top managers who have strong abilities to help firms develop competitive advantages, such as innovation.

Further, and more importantly, firms connected to the legislators have more opportunities to interact with managerial and innovation elites. In China, in stark contrast to state administrators, legislators are elites from various social domains, such as distinguished entrepreneurs and professionals from knowledge-intensive industries, and even scientists (Li et al., 2006). These legislators meet regularly for legislative discussions (Marquis & Qian, 2014), which offers opportunities for firms embedded in the legislative branch to directly interact with the legislators who are elites specialized in innovation, and/or to indirectly reach other R&D talents out of the legislative branch through contacts at the legislative bodies. These interactions enhance managerial attention to individuals' innovation abilities and increase firms' subsequent chances to hire such talents.

From the R&D talents' perspective, we argue that they are more willing to join the TMT of firms embedded in the legislative branch. R&D talents are attracted to the

opportunity of working for high-growth and innovative firms (Coad et al., 2014), as such these firms may enable them to add value by contributing their innovative capabilities, providing a better fit for their overall innovation agendas (Agarwal, Echambadi, Franco, & Sarkar, 2004). Nevertheless, R&D talents in emerging markets are heavily constrained by information asymmetry (Yang, 2003) and therefore tend to resort to firms' (visible) political embeddedness to identify their desirable employers. Firms' embeddedness in the legislative branch can signal firms' stronger aspiration to engage in innovation and their ability to transform innovation into higher firm performance. This is because firm leaders of more capable and innovation-oriented firms are more likely to be selected into the legislative bodies (Jia, 2016). Knowing such a signal, the R&D talents we interviewed considered firms embedded in the legislative branch *"at the frontier of innovation because they are selected to join legislative discussions"*. Such perceptions well match R&D talents' expectations about their career development and the role of innovation within it. Some R&D talents believe that firms embedded in the legislative branch tend to prioritize innovation and *"can better understand what we really need and give voice on behalf of us, so we may obtain more supports from the formal policies or projects"*. Embeddedness in the legislative branch can therefore be interpreted by R&D talents as signs of firms' stronger aspirations to innovate and their greater abilities to transform innovation into higher firm performance. These perceptions well match R&D talents' expectations for potential desirable employers, their career development, and the role of innovation within it, making them more willingly apply for TMT positions in these firms. Integrating both firms' and R&D talents' perspectives, we hypothesize that:

Hypothesis (H2b). *Embeddedness in the legislative branch is positively associated with firms' appointment of R&D talents to the TMT.*

3.3.3 Political Embeddedness and Utilization of Acquired Resources

While acquiring resources is essential for innovation, what matters is not only how many resources flow into a firm but also how firms utilize such resources (Chen & Huang, 2009). We next consider how either political embeddedness influences firms' transformation of resources into innovation performance by shaping their motivation and ability to effectively use resources for innovation.

3.3.3.1 Embeddedness in the administrative branch and utilization of resources

Firms embedded in the administrative branch are less motivated to use resources to advance innovation performance. As argued earlier, the embedded firms' relations with the state administrators afford firms market-distorting power and benefits, making these firms more attentive to sustaining their political relations, and less sensitive and less likely to be bound by market disciplinary forces (Fan et al., 2007). As a result, firms embedded in the administrative branch will have strong motivations to allocate money, time and managerial efforts to pleasing administrators and supporting their political goals (Chen, Li, & Su, 2005), squeezing out the incentives to allocate such resources to market-based value creation activities such as innovation projects (Hou, Hu, & Yuan, 2017).

In addition, firms embedded in the administrative branch are less capable of transforming resources into innovation output. For a start, these embedded firms developed organizational routines specific for political exchanges, which may inhibit the establishment of routines intended for innovation. Innovation requires routines to continuously generate knowledge and offer innovative products and services (Wang & Zatzick, 2019; March, 1991), distinct from those routines for political exchanges (Li, 2020). The embedded firms' heavy focus on their political relations produces rigidity and locks them into their existing business-

state exchanges, making it harder for them to develop routines for innovation (Rawley, 2010). Moreover, the embedded firms cannot optimize their resources to pursue avenues for innovation that their resources and capabilities allow for. These firms tend to invest resources to innovate in avenues that the state requires or expects. The misalignment between the state's political goals and their business activities may constrain the embedded firms in using their financial or human capital, leading to poorer output from their innovative activities. Specifically, firms may have to pay for more trial and error, and meanwhile, R&D TMT cannot utilize their talents to the best, harming the efficiency of resource utilization.

Taking both incentives and capabilities together, firms embedded in the administrative branch will achieve lower innovation performance given the same amount of resources acquired. Therefore, we propose that

Hypothesis (H3a). *Embeddedness in the administrative branch negatively influences firms' transformation of financial capital into innovation performance.*

Hypothesis (H3b). *Embeddedness in the administrative branch negatively influences firms' transformation of human capital into innovation performance.*

3.3.3.2 Embeddedness in the legislative branch and utilization of resources

By contrast, firms embedded in the legislative branch are more motivated to allocate resources for innovation. As aforementioned, connected firm leaders who serve as legislators tend to value the forces that support firm growth and innovation. Further, distinct from firms connected to administrators who can reliably obtain resources on nonmarket terms, firms connected to legislators enjoy fewer benefits and protection from their connections (Faccio, 2006; Zheng et al., 2017), and will thus have stronger incentives to develop market-based competitive advantages, for which innovation is crucial. These firms would thus have strong incentives to promote innovation by investing more financial capital and assigning more

managers (e.g., R&D TMT) into innovation projects. As a result, firms embedded in the legislative branch are likely to use financial and human capital for innovative activities.

Second, firms embedded in the legislative branch are also more capable of transforming resources into innovation output. Thanks to the managerial attention on innovation, firms connected to legislators are more likely to develop organizational routines to facilitate more efficient use of resources to generate innovation. Specifically, to enhance innovation, these firms are more likely to develop routines in using their connections to obtain appropriate resources to advance innovativeness, avoiding diverting resources to non-productive uses, and deploying resources in innovation-enhancing technology and processes. Critically, the embedded firms may leverage the connected legislators' network to get in touch with the state and other legislators who are managerial and innovation elites (Igan & Mishra, 2014). Interacting with the state allows chances to collect information on innovation policy and trends, reducing political uncertainties associated with investments into innovation and enabling firms to invest resources at the right time (Ovtchinnikov, Reza, & Wu, 2019). Meanwhile, interacting with elites provides opportunities to learn how to manage R&D and personnel systems that can support more efficient use of financial and human capital for innovation (Anwar & Ali Ahah, 2020). As a result, firms embedded in the legislative branch are able to utilize financial and human resources more effectively, which, in turn, foster innovation performance. We therefore posit that

Hypothesis (H4a). *Embeddedness in the legislative branch positively influences firms' transformation of financial capital into innovation performance.*

Hypothesis (H4b). *Embeddedness in the legislative branch positively influences firms' transformation of human capital into innovation performance.*

3.4 Methodology

3.4.1 Sample and Data

Our sample consists of all Chinese listed firms on the Shanghai or Shenzhen stock exchange between 2007 and 2016. This is an ideal context to study how political embeddedness influences firms' resource acquisition and utilization for innovation, for three reasons. First, innovation has become an important goal for firms in China during this period, thanks to one of the most important overarching policy guidelines, the *Guideline for the Medium-and-Long-Term National Science and Technology Development Plan (2006-2020)*, which aimed to build an innovation-oriented economy. Second, during this period markets in China were still underdeveloped and political organizations continued to have substantial influence over the allocation of resources (Nee & Oppen, 2010), including subsidies and other financial schemes designed to stimulate innovation (Jia et al., 2019). Finally, managers in China actively participated in politics, while government officials and legislators often served in senior business positions (Zhang et al., 2016). These interlocking connections embedded businesses in the administrative or legislative branch in the political system.

We collected firm-level data from the CSMAR, a database that compiles firms' financial and governance information, innovation outputs, and firm leaders' resumes. This database has been widely used in prior research (e.g., Zhou, Gao, & Zhao, 2017). After excluding firms with missing information on key variables, we obtained 15,082 firm-year observations for 2,532 unique firms (out of 3,268 firms). The observations for each set of hypothesis testing may vary slightly due to the different dependent variables we focus on and the different time lags we take in the analyses.

3.4.2 Measures

3.4.2.1 Dependent variables

Financial capital from the state (H1). We measure the amount of financial capital the firm acquired from the state by the annual amount of *state subsidies* (in its logarithm form) obtained (Bronzini & Piselli, 2016). To establish the generalizability of our prediction for other types of state-controlled financial capital, we also tested firms' *long-term bank loans* in our robustness analyses.

Appointment of R&D talents to the TMT (H2). We measured firms' appointment of R&D talents to the TMT (*R&D TMT recruited*) using the net flows of R&D TMT members, i.e., difference in the number of R&D talents in the TMT between year t and $t-1$. R&D talents are defined as individuals possessing technical knowledge or working experiences in technical departments (Florida, 1997). Considering that the current number of R&D TMT may influence firms' likelihood in appointing new R&D TMT member, we controlled for the total number of R&D TMT (*R&D TMT*) in the previous year in models testing H2.

Firm innovation performance (H3 & H4). Following prior research on listed Chinese firms (N. Jia et al., 2019), we measure firms' innovation performance using the total number of *patent* applications by firms annually (in its logarithm form). Following prior research that found that resources, human capital in particular, can take several years to contribute to organizational outcome (Kleinknecht & Verspagen, 1990; Wang & Zatzick, 2019), we test patent applications with a three-year lag.

3.4.2.2 Independent variables

In testing the effects of political embeddedness on resource acquisition (H1 and H2), our key explanatory variables are firms' *embeddedness in the administrative branch* and

embeddedness in the legislative branch created through positional interlocks between business and political leaders. Following prior research (Faccio, 2006; Zheng et al., 2015), we record political embeddedness if a government administrator or legislator used to or currently serves as the CEO or a board member in the firm. To obtain such information, we first compiled the curriculum vitae of each of firms' CEO and board members from CSMAR, complemented with the website of Baidu Baike (<http://baike.baidu.com/>), a large data source that provides the curriculum vitae of Chinese business and political leaders. We then analyzed each person's CV to determine whether s/he has served as a government administrator or leader in one of the two legislative bodies in China (i.e., the National People's Congress, and the Chinese People's Political Consultative Conference). We collected political embeddedness data for each firm annually.

Embeddedness in the administrative branch is coded 1 if at least one firm leader served in the administrative branch, and 0 otherwise; *embeddedness in the legislative branch* is coded 1 if at least one firm leader served in one of the two legislative bodies, and 0 otherwise. We identified 1,142 (45.10%) unique firms that were politically embedded for at least one year during our analysis period. Amongst these, 530 firms (20.93%) were embedded in the administrative branch and 747 firms (29.50%) were embedded in the legislative branch. 135 (5.33%) of these 530 and 747 firms were embedded in both branches. Table 3-1 lists the distribution of these three types of political embeddedness for our sample firms. For robustness checks, we tested political embeddedness as a count variable and separately controlled for firms embedded in both political branches despite the small percentage.

Table 3-1 Distribution of three types of political embeddedness

	Number of embedded firms	Percentage of embedded firms
Embeddedness in the administrative branch	530	20.93%

Embeddedness in the legislative branch	747	29.50%
Embeddedness in both branches	135	5.33%
Sum	1,142	45.10%

In testing how firms' political embeddedness influences the utilization of financial (H3) and human (H4) resources for innovation, our explanatory variables are the interactions between each type of political embeddedness and annual stock of financial or human capital. Financial capital is the annual amount of *state subsidies* aforementioned. Human capital is the total number of R&D TMT members (*R&D TMT*), annually.

3.4.2.3 Control Variables

We control for firm-, CEO-, and environment-level factors that may impact firms' resource acquisition and innovation performance. *Firm age* (years since the firm was founded) controls for accumulated innovation experience of the firm (Coad, Segarra, & Teruel, 2016). *Firm size* (logged total assets annually) controls for the availability of resources (Acs & Audretsch, 1987). *Leverage* (the ratio of debt to equity) controls for firms' ability to acquire financial resources for innovation activities (Jia et al., 2019). *Slack* (the ratio of current assets to current liabilities) controls for firms' ability to use internal capital to support innovation (Kim, Kim, & Lee, 2008). *Return on asset (ROA)* and *firm growth* (revenue at year t divided by revenue at year $t-1$) recognize that more successful firms may be more likely to attract financial and human resources (Martens, Jennings, & Jennings, 2007) and can engage in more innovation activities (Lin et al., 2011). *R&D intensity* (R&D expenditure divided by total assets) controls for the input in innovation (Cohen & Levinthal, 1990), and *prior patent stock* (logged total number of granted patents) controls for path dependence in innovation (Llanes & Trento, 2012). In addition, *state ownership* (percentage of state-owned shares in a

firm) aims to partial out state ownership and intervention on resource acquisition and innovation performance. Political connections and state ownership are distinct concepts and may provide resources independently or in parallel (Okhmatovskiy, 2010). Our approach is consistent with existing research that distinguishes individual-based political connections from state ownership (Haveman, et al., 2017; Tihanyi et al., 2019).

Next, we control for CEO-level factors that may potentially influence firms' resource acquisition and innovation performance ((D'Aveni, 1990; Talke, Salomo, & Rost, 2010), such as *CEO age* (in years), *CEO tenure* (number of years since the CEO took the position), *CEO education* (an ordinal variable taking values from the lowest level of 1 to the highest level of 6) and *CEO duality* (an indicator variable that equals 1 when CEO was also the board chair, 0 otherwise). Furthermore, institutional development may influence firms' access to resources (Buckley et al., 2014) and innovation (Zhou et al., 2017), and is measured by the *marketization* index from the National Economic Research Institute (Fan, Wang, & Zhu, 2006). Lastly, we include *year*, *industry*, and *province* fixed effects in all estimations.

3.4.3 Estimation

H1 & H2 (resource acquisition): Fixed-effects GMM estimation

It is possible that common factors may influence political embeddedness and firms' resource acquisition simultaneously, creating endogeneity concerns. For example, more successful firms may find it easier to acquire resources for innovation, meanwhile, they may also be more attractive to politicians who seek business positions. To address this possibility, we employed panel data generalized methods-of-moments (GMM) to instrument for political embeddedness, estimating firm fixed-effects models (Beck & Levine, 2004). The firm fixed-effects can eliminate the time-invariant firm level heterogeneity by taking the differences of

the variables. Moreover, the GMM model can address the endogeneity concerns by using GMM-type instruments. Compared to the two stage least square (2SLS), GMM estimation is more efficient as it allows the unknown heteroskedasticity and serial correlation in the error terms (Lin & Lee, 2010). We run the GMM regression using -XTIVREG2- in Stata.

We used two variables as exogenous instrumental variables: (1) the percentage of firms embedded in the administrative (or legislative) branch in the same province (*province peers embedded in the administrative/legislative branch*), and (2) the percentage of firms embedded in the administrative (or legislative) branch in the same industry (*industry peers embedded in the administrative/legislative branch*).

A good instrumental variable must be strongly correlated with the instrumented variables and must not be strongly correlated with the error term of the second stage regression. Our instruments are conceptually appropriate as they are likely to affect political embeddedness without substantial impact on firm resource acquisition. First, firms will be constrained from forming political connections if more peers have done so because of limits in the number of political actors they can co-opt (Haveman, et al., 2017). Second, it is unlikely that our instruments, which are at the industry or province level, are associated with our dependent variable, resource acquisition from the nation-state level, i.e., overall China. Thus, our instruments meet these two important conditions for instrumental variables.

Empirically, we conducted multiple tests to validate our instruments and the instrumentation process. Appendix 3-1 reports first-stage empirical analyses we performed for this purpose and concludes that these instruments are strong predictors of our instrumented variables. Both industry- and province-level instruments are statistically related to our conceptual covariates with significant F-statistics indicating change over models

without instrumental variables, confirming the strength of these instruments. In addition, we further tested the strength and exogeneity of our instruments (test statistics reported in Table 3-3) and confirmed that the instruments are strong and do not correlate with the error terms of our main equations. Our second-stage regression equation is as follows:

$$\begin{aligned} \text{Resource acquisition}_t \text{ (state subsidies}_t \text{ or R\&D TMT}_t \text{ recruited)} &= a_0 + \\ &\beta_1 \text{Embeddedness in the administrative branch}_{t-1} + \\ &\beta_2 \text{Embeddedness in the legislative branch}_{t-1} + \text{Controls}_{t-1} + \varepsilon_t \quad (1) \end{aligned}$$

In Equation (1), our focus of interest is β_1 and β_2 , reflecting the relationship between firms' two types of political embeddedness and their access to *state subsidies* (H1a and H1b) and *R&D TMT recruited* (H2a and H2b) respectively. The comparison between β_1 and β_2 will allow us to examine the relative effect of the administrative vs. the legislative branch (H1c).

H3 & H4 (resource utilization): Fixed-effects estimation

When estimating the effects of resource utilization on innovation performance, we employ fixed-effects estimation with specifications as below:

$$\begin{aligned} \text{Patents}_{t+3} &= a'_0 + \beta_3 \text{Resource (state subsidies}_t \text{ or R\&D TMT}_t) \times \text{Embeddedness in the} \\ &\text{administrative branch}_{t-1} + \beta_4 \text{Resource (state subsidies}_t \text{ or R\&D TMT}_t) \times \\ &\text{Embeddedness in the legislative branch}_{t-1} + \beta_5 \text{Resource (state subsidies}_t \text{ or} \\ &\text{R\&D TMT}_t) + \beta_6 \text{Embeddedness in the administrative branch}_{t-1} + \beta_7 \text{Embeddedness in the} \\ &\text{legislative branch}_{t-1} + \text{Controls}_{t-1} + \varepsilon'_t \quad (2) \end{aligned}$$

In Equation (2), the main focuses of interest are β_3 and β_4 , which are respectively the moderation effect of embeddedness in the administrative branch (i.e., H3a and H3b) and

embeddedness in the legislative branch (i.e., H4a and H4b) on the transformation of financial capital and human capital into innovation performance.

3.5 Results

Table 3-2 provides descriptive statistics and correlations for key variables in our analyses. The independent variables are only moderately correlated with an average VIF (variance inflation factor) score of 1.12 for the full model that includes both embeddedness in the administrative and legislative branch. No individual item scored higher than 1.58. This shows that multicollinearity is unlikely a concern for this study.

Results for H1 and H2: political embeddedness and resource acquisition

Table 3-3 reports findings from the GMM estimation on resource acquisition (Models 1-4) and fixed effects regression on innovation performance (Models 5-8). Model 1 and Model 3 are the baseline models where the dependent variables are *state subsidies* and *R&D TMT recruited* respectively and only include control variables.

Model 2 adds the two types of political embeddedness to test Hypotheses 1, which argued that embeddedness in the administrative branch (H1a) and the legislative branch (H1b) positively impact acquiring state subsidies, while the impact of embeddedness in the administrative branch is greater than that of the legislative branch (H1c). Results from Model 2 show a significantly positive effect for *embeddedness in the administrative branch* ($\beta=1.333, p=0.031$), providing support for H1a. This effect is economically substantial: firms embedded in the administrative branch on average acquired RMB 27.924 thousand ($[\text{EXP}(1.333)-1] = 2.7924$) more state subsidies than firms that were not embedded in the administrative branch. Also, Model 2 shows a positive but insignificant coefficient for *embeddedness in the legislative branch* ($\beta=0.092, p=0.749$), not supporting H1b. We further

find that the coefficient for *embeddedness in the administrative branch* is significantly different from that of *embeddedness in the legislative branch* ($p < 0.001$), supporting H1c. These results suggest that while firms embedded in the administrative branch can acquire more state subsidies, firms embedded in the legislative branch cannot, plausibly due to legislators' indirect and constrained access to state-controlled financial resources.

Model 4 tests the effect of the two types of political embeddedness on firms' acquisition of R&D talents to their TMT (*R&D TMT recruited*). This tests Hypotheses 2, which predicted a negative impact of embeddedness in the administrative branch (H2a) and positive impact of embeddedness in the legislative branch (H2b) on recruiting new R&D TMT members. Results from Model 4 show that *embeddedness in the administrative branch* has a negative effect ($\beta = -0.146$, $p = 0.065$) on *R&D TMT recruited* while *embeddedness in the legislative branch* has a positive effect ($\beta = 0.158$, $p = 0.033$), lending support to both H2a and H2b. Holding other variables at their mean value, firms embedded in the administrative branch on average recruited 0.146 fewer R&D TMT members; by contrast, firms embedded in the legislative branch on average recruited 0.158 more R&D TMT members.

Results for H3 and H4: political embeddedness and resource utilization for innovation

Model 5 of Table 3-3 is the baseline model where the independent variables are resources (i.e., *state subsidies* and *R&D TMT*) and only include control variables. Model 6 adds the interaction of *embeddedness in the administrative branch* and the two types of resources respectively to test Hypothesis 3, which predicted that embeddedness in the administrative branch negatively impacts firms' use of state subsidies (H3a) and R&D TMT (H3b) for innovation. Results from Model 6 show that *state subsidies * embeddedness in the*

Table 3-2 Summary statistics and correlations.

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Patents (logged number)	3.006	1.403	1.000																							
2 State subsidies (logged)	15.651	2.79	0.325	1.000																						
3 R&D TMT recruited	-.096	1.618	0.055	0.048	1.000																					
4 R&D TMT	1.488	2.142	0.230	0.175	0.071	1.000																				
5 Embeddedness in the administrative branch (0 – 1)	.14	.347	-0.070	-0.027	-0.000	-0.099	1.000																			
6 Embeddedness in the legislative branch (0 -1)	.212	.409	0.059	0.063	0.029	-0.012	-0.014	1.000																		
7 Firm age (years)	13.441	5.51	-0.071	-0.016	0.059	-0.154	0.105	-0.012	1.000																	
8 Firm size (logged total assets)	21.51	1.408	0.334	0.469	0.054	0.138	0.040	0.141	0.085	1.000																
9 Leverage	.982	1.586	0.071	0.114	-0.017	-0.039	0.028	-0.048	0.093	0.292	1.000															
10 Firm slack	11.025	282.10	-0.043	-0.162	-0.002	-0.028	-0.011	0.009	0.053	-0.018	-0.026	1.000														
11 ROA	.035	.162	0.053	0.032	-0.003	0.012	-0.009	0.015	-0.002	-0.067	-0.167	0.009	1.000													
12 Firm growth	9.348	942.70	-0.045	0.003	0.022	-0.012	-0.005	0.002	0.015	0.004	-0.068	-0.002	-0.018	1.000												
13 R&D intensity	.035	.202	-0.005	-0.032	0.004	0.009	-0.012	-0.055	-0.018	-0.112	-0.092	0.025	0.171	0.036	1.000											
14 Prior patent stock (logged)	1.267	1.784	0.489	0.246	0.108	0.181	-0.090	0.077	0.004	0.278	0.086	-0.040	-0.016	-0.020	-0.023	1.000										
15 State ownership (%)	6.141	8.703	-0.052	-0.015	0.017	-0.005	0.049	-0.023	0.075	-0.003	0.023	-0.014	-0.039	0.103	0.015	-0.085	1.000									
16 CEO age (years)	48.145	6.482	-0.000	0.050	-0.030	-0.013	0.031	0.033	0.135	0.085	0.013	-0.011	0.059	-0.024	-0.009	0.050	-0.032	1.000								
17 CEO tenure (years)	4.543	2.378	0.090	0.081	0.018	0.043	-0.053	0.076	0.105	0.096	-0.030	-0.006	0.007	-0.020	-0.003	0.205	-0.088	0.208	1.000							
18 CEO education (1 to 6)	3.489	.849	0.075	0.079	0.042	0.122	-0.057	-0.011	0.015	0.025	0.033	-0.046	0.014	0.025	0.043	0.037	0.018	-0.176	0.011	1.000						
19 CEO duality (0-1)	.243	.429	0.073	-0.030	-0.068	0.045	-0.079	-0.035	-0.044	-0.085	-0.036	0.014	0.031	-0.019	0.017	0.023	-0.047	0.254	0.180	0.087	1.000					
20 Marketization	5.997	2.406	0.117	0.053	0.043	0.150	-0.106	-0.064	-0.026	0.050	-0.095	-0.040	0.037	-0.015	0.012	0.107	-0.048	0.028	0.144	0.098	0.066	1.000				
21 Industry peers embedded in the administrative branch (%)	.098	.074	-0.129	-0.062	0.035	-0.208	0.260	-0.014	0.085	0.105	0.095	0.023	-0.011	0.007	-0.041	-0.169	0.051	0.122	-0.002	-0.041	-0.014	-0.122	1.000			
22 Province peers embedded in the administrative branch (%)	.1	.054	-0.100	0.016	0.041	-0.033	0.208	0.057	0.168	0.064	-0.009	0.041	-0.020	-0.007	-0.023	-0.080	0.063	0.055	-0.061	-0.028	-0.098	-0.322	0.078	1.000		
23 Industry peers embedded in the legislative branch (%)	.217	.106	-0.004	0.065	0.026	-0.036	0.043	0.299	-0.077	0.089	0.004	-0.001	-0.001	-0.030	-0.029	0.050	-0.040	-0.024	0.018	-0.001	-0.070	-0.014	-0.133	0.008	1.000	
24 Province peers embedded in the legislative branch (%)	.221	.077	-0.008	0.006	0.018	-0.076	0.032	0.216	-0.043	0.029	0.011	-0.042	0.009	-0.022	0.004	0.080	-0.029	-0.065	0.005	-0.116	-0.074	-0.354	0.011	0.026	0.105	1.000

All coefficients above 0.029 are significant at 0.05.

administrative branch has a significantly negative effect on firms' patents ($\beta=-0.047$, $p=0.034$), while *R&D TMT * embeddedness in the administrative branch* has no effect ($\beta=-0.028$, $p=0.306$), providing support for H3a but not for H3b. Model 7 adds the interactions of *embeddedness in the legislative branch* and the two types of resources to test Hypothesis 4, which predicted that embeddedness in the legislative branch positively impact firms' use of state subsidies (H4a) and R&D TMT (H4b) for innovation. Results show that *state subsidies * embeddedness in the legislative branch* has no effect on firms' patents ($\beta=-0.013$, $p=0.511$), while *R&D TMT * embeddedness in the legislative branch* has a positive effect ($\beta=0.063$, $p=0.074$). These interaction effects remain in the full model (Model 8). Consequently, H4b is supported but H4a is not. Holding other variables at their mean value, firms embedded in the administrative branch on average produce 4.789% fewer patents with same amount of subsidies, while firms embedded in the legislative branch on average produce 6.370% more patents with the same number of R&D TMT members. We further discuss the non-significant results in our Discussion section.

3.5.1 Robustness Analyses

We conducted several robustness checks to further validate our findings and alleviate potential concerns. First, to further alleviate the endogeneity concerns we addressed using the instrumental variable approach in our primary analysis, we adopted propensity score matching (PSM) approach that is developed to address such concerns (Schweizer, Walker, & Zhang, 2019). Following Dehejia and Wahba (2002), we used logistic regression to predict the propensity for firms to be embedded in the administrative or legislative branch (i.e., the treatment group) using all control variables and obtained a propensity score for each firm. We use control variables such as firms' characteristics as PSM input variables because there

Table 3-3 Primary analyses: Political embeddedness, resource acquisition, resource utilization and innovation performance.

Dependent variable	GMM models: relationship between political embeddedness and resource acquisition				Fixed effect: relationship between resource utilization and innovation performance			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	State subsidies	State subsidies	R&D TMT recruited	R&D TMT recruited	Patents	Patents	Patents	Patents
	Baseline	H1	Baseline	H2	Baseline	H3	H4	Full model
Embeddedness in the administrative branch		1.333 (0.031)		-0.146 (0.065)		0.136 (0.097)		0.141 (0.088)
Embeddedness in the legislative branch		0.092 (0.749)		0.158 (0.033)			0.017 (0.819)	0.006 (0.928)
State subsidies * Embeddedness in the administrative branch						-0.047 (0.034)		-0.047 (0.034)
R&D TMT * Embeddedness in the administrative branch						-0.028 (0.306)		-0.022 (0.416)
State subsidies * Embeddedness in the legislative branch							-0.013 (0.511)	-0.014 (0.42)
R&D TMT * Embeddedness in the legislative branch							0.063 (0.074)	0.061 (0.088)
State subsidies					-0.010 (0.193)	-0.006 (0.480)	-0.008 (0.318)	-0.004 (0.664)
R&D TMT			0.259 (0.000)	0.338 (0.000)	-0.004 (0.804)	0.0003 (0.987)	-0.018 (0.381)	-0.014 (0.523)
Firm age	0.180 (0.037)	0.071 (0.570)	-0.033 (0.082)	-0.072 (0.024)	0.271 (0.000)	0.270 (0.000)	0.269 (0.000)	0.269 (0.000)
Firm size	0.565 (0.000)	0.710 (0.000)	-0.076 (0.003)	-0.032 (0.445)	0.005 (0.925)	0.006 (0.899)	0.009 (0.870)	0.010 (0.845)
Leverage	-0.046 (0.144)	-0.039 (0.640)	-0.025 (0.015)	-0.036 (0.202)	0.018 (0.336)	0.011 (0.538)	0.019 (0.299)	0.013 (0.485)
Firm slack	-0.0003 (0.012)	-0.0003 (0.482)	-0.00003 (0.740)	-0.00004 (0.108)	0.0004 (0.035)	0.0004 (0.033)	0.0004 (0.035)	0.0004 (0.033)
ROA	1.746 (0.000)	1.956 (0.023)	-0.075 (0.519)	-0.158 (0.245)	0.121 (0.596)	0.117 (0.610)	0.124 (0.588)	0.120 (0.602)
Firm growth	-0.007 (0.000)	-0.007 (0.155)	0.0007 (0.086)	0.0007 (0.292)	0.002 (0.758)	0.004 (0.606)	0.002 (0.776)	0.003 (0.629)
R&D intensity	-0.579 (0.001)	-0.062 (0.881)	-0.074 (0.182)	-0.086 (0.201)	-0.101 (0.311)	-0.124 (0.217)	-0.102 (0.307)	-0.125 (0.214)
Prior patent stock	0.018 (0.553)	0.008 (0.858)	0.012 (0.087)	0.015 (0.216)	-0.031 (0.056)	-0.030 (0.062)	-0.031 (0.051)	-0.031 (0.058)
State ownership	-0.011 (0.020)	-0.013 (0.260)	-0.001 (0.151)	-0.002 (0.374)	0.001 (0.594)	0.001 (0.591)	0.001 (0.539)	0.001 (0.532)
CEO age	-0.011 (0.152)	-0.002 (0.854)	-0.004 (0.015)	-0.002 (0.395)	0.002 (0.606)	0.002 (0.595)	0.002 (0.634)	0.002 (0.627)
CEO tenure	0.005 (0.719)	0.026 (0.268)	0.009 (0.004)	0.001 (0.768)	0.014 (0.143)	0.014 (0.123)	0.014 (0.143)	0.014 (0.125)
CEO education	0.004 (0.942)	0.061 (0.623)	-0.023 (0.142)	0.018 (0.456)	-0.090 (0.012)	-0.091 (0.011)	-0.092 (0.010)	-0.093 (0.009)
CEO duality	0.082 (0.448)	0.158 (0.380)	-0.004 (0.861)	-0.056 (0.229)	-0.148 (0.013)	-0.146 (0.014)	-0.146 (0.015)	-0.144 (0.016)
Marketization	0.017 (0.666)	0.096 (0.331)	-0.0006 (0.945)	0.021 (0.436)	-0.012 (0.524)	-0.012 (0.528)	-0.012 (0.519)	-0.013 (0.519)
Year, Industry, Province dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					0.198 (0.869)	0.150 (0.900)	0.149 (0.902)	0.103 (0.932)
Number of firms	2,398	2,398	2,449	2,449	2,189	2,189	2,189	2,189
Observations	14,028	14,028	14,938	14,938	10,470	10,470	10,470	10,470
Chi-squared (p-value)		109.459		45.462 (0.000)				
Kleibergen-Paaprk Wald F		66.151		24.312				

p value in parentheses; The Kleibergen-Paaprk Wald F (with robust standard errors) substantially exceeded the Cragg-Donald critical value of 19.93 in all models, rejecting the null hypothesis of weak instruments. The Sargan-Hansen statistic tests over-identifying restrictions, with the null hypothesis that all instruments are valid, i.e., uncorrelated with the error term and the excluded instruments are correctly excluded from the estimated equation; the null hypothesis is not rejected in all models.

are significant differences among different types of politically embedded firms in terms of these characteristics, such as firm age, firm size, industry, and province. We then matched each firm with political embeddedness with a control firm that was not politically embedded but had the closest propensity score with the embedded firm, using nearest-neighbor based on 1:1 matching with a caliper of 0.1 as suggested by Rosenbaum and Rubin (1983). As expected, after matching, the differences between the treated and the control firms decrease sharply and become non-significant in all dimensions except for political embeddedness. Based on the matched sample, we re-run the resource acquisition models (Models 2 and 4 from Table 3-3) and present them as Models 1 and 2 in Table 3-4. We find consistent results to further support our findings.

Second, one may also be concerned about the possibility of reverse causality, where firms with more resources (subsidies or R&D TMT) might form more political connections. To address this concern, we switched the dependent and independent variables (James, Mulaik, & Brett, 1982) and adopted fixed-effects logistic regressions to estimate two types of political embeddedness using firms' resources. Models 3 and 4 of Table 3-4 show that firms' subsidies or R&D TMT do not significantly influence their political embeddedness, indicating that reverse causality is not a concern for our study.

Third, one may also argue that variables can be measured in various ways and obtain different results. To relax this concern, we used alternative measures for independent and dependent variables for further robustness checks. As to independent variables, we replaced the dichotomous form of our independent variables (i.e., firms' embeddedness in administrative and legislative branch) with their count versions, i.e., number of connections to the respective branches created by firms' CEO and board members. Results in Models 5

and 6 of Table 3-4 are similar with Models 2 and 4 of Table 3-3. Next, although firms embedded in both political branches accounts for a very small percentage (5.33%), one may still wonder whether such dual embeddedness may influence our primary findings. To address this concern, we excluded firms embedded in both political branches from our primary measures and separately controlled for them in our models; our previously reported results remained. Moreover, we tested another state-controlled financial capital, long-term bank loans, in place of state subsidies (Model 7 of Table 3-4) and found results consistent with our predictions. Lastly, for the test of H3 and H4, we changed the measure of dependent variable of innovation performance to the total number of invention patents (Model 8 and 9 of Table 3-4), considering that invention patents may be more important for technology advancement in China (Wang & Stuart, 2020). Our H3a remains supported, while H4b is not as the coefficient for *R&D TMT * embeddedness in the legislative branch* becomes nonsignificant, albeit being still positive.

3.6 Discussion

This study was motivated by the question of how political embeddedness influences firm innovation. We addressed this question by focusing on resource acquisition and resource utilization as critical mechanisms through which political embeddedness influences firm innovation, distinguishing types of political embeddedness (i.e., embeddedness in the administrative vs. legislative branch) and types of resources (i.e., financial, and human capital).

Studying publicly listed firm in China, our results support that embeddedness in the administrative branch offers greater financial capital while hindering access to human capital

Table 3-4 Robustness analyses.

Dependent variable	A. PSM		B. Test reverse causality		C. Alternative IV: count of political embeddedness	IV: count of	D. Alternative DV: long-term bank loan	E. Alternative DV: invention patents	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	State subsidies	R&D TMT recruited	Embeddedness in the administrative branch	Embeddedness in the legislative branch	State subsidies	R&D TMT recruited	Long-term bank loan	Invention patents	Invention patents
Embeddedness in the administrative branch	0.330 (0.018)	-0.136 (0.000)			0.294 (0.046)	-0.034 (0.080)	17.39 (0.020)	0.160 (0.053)	
Embeddedness in the legislative branch	0.198 (0.150)	0.072 (0.035)			0.030 (0.876)	0.141 (0.015)	6.326 (0.141)		0.0135 (0.862)
State subsidies			-0.000271 (0.745)	0.000548 (0.463)				-0.006 (0.496)	-0.007 (0.442)
R&D TMT recruited			0.00167 (0.402)	-0.00250 (0.164)				0.003 (0.876)	-0.017 (0.421)
State subsidies * Embeddedness in the administrative branch								-0.042 (0.065)	
R&D TMT * Embeddedness in the administrative branch								-0.044 (0.108)	
State subsidies * Embeddedness in the legislative branch									-0.023 (0.274)
R&D TMT * Embeddedness in the legislative branch									0.054 (0.137)
Control variables	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of firms	1,439	1,078	2,399	2,399	2,398	2,449	2,448	2,189	2,189
Observations	7,009	4,638	14,018	14,017	14,143	15,069	15,006	10,470	10,470
Chi-squared (p-value)					100.79 (0.000)	53.89 (0.000)	120.974 (0.000)		

p value in parentheses

specializing in innovation; by contrast, embeddedness in the legislative branch does not offer more financial capital but enables firms to attract greater human capital for innovation. Next, embeddedness in the administrative branch hampers the efficiency of using financial capital for innovation but does not impact the use of human capital, while embeddedness in the legislative branch does not help transform financial capital to innovation outputs but contribute to more effective use of human capital for innovation purposes. The asymmetric effects of how political embeddedness transforms financial vs. human capital to innovation is plausibly due to the different nature of resources: while R&D managers is a type of specialized resources intended for innovation, financial resources such as subsidies are generic resources that can be deployed for various value-enhancing activities other than innovation. Thus, it is likely that firms embedded in the legislative branch can more effectively use innovation-specialized human capital, but not financial capital, for innovation.

Since this study focuses on the research context of China, there may be a concern about whether this study can be generalized to the contexts that are distinctive from China, such as the democratic countries and developed economics. While the idea of two types of political embeddedness in this paper and the operationalization of these two types of political embeddedness are specific to the Chinese context, the general idea that “political embeddedness is heterogenous” can be a generalizable theoretical argument. In other research contexts, such heterogeneity may not just exist between embeddedness in the administrative branch versus embeddedness in the legislative branch but can be reflected in other different types of political embeddedness. For example, embeddedness in the ruling party versus embeddedness in the rivalry party may have heterogenous impact on the firm.

Overall, this research offers two core contributions. First, we advance the political embeddedness research by recognizing the heterogeneity of political embeddedness. Second, we help reconcile contradictory findings on the political embeddedness-innovation performance relationship by clarifying important mechanisms: resource acquisition and resource utilization.

3.6.1 Heterogeneity of Political Embeddedness

This study contributes to research on political embeddedness by distinguishing embeddedness in different state apparatuses, i.e., the administrative and legislative branches, and extending research on the heterogeneity of political embeddedness. While a growing body of research reveals the heterogeneous impacts of different types of political embeddedness (Hiatt et al., 2018; Siegel, 2007; Zheng et al., 2015; Zhu & Chung, 2014), relatively little is known about how embeddedness in different political branches can affect firms. Our findings show that embeddedness in the two political branches influences firms' resource acquisition and resource utilization differently, and sometimes even in opposite manners. This means that, if one measures both administrative and legislative political embeddedness constructs through a single combined variable, the opposing influences of both embeddedness may offset each other, resulting in unreliable findings, e.g., in the case of acquisition of human capital.

Importantly, extending existing research that focuses primarily on political actors' resource provision to firms (Cull et al., 2015; Khwaja & Mian, 2005), our study delineates how political embeddedness influences corporate attention on the one hand, and perception of various resource providers on the other, and in turn, the success of firms' resource acquisition. We demonstrate that while the state willingly grants financial resources to firms

embedded in the administrative branch, the same embeddedness results in negative perceptions of market actors (innovation-specialized managers, in this case), hurting firms' resource acquisition from the market. Advancing recent studies that cautioned that firms with close relationship with the government may be viewed skeptically by market actors (Zheng, Ni, and Crilly, 2019), we empirically demonstrated such a divergence in perceptions of specific political embeddedness among different resource providers, such as the state vs. market actors, highlighting the paradox of political embeddedness. In doing so, we extend the focus of research from embedded actors and their connections alone to also include audience members who observe these embedded relations from the outside, providing a more complete view of the impact of political embeddedness.

3.6.2 The Relationship Between Political Embeddedness and Innovation Performance

We advance existing research that directly associates political embeddedness with innovation performance (Gao et al., 2017; Sinkovics & Zagelmeyer, 2018; Wu, 2011) by investigating the mechanisms of resource acquisition and resource utilization. A handful of studies that do investigate these mechanisms in the embeddedness-innovation relationship only consider one type of mechanism (Shu et al., 2012) or one type of resource (Li et al., 2018), or view political embeddedness as homogeneous (Kotabe et al., 2017). We focus on how different types of embeddedness can simultaneously influence firms' acquisition as well as utilization of different resources for innovation, providing a more nuanced and complete understanding of *how* political embeddedness matters, helping to resolve the inconsistent findings of whether being politically embedded helps or hurts firm innovation.

In literature, findings regarding the relationship between political embeddedness and innovation performance are conflicted. Our study explains that this is because the process

from political embeddedness to innovation performance is not a direct one. Instead, it requires both resources acquisition and resource utilization components. To capture both aspects, we need to separate the mediation effects to investigate what is going on. Specifically, our study goes beyond a mediation relationship by investigating the indirect relationship between political embeddedness and innovation performance through resources on one hand and the moderation effect of political embeddedness on the relationship between resources and innovation performance on the other hand. This more fine-grained approach adds value in studying the conflicting political embeddedness—innovation performance relationship.

In addition, we show that political embeddedness can have divergent or opposing effects on innovation, depending on the combined effects of firms' acquisition and utilization of resources. Our findings suggest that embeddedness in the administrative branch offers greater financial capital but hampers the efficiency of using it. By contrast, embeddedness in the legislative branch not only helps firms acquire but also allows them to better utilize human capital for innovation. Everything considered, to achieve higher innovative performance, firms may rely on embeddedness in the legislative branch to develop strategies associated with specialized human capital. These findings add to existing research by considering multiple resources including those from the market (e.g., innovation-specialized human capital) and clarifying how political embeddedness takes effect through the process of resources acquisition and utilization, contributing to understanding of the political embeddedness-innovation relationship.

3.6.3 Practical Implications

Our study has important practical implications. First, for firm managers, our findings reveal that the benefits of political embeddedness for innovation are conditional and rather limited

compared to what one might have expected in an emerging market. We suggest that managers need to be more selective and strategic in cultivating political relationships for innovation purposes. In particular, for firms connected to administrators, managers need to be cautious of administrators' intervention when using the greater resources from the state or acquiring resources from the market for innovation, as well as market actors' potential negative perceptions of firms' political relations. Second, this study also has important implications for policymakers in emerging markets. We suggest that in their attempt to drive corporate innovation, the state actors must strike a balance between actively offering resources and heavily intervening firms' deployment of their resources.

3.6.4 Limitation and Future Research

This study's limitations present opportunities for future research. First, one may wonder whether the idiosyncrasies of the Chinese political system may limit the generalizability of our theory. Although situated in China, our study has implications for how different political branches influence firm behavior and outcome in other contexts where there is a division of power between the administrative and legislative branches, the state maintains heavy influence over resources, and there is a high level of information asymmetry in the market. These conditions exist in many emerging markets such as Malaysia, Brazil, and Indonesia. Of course, we acknowledge that some context-specific factors may shape how political embeddedness functions and limit the generalizability of our study. These factors may include the strength of various socio-political institutions such as mass media, legal infrastructures, and civil society, which may shape how market actors perceive specific political embeddedness. Future studies in multiple countries with varying strengths of socio-political institutions can further test our framework and facilitate theory development.

Second, our study focuses on political embeddedness established by having political actors as firm leaders. However, informal relations between managers and political actors such as friendships or family relations (Xin & Pearce, 1996) may also impact firms' resource acquisition for innovation. We therefore suggest future research to extend investigation to other forms of political embeddedness if such data can be reliably collected. Further, our study tests the acquisition of two types of resources. While these two types are acknowledged as the most important resources needed, other resources may also be needed for innovation such as social capital (Tan, Zhang, & Wang, 2015), especially relationships with other business and research institutions. We encourage future research to consider these resources as the mechanism between the political embeddedness-innovation performance relationship.

In sum, this study has important implications for research on political embeddedness and innovation. The heterogeneity of embeddedness and of resources identified in this study helps to clarify prior research and improve conceptual understanding of the interface between politics and business. Distinguishing such heterogeneities provides a base for ongoing research on the effectiveness of political embeddedness on firm strategy and outcomes.

Chapter 4 A Mixed Gamble Model of Political Connection Formation: Evidence from Family Firms in China

4.1 Introduction

Research on the relations between firms and political organizations (i.e., political connections) suggests that political connections could bring both gains and losses to the connected firm (Faccio, 2006; Sun, Hu, & Hillman, 2016; Zheng, Singh, & Mitchell, 2015). While political connections can help firms gain wealth through benefits such as resources, political legitimacy and influence (Bonardi, Holburn, & Vanden Bergh, 2006; Khwaja & Mian, 2005; Ma & Parish, 2006; Stuart & Wang, 2016; Truex, 2014; Xin & Pearce, 1996), such connections may sometimes jeopardize firm wealth by, for example, making firms deviate from business-motivated to politically-motivated behaviors or reducing firms' credibility in fair competition (Chen, Li, Luo, & Zhang, 2017; Leuz & Oberholzer-Gee, 2006). The co-existence of the expected gains and losses thus creates a dilemma for firms when they make strategic decisions in forming political connections (Yan & Chang, 2018).

However, existing studies on the formation of political connections have largely focused on firms' pursuit of the potential gains (Jia, 2016; Li & Liang, 2015; White III, Fainshmidt, & Rajwani, 2018) while not sufficiently considering how firms react to the potential losses. To better understand how firms strategically establish political connections to maximize potential gains and minimize potential losses, we argue that firms' decision to form political connections can be seen as a "mixed gamble", which are choices that offer both possible gains and losses ((Bromiley, 2010; Martin, Gomez-Mejia, & Wiseman, 2013). We draw from the mixed gamble perspective to argue that firms maximize the gains and minimize the losses in their wealth by going after certain type of political connections while

avoiding other types, depending on the kinds of wealth they prioritize.

When evaluating the wealth outcomes of political connections, firms have two different dimensions of wealth to consider – financial dimension and nonfinancial dimension, which are respectively based on firms' financial performance and nonfinancial (e.g., social, emotional, and affective) needs. Moreover, firms can form different types of political connections. In particular, political connections can be formed through having political actors from the administrative branch or those from the legislative branch as board members or top managers in the firm (Zheng, Singh, & Chung, 2017). Since these two branches have distinctive institutional roles, goals, and resources (Cull, Li, Sun, & Xu, 2015; Li, Meng, & Zhang, 2006), connections to these two branches entail unequal gains and losses in firms' two dimensions of wealth. For example, connections to the administrative branch may help firms gain financial wealth (Guo, Guo, & Jiang, 2016), but potentially make firms lose nonfinancial wealth such as firm control and firm image (Liedong & Rajwani, 2018). By contrast, while connections to the legislative branch may generate less financial wealth (Faccio, 2006), such connections are expected to lead to nonfinancial gains through improved firm image and goodwill (Li et al., 2006). Given the unequal gains and losses brought by connections to two political branches, it is necessary to disaggregate wealth outcomes to two dimensions as well as disaggregate political connections to connections to the two branches to understand firms' decision to form political connections.

In this paper, we use the mixed gamble framework (Bromiley, 2010; Martin et al., 2013) to examine the decision to form connections to the administrative versus legislative branch. We propose that firms would selectively connect to the administrative branch or the legislative branch through pursuing the largest potential gains while avoiding the largest

potential losses from both financial and nonfinancial dimensions, thus maximizing the overall gains, and minimizing the overall losses. We further argue that firms may differ in the weights they put on gains and losses from each dimension of wealth and decide on one or the other type of political connection as a result of the ensuing trade-off calculations.

Specifically, we investigate the differences in the decisions by family firms and nonfamily firms since family firms and nonfamily firms place unequal emphasis on financial wealth versus nonfinancial wealth. Family firms usually put greater weight on nonfinancial dimension of gains and losses because their decisions are largely based on SEW (Gomez-Mejia, Patel, & Zellweger, 2018), a set of nonfinancial wealth related to the family's endowment in the firm, such as family's control, reputation, affection, succession and long-term success (Gomez-Mejia, Cruz, Berrone, & De Castro, 2011; Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007). Therefore, we propose that compared with nonfamily firms, family firms would be more likely to form the connections that are expected to bring SEW gains (e.g., connections to the legislative bodies). In the meantime, they will avoid connections that may result in SEW losses (e.g., connections to the administrative branch). By contrast, nonfamily firms need to satisfy multiple stakeholders rather than the dominant family (Freeman, 1984), resulting in more balanced weights given to financial and nonfinancial wealth (Chirico, Welsh, Ireland, & Sieger, 2021; Zellweger & Nason, 2008).

We further theorize that the weight firms put on each dimension of gains and losses may vary, offering boundary conditions to our framework. Specifically, the weight given to nonfinancial dimension would be greater if firms' pursuit of SEW gains or avoidance of SEW losses intensifies (Evert, Sears, Martin, & Payne, 2018). Differently, such weight will be

shifted to emphasizing financial dimension if firms' financial performance is threatened (Gomez-Mejia et al., 2018) as firms' decisions in such condition would turn to securing financial wealth (Patel & Chrisman, 2014). Thus, the differences in decisions between family firms and nonfamily firms will be respectively amplified and reduced in these two cases.

By testing our propositions on publicly listed non-state-owned enterprises (non-SOEs) in China during 2004-2016, this study makes three major contributions. First, this study extends research on the antecedents of political connections (Chung & Zhu, 2021) by introducing a mixed gamble approach that incorporates gains and losses associated with different types of political connections. In doing so, this study adds to the literature that largely conceptualizes firms' pursuit of political connections as a pure gamble (Jia, 2014; Li et al., 2006; White III et al., 2018) and that views political connections as homogeneous (Jia, 2016; Li & Liang, 2015; Wang, Du, & Marquis, 2019). Therefore, this study provides a more complete understanding of drivers of political connections. Second, this study contributes to family business literature by reconciling a conflict regarding the relationship between family involvement and political strategy (Combs, Gentry, Lux, Jaskiewicz, & Crook, 2020; Luo & Junkunc, 2008). By examining the strategy of forming political connections, our findings suggest that prior conflict is due to less attention on the weights that family firms give to financial and nonfinancial (i.e., SEW) consequences of political connections and on the differentiation of connections to the administrative branch and connections to the legislative branch. Third, by analyzing the decision to implement political strategy by forming political connections, this study further contributes to the mixed gamble research by broadening the concept application to a wider set of decision-making phenomena (Martin et al, 2013; Gomez-Mejia et al., 2018).

4.2 Theoretical Framework

Firms actively pursue political connections to seek various benefits (Lux, Crook, & Woehr, 2011), which can contribute to firm wealth. For instance, firms are motivated to form political connections in attempts to seek business protection (Li et al., 2006; White III et al., 2018), favorable policies (Bonardi, Hillman, & Keim, 2005), valuable resources (Jia, 2014), legitimacy (He & Tian, 2008), reputation (McDonnell & Werner, 2016) and stakeholders' satisfaction (Dotson & Allenby, 2010). On the other hand, however, research has increasingly revealed costs associated with political connections (Sun et al., 2016), which create potential losses to the connected firms' wealth. In particular, political connections may entail losses of firm control because the connected political actors may not share the same interests with other key stakeholders in the firm (Bertrand, Kramarz, Schoar, & Thesmar, 2007), thus intervening in firms' decision-making and behaviors. In addition, firms may bear the losses created by negative spillovers once their connected political actors experience adverse events (Chen, Ding, & Kim, 2010; Peng & Luo, 2000). The co-existence of potential benefits and costs indicate that we need to consider both the expected gains and losses that firms would expect from political connections when studying the formation of political connections.

We conceptualize the formation of political connections as a mixed gamble within the behavioral agency model (Wiseman & Gomez-Mejia, 1998), where firms weigh the potential gains and losses in the decision-making processes. The mixed gamble approach to predicting decisions is substantially different from the traditional pure gamble approach, which focuses exclusively upon the potential gains while ignoring the potential losses that firms could foresee (Martin et al., 2013). Instead, the mixed gamble framework recognizes both gains

and losses associated with the decision and argues that decision makers face trade-offs. In other words, confronted with a mixed gamble decision, decision makers must decide by weighing the prospective losses against prospective gains (Gomez–Mejia et al., 2014). This results in more complete accounts of the decision-making process the decision makers go through. Research that relies on the mixed gamble perspective has found empirical evidence across a variety of contexts that decision makers reconcile the trade-offs by pursuing the gains while limiting or avoiding the losses (Cruz & Justo, 2017; Hussinger & Issah, 2019).

To better understand firms' mixed gamble decisions on the formation of political connections, we propose to disaggregate the decision according to the impact of the connection on different dimensions of wealth and the political branch to which firms seek to connect. Firms evaluate the gains and losses in firm wealth with financial dimension and nonfinancial dimension. Financial wealth measures the monetary and physical assets that determine firms' success or failure. And, it can be reflected in the aspects of financial outcomes (e.g., profits, return on assets, return on investment), market outcomes (e.g., sales, market share, etc.) and shareholder return (e.g., total shareholder return, economic value added)" (Richard, Devinney, Yip, & Johnson, 2009, p. 722). Nonfinancial wealth is the intangible assets that determine firms' affective needs within and external the firm (Holt, Pearson., Carr, & Barnett., 2017). Since family members have distinguished affective needs associated with the family, nonfinancial wealth differs between family and nonfamily firms. For nonfamily firms, nonfinancial wealth measures include firms' product quality, customer satisfaction, employee satisfaction and compensation systems (Ittner, Larcker, & Rajan, 1997). For family firms, nonfinancial wealth captures a set of controlling family's endowment in the firm, such as family's control, reputation, affection, succession and long-

term success (Gomez-Mejia et al., 2011; Gómez-Mejía et al., 2007).

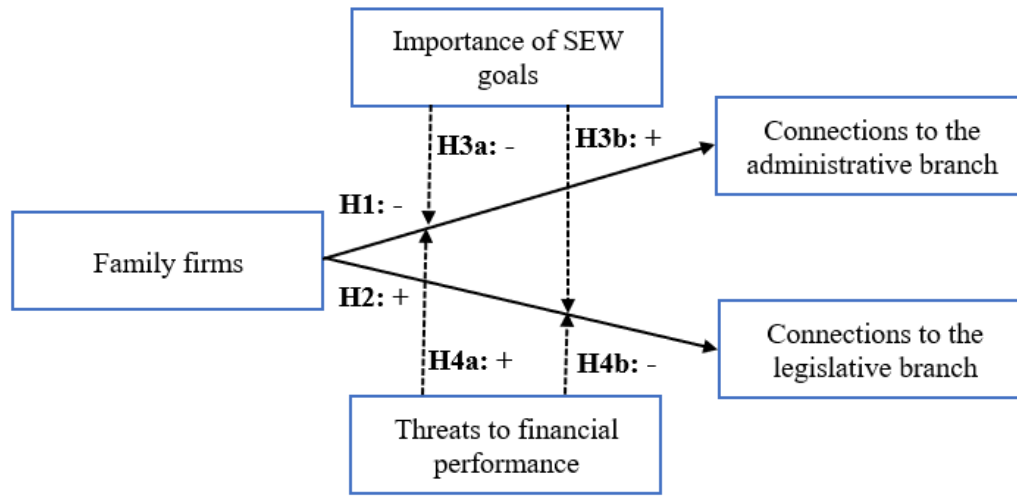
Considering different dimensions of wealth is crucial, different types of firms may place differing weight on different dimensions of wealth. Specifically, family firms usually put greater weight on nonfinancial wealth (Berrone, Cruz, & Gomez-Mejia, 2012), while nonfamily firms tend to give more balanced weights to financial wealth and nonfinancial wealth (Chirico et al., 2021; Zellweger & Nason, 2008). An important characteristic of family firms is that these firms see nonfinancial wealth as an endowment, which is a possession for which one demands more to give up than they are willing to offer to acquire. As endowment has more weight by nature, family firms focus on their nonfinancial wealth. Differently, nonfamily firms do not necessarily consider financial or nonfinancial wealth as an endowment. Instead, nonfamily firms usually consider both financial and nonfinancial wealth as their goals. For instance, nonfamily firms not only seek financial wealth such as profits and firm value, but also care about CSR, employee benefits, stakeholder benefits, and environment quality et. al. This consideration can also be reflected in firms' "balanced scored model (Kaplan & Norton, 1996)" and "triple bottom line framework (Elkington, 1994)". The former shows firm performance through the perspectives of financial, customer, innovation and learning, and internal processes; the latter measures firms performance from the dimensions of social, environmental, and financial. Since nonfinancial firms try to attend to both financial and nonfinancial wealth, they tend to see these two types of wealth more balanced.

Meanwhile, firms can form political connections to different political branches such as the administrative branch and the legislative branch. The administrative branch, usually known as the government, regulates various communities for the state (Schneiberg & Bartley,

2008); while the legislative branch serves as a communication channel between the state and various communities, so that the public can give voice to the state's administration (Heberer, 2003; Li et al., 2006). Further, the administrative branch and the legislative branch have different functions in terms of providing benefits for gaining financial wealth (De Figueiredo, 2009) and also impact the nonfinancial wealth of the firm differently (Goldman, Rocholl, & So, 2008; Guo et al., 2016; Wei, Zheng, & Ozdemir, 2021). As a result, firms would expect connections to the two branches to bring unequal financial and nonfinancial consequences. In sum, such a disaggregation of the decision to form political connections helps establish a more representative mixed gamble model where gains and losses associated with different types of connections in both dimensions of wealth are considered.

Figure 4-1 presents our theoretical framework. Compared to nonfamily firms, family firms put greater weight on SEW and are less likely to form connections to the administrative branch (H1) as such connections are prospected to raise losses in SEW despite gains in financial wealth; and, family firms are more likely to form connections to the legislative branch (H2) because such connections are expected to gain SEW. Further, the weights that family firms allocate to each dimension of wealth may change, depending on the importance of SEW goals and the threats to the firm's financial performance. Family firms' propensity to form each of these two connections will be enhanced if SEW goals are more importance (H3a; H3b) but reduced if they face threats to financial performance (H4a; H4b).

Figure 4-1 Research framework of Chapter 4.



In the following section, we elaborate on how family firms evaluate the gains and losses associated with connections to the administrative branch and connections to the legislative branch, and then decide the formation of two types of political connections.

4.3 Hypotheses Development

4.3.1 Family Firms' Decision to Form Connections to the Administrative Branch

Connections to the administrative branch can offer the prospect of important financial gains for family firms given administrators' control over state resources and policy implementation. First, the administrative branch controls firms' access to various resources such as subsidies (Guo et al., 2016), loans from state-owned banks (Cull et al., 2015), and government procurement contracts (Goldman et al., 2008). As these resource advantages can directly contribute to higher financial performance (Faccio, 2006), connections to the administrative branch can bring potential financial gains to the connected firms. Second, connections to the administrative branch can also bring financial gains to the connected family firms through favorable policy treatments. By leveraging their access to the administrators (Hillman, 2005; Peng & Luo, 2000), family firms can obtain tacit information about policies and influence

the state for preferential policy treatments. The administrators typically set thresholds for firms' entry and exit into business with antitrust regulation, product standards, pricing guidelines, and issuance of licenses and permits (Dobbin & Dowd, 2000; Dowell & Killaly, 2009). Further, the administrative branch can influence the financial wealth associated with the ongoing businesses through interpreting and enforcing tax policies (Evans, Rueschemeyer, & Skocpol, 1985; Guillén & Capron, 2016). Research shows that firms connected to the administrative branch can more easily enter profitable business for earning financial wealth (Li, Chen, Luo, & Li, 2014; Su & Fung, 2013), exit business to secure financial wealth (Zheng et al., 2017), and pay less taxation fees (Adhikari, Derashid, & Zhang, 2006; Wu, Wu, Zhou, & Wu, 2012). Hence, family firms would be motivated to establish connections to the administrative branch if their primary objective is to gain potential financial wealth.

Beyond financial wealth, however, family firms also care deeply about their socio-emotional wealth. On the bright side, family firms may be able to obtain political legitimacy through their connections with the administrative branch (He & Tian, 2008), and increase their social standing based on this conferred legitimacy. Also, this type of political connections can offer family firms protections that allow them to survive. However, these connections are likely to reduce family's control on the firm and overall image of the firm, and in turn, carry the risk of significant SEW losses for the family.

Connections to the administrative branch may dilute family's control on the firm business. Although having administrators on the board may potentially buffer firms from political pressure and make them less susceptible to the state's demands (Zhang, Marquis, & Qiao, 2016), the behaviors of the connected administrators may not be allegiant to

shareholders, such as the family owners in the family firms. As outsiders of the family, these administrators may bring in opinions that family owners perceive with lower priority (Fang, Memili, Chrisman, & Penney, 2017), or sometimes even behave opportunistically (Chrisman, Chua, & Litz, 2004) and impose preference of themselves rather than of the family upon firms' decisions. Meanwhile, due to administrators' higher status and social prestige (Della Porta, Pizzorno, & Donaldson, 1996), they can enjoy higher power positions in negotiations (Kim, Pinkley, & Fragale, 2005), including those with family owners. As a result, family owners are prone to take administrators' advice on firm business. In such case, family owners relinquish their control on firm business to satisfy the connected administrators' preference. In other words, family would expect to risk significant dilution of their control over the firm if there was the presence of state administrators in the firm. This will go against the aim of the family firm to maintain their SEW in the long term to ensure the business is "passed on for the family's next generation to manage and control" (Ward, 1987:250).

Second, connections to the administrative branch entail potential damage to family firms' image. Family firm's image is the impression that is projected to stakeholders outside the firm (Dyer Jr & Whetten, 2006). Connections to the administrative branch, however, will likely leave negative impression of the connected family firms on outsider stakeholders due to the perceived governance problems. As argued earlier, connections to the administrative branch offer firms significant privileges and protection and stakeholders outside the firm may interpret such favors to be offered due to cronyism (i.e., the resources available to the connected firms through political favoritism) (Johnson & Mitton, 2003) rather than fair competition. Potentially faced with public questioning of such favors' equality and legality (Leuz & Oberholzer-Gee, 2006), firms connected to the administrative branch would usually

be less willing to disclose information voluntarily (Hung, Kim, & Li, 2018) in an attempt to reduce scrutiny from the outside (Decker, 2011), leading to significant information asymmetry (Chen et al., 2010). As a result, the connected firms will appear as less transparent, would be perceived as not-as-credible to the outsiders (Liedong & Rajwani, 2018), and have weaker public image.

In sum, connections to the administrative branch can provide both positive and negative influences on SEW of family firms. On balance, the threat to SEW from connections to the administrative branch (e.g., losing family control, harming firm reputation) are too substantial for family firms. This is because SEW, including family' control and reputation, is family firms' endowment and aversion to the loss of SEW is a primary driver of family firms' strategic decisions and behaviors (Wiseman & Gomez-Mejia, 1998). Compared with nonfamily firms, family firms will likely avoid connections that may result in a loss of their current SEW endowment even if such connections may bring them potentially in direct SEW gains through survival and prosperity.

Taken together expected impact on both financial and nonfinancial wealth, connections to the administrative branch may offer potential gains in family firms' prospective financial wealth but carries risk of significant losses in family's current SEW. While family firms would not completely neglect the financial benefits, fear of SEW loss often dominate their decisions (Gómez-Mejía et al., 2007). More specifically, their decisions are motivated by loss aversion regarding the stock of current SEW more than their desires to gain prospective financial wealth (Gomez-Mejia et al., 2014), leading to lower propensity to establish connections to the administrative branch. Therefore, we propose that,

Hypothesis 1 (H1). *Family firms are less likely to form connections to the administrative branch than nonfamily firms.*

4.3.2 Family Firms' Decision to Form Connections to the Legislative Branch

Connections to the legislative branch bring limited gains in prospective financial wealth to the connected family firm. First, the legislative branch is constrained in providing the financial resources that can contribute to higher financial wealth. While the administrative branch usually enjoys autonomy to determine who will be granted with the resources, the legislative branch could only participate in such process indirectly through reading administrative branch's budgetary plans (Heberer, 2003), listening to the administrative reports (Bonardi et al., 2005) and putting forward proposals or feedbacks (O'Brien, 1990). The institutional roles and functions of the legislative branch does not enable it to control the day-to-day administration and directly provide financial resources to its connected firms. As a result, connections to the legislative branch are prospected to offer limited financial resource to produce family firms' financial gains.

In addition, the legislative branch is also constrained in ensuring favorable policy or regulation towards connected firms. While legislators can initiate and pass policies regarding firms' entry, exit or taxation, these policies are usually overarching (Jia, Huang, & Man Zhang, 2019) and the impacts are usually on a group of firms, such as firms in certain industries (Sun, Mellahi, & Thun, 2010). This implies that the legislative branch cannot guarantee favors to the specific connected firms during policy making. In China, for example, the legislative branch acts as a forum for legislators to discuss the design of various policies and laws. During these discussions, legislators act as the consultants and give their directive advices based on their expertise (Li et al., 2006); their roles are largely considered symbolic (Marquis & Qian, 2014). Without specific policy benefits, like those of entry and exit, the connected family firms cannot effectively capture potential business opportunities. Therefore,

connections to the legislative branch are limited in helping family firms gain financial wealth through impacting the related policies.

By contrast, connections to the legislative branch can help family firms gain prospective SEW wealth. Such gains can be reflected in family firms' enhanced image and goodwill, which are important components of family firms' SEW (Berrone, Cruz, Gomez-Mejia, & Larraza-Kintana, 2010). Different from the administrative branch where administrators are all bureaucrats; the legislative branch consists of elites representing various social domains, including scientists, successful entrepreneurs, and experts from all industries (Li et al., 2006). Firms that connect to the legislative branch through having these expert legislators can signal their expertise in certain areas. Also, these legislators' opportunity to represent a domain signal their connected firms' leading position in that domain. Given such signals, outsider stakeholders would associate the connected firms with a higher image (Wei, Luo & Huang, 2021).

Further, connections to the legislative branch can build family firms' goodwill. Legislators are elected to serve the society by using their expertise. In particular, legislators give voice and offer advice for issues relevant to all communities, such as environmental protection (W. Li, Liu, & Li, 2012), commercialization (Aarikka-Stenroos & Lehtimäki, 2014; Ovtchinnikov, Reza, & Wu, 2020), and social responsibility (Marquis & Qian, 2014). These advices are for public's good. Family firms that connect to the legislative branch through having these legislators can participate in such public services and share their concerns on various social issues. In other words, family firms can rely on their connections to the legislative branch to build their goodwill with the public. Since such goodwill contributes to the respect for the family as well as family's sense of community—another SEW priority

(Miller, Breton-Miller, & Lester, 2013), connections to the legislative branch can help gain SEW.

In sum, connections to the legislative branch offer firms the potential for significant SEW gains despite the limited prospect of potential financial gains. Since prospective SEW gains carry a larger weight in family firms' decision compared to nonfamily firms' decision, we argue that family firms would have stronger incentives to go after connections to the legislative branch. Thus,

Hypothesis 2 (H2). *Family firms are more likely to form connections to the legislative branch than nonfamily firms.*

In the above section, we argue that family firms would on average prioritize the goals of SEW (i.e., avoiding loss to current SEW, or pursuing gains in prospective SEW) over the goals of financial wealth (financial goals hereafter), but family firms are heterogeneous and can also run into situations where they need to adjust priorities across SEW and financial goals. In the next section, to ascertain the proposed mechanisms of family firms' decisions in forming political connections to the two political branches, we explore two boundary conditions, i.e., the importance of SEW goals to the firm and the threat to firms' financial performance.

4.3.3 Moderating Effects of the Importance of SEW Goals

We argue that the decision to pursue or avoid certain political connections are affected by the importance of SEW goals to the family firm. In fact, the importance that family firms attach to SEW goals may vary, depending on the degree that family is involved in the firm or identified with the firm (Chua, Chrisman, Steier, & Rau, 2012). For example, SEW goals would be more important if a family member is involved as CEO (Minichilli, Nordqvist, Corbetta, & Amore, 2014), more family members are involved as the actual controllers or

board directors (Cannella Jr, Jones, & Withers, 2015), multiple family relations or generations are involved (Miller & Le Breton-Miller, 2006), and family members in the family-dominated firms have stronger identification to the family than to the firm (Wei et al., 2020). Thus, the varying degree of importance of SEW goals to family firms will result in their different decisions around political connection formation.

More specifically, when family firms attach greater importance to SEW goals, their decisions are more likely to aim for preserving current SEW endowment and pursuing the prospected SEW gains (Gómez-Mejía et al., 2007). Accordingly, we argue that the importance of SEW goals to family firms will influence their decisions to form political connections.

Family firms that attach greater importance to SEW goals are even more likely to avoid connections to the administrative branch compared to other family firms. The greater importance of SEW goals implies that family firms would expect the losses in current SEW endowment more harmful and so have stronger intention to preserve SEW. Since connections to the administrative branch may potentially create significant losses to family firms' current SEW endowment by diluting family's control and damaging firm image, family firms viewing SEW goals as more important are more likely to avoid the decision to form such connections in order to preserve SEW. Meanwhile, firms' attention is limited (Ocasio, 1997), so the greater importance granted to SEW gains also means that family firms are even less likely to attend to the potential gains in financial wealth. In such condition, family firms would assess the prospected financial gains coming from financial resources and favorable policies less attractive, and so further lack motivations to connect to the administrative branch for obtaining these financial resources and favorable policies. Taken together, the greater

importance of SEW goals not only further weakens family firms' desire to seek potential financial gains but also enhance the intention to preserve SEW. Therefore,

Hypothesis 3a (H3a). *The negative association between family firms and the formation of connections to the administrative branch will be strengthened when SEW goals are more important to the firm.*

Family firms that attach greater importance to SEW goals are more likely to form connections to the legislative branch. As argued earlier, if SEW goals are more important to family firms, these firms will put more attention on SEW gains and focus on pursuing the prospected SEW gains. Considering that connections to the legislative branch are expected to help firm gain significant SEW through building firm image and showing family's goodwill, family firms that attach greater importance to SEW would be more motivated to form connections to the legislative branch in attempts to seek higher firm image and increase goodwill.

Hypothesis 3b (H3b). *The positive association between family firms and the formation of connections to the legislative branch will be strengthened when SEW goals are more important to the firm.*

4.3.4 Moderating Effects of Threats to Financial Performance

While the prospected decision frame based on SEW gains and losses are inherently dominant in family firms' decision to form political connections, the increasing importance of financial goals, created by the threats to firms' financial performance and survival, may lead family firms to pay more attention to financial wealth. As noted by family business studies, when firms' financial performance is threatened so their survival is under threat, there is a danger of SEW being lost altogether (Gomez-Mejia et al., 2018). Under such circumstance, SEW and financial wealth are expected to converge for family firms (Chrisman & Patel, 2012). To survive from such threat and maintain SEW, family firms will shift more weight towards the goal of financial performance. In particular, family firms are more willing to accept losses in

SEW under the condition of low performance (Gómez-Mejía et al., 2007). Along this line, we argue that family firms' decision to form political connections would alter when firm performance falls below aspiration levels.

Specifically, when firms' performance is below aspiration levels, family firm's reluctance to form connections to the administrative branch will be weakened. Despite potential SEW losses, such connections are expected to offer firms significant financial resources and favorable policies, and in turn, help improve firms' financial performance. Due to family firms' increased attention on financial performance in this setting, connections to the administrative branch become more attractive to the family. Therefore, family firms would be more willing to accept certain potential SEW losses when experiencing low performance (Calabrò, Minichilli, Amore, & Brogi, 2018) and seek to connect to the administrative branch to salvage poor financial performance.

Moreover, family firms' strong preference towards forming connections to the legislative branch would also be weakened. While such connections have potential to generate great SEW gains such as higher firm image and goodwill, they are limited in helping firms improve performance through financial resources and related policies. Considering that when performance is below aspiration family firms' decisions are based on the reference of financial gains while the SEW gains are less important, the motivations to connect to the legislative branch would decrease. Taken together, we propose that,

Hypothesis 4a (H4a). *The negative association between family firms and the formation of connections to the administrative branch will be weakened when financial performance is below the aspiration level.*

Hypothesis 4b (H4b). *The positive association between family firms and the formation of connections to the legislative branch will be weakened when financial performance is below the aspiration level.*

4.4 Methodology

4.4.1 Sample and Data

To test the hypotheses, we use all the Chinese non-state-owned enterprises (non-SOEs) listed on the Shanghai or Shenzhen stock exchange between 2004 and 2016. These firms offer an ideal setting to study the strategic decision of firms when the state is not the dominant owner. We exclude SOEs considering that SOEs' decisions are largely driven by the state (Hafsi, Kiggundu, & Jorgensen, 1987) but may not necessarily reflect firms' strategic pursuit of political strategy. Our sample starts from 2004, the year all the key variables became available in the dataset.

We collect all the firm-level data from the CSMAR database, which has been widely used for studying political connections (Chen et al., 2017) and family business (Wei et al., 2020). CSMAR has dedicated research databases on non-SOEs and family firms in China. Both databases provide data on financial information, governance information and firm leaders' resumes. We collect the family-related data from the family firm database and the other firm level data from the non-SOEs database. We then merge these two databases by matching stock code and fiscal year. Next, we obtain information about institutional environment from the NERI database. After matching data from CSMAR and NERI, the final sample consists of 1,063 firms (corresponding to 7,333 firm-year observations). The observations for each set of hypothesis testing may vary slightly due to the different moderators we add in the analyses.

4.4.2 Measures

4.4.2.1 Dependent variables

Following prior research (Zheng et al., 2015), a firm is considered connected to the

administrative branch if it has current or prior government administrators serving as the CEO or a board member in the firm, while a firm is connected to the legislative branch if it has current or prior legislators serving as the CEO or a board member in the firm. To obtain such information, we first compiled the curriculum vitae of each of firms' CEO and board members from CSMAR, complemented with the website of Baidu Baike (<http://baike.baidu.com/>), a large data source that provides the curriculum vitae of Chinese business and political leaders. We then analyzed each person's CV to determine whether s/he has served as a government administrator or leader in one of the two legislative bodies in China (i.e., the National People's Congress, and the Chinese People's Political Consultative Conference). We collected such data for each firm annually.

In testing the hypotheses, our dependent variables are firms' formation of new connections to the administrative branch, or to the legislative branch, created through positional interlocks between business and political leaders. We measure our dependent variable as follows: *connections to the administrative branch* is coded 1 in year t if firms formed at least one new connection to the administrative branch since year $t-1$, and 0 otherwise; *connections to the legislative branch* is coded 1 in year t if firms formed at least one new connection to one of the two legislative bodies since year $t-1$, and 0 otherwise. We identified 643 (60.49%) unique firms that have formed political connections during our analysis period. There is an empirical reason for us to choose dummy over count number to measure political connections in the primary analyses. According to the distribution and variance of two types of political connections, most of these dependent variables are "0" and there are few changes to their values. So, it would be more sensible to use the dummy version as the primary measures. We consider the count number measures for political connections

in our robustness analyses. Table 4-1 lists the distribution of political connection formations for our sample firms.

Table 4-1 Distribution of political connections for family and nonfamily firms.⁴

	Family firm		Nonfamily firm	
	Number of connected family firm	Percentage of connected family firms	Number of connected nonfamily firm	Percentage of connected nonfamily firms
Connected to the administrative branch	197	16.3%	48	24.23%
Connected to the legislative branch	420	34.74%	47	23.72%
Connected to both branches	58	4.8%	11	5.55%
Sum	559	46.24%	84	42.41%

4.4.2.2 Independent Variables and Moderators

Our independent variable is *family firms*. Following Cannella Jr et al. (2015) and Miller, Le Breton-Miller, and Lester (2011), family firms is a dummy variable that takes a value of 1 if the largest owner can be traced back to a person or family, and 0 otherwise. In our sample, 935 (82.02%) are family firms and 205 (17.98%) are nonfamily firms.

The moderator for testing H3a and H3b is the importance of SEW goals. We used family relations among firms' controllers to capture the importance of SEW goals. In family firms, family owners rely on their ownership rights to determine firms' strategies, but it is the controllers that use the controlling rights to implement strategies for the firm (Almeida & Wolfenzon, 2006). We suggest that if there are multiple family relations within the controlling group of the firm, the SEW goals would be more important to the firm. Two dummy variables

⁴ According to the definitions provided by the dataset I use, the controlling shareholders in family firms and nonfamily firms are respectively family members and institutional investors.

are created and added to the main effects models, which are *family relation among firm controllers* and *no family relation among firm controllers*. The former variable takes value of 1 if there is at least one family relation among all the firm controllers and 0 other wise. The latter variable takes value of 1 if there is no family relation among all the firm controllers and 0 other wise.

The moderator for testing H4a and H4b is threats to firms' financial performance. As firms would perceive potential threats to their financial wealth if their financial performance decreases (Iyer & Miller, 2008), we follow Levinthal and March (1981) and measure threats to performance with *performance below aspiration*, a dummy variable taking value of 1 if firms' financial performance at year $t-1$ is lower than their aspiration and 0 otherwise. Firms' aspiration performance is expressed as an exponentially weighted moving average of their past performance. Let *Aspiration Performance_{it}* denotes the aspiration of firms i at year t and *Performance_{it}* denotes firm performance in terms of ratio of return to total assets (ROA) at year t . Then, $Aspiration\ Performance_{it} = \alpha Performance_{it} + (1 - \alpha)Aspiration\ Performance_{it-1}$, where α is a parameter implying the weight given to recent compared to those given to the distant performance. We follow prior studies and set $\alpha=0.5$ (Rowley, Shipilov, & Greve, 2017). Next, we create *performance below aspiration* by comparing firms' financial performance and aspiration performance.

4.4.2.3 Control variables

We control for firm-level characteristics and location-specific factors that may impact firms' financial wealth, nonfinancial wealth, and the formation of political connections. First, we control for a set of firm characteristics that may influence their propensity in forming political connections. *Firm age* (years since the firm was founded) and *firm size* (logged total assets

annually) control for firms' accumulated wealth (Gómez-Mejía et al., 2007), which determine firms' motivation to form political connections. *Leverage* (the ratio of debt to equity) and *ROA* controls for firms' needs to seek financial wealth through forming political connections. In addition, *state ownership* (percentage of state-owned shares in a firm) and *philanthropic donations* (logged total amount of total donation) control for the alternative business-political linkages or channels to pursue political strategy (Lin, Tan, Zhao, & Karim, 2015; Maung, Wilson, & Tang, 2016). *Foreign ownership* (percentage of qualified foreign institutional investor (QFII)) is controlled for as the presence of foreign investors may affect the formation of political connections (Boubakri, Cosset, & Saffar, 2008; Sun et al., 2010). Finally, firms' *prior connections to the administrative branch* and *prior connections to the legislative branch* may influence the formation of political connections. So, we control for these two variables, which respectively takes value of 1 if the focal firm has connections to the administrative branch and legislative branch in t-1 and 0 otherwise.

Next, we also note that peer firms' political connections may influence the focal firms' opportunity as well as the motivation to form political connections (Haveman, Jia, Shi, & Wang, 2017). Therefore, we consider the political connectedness of peer firms in both same industry and same province, and control for (1) the percentage of firms connected to the administrative (or legislative) branch in the same province (*province peers' connections to the administrative/legislative branch*), and (2) the percentage of firms connected to the administrative (or legislative) branch in the same industry (*industry peers' connections to the administrative/legislative branch*).

Further, some location-specific variables are included, because provinces in China differ significantly in their institutional arrangement (Jones & Cheng, 2003), resulting in

firms' differed values and behaviors including their political strategy (Wang et al., 2019). Specifically, we use the overall marketization index provided by NERI to control for the cross-province *institutional environments*, which has been found to impact firms' decisions on forming political connections (Berrone et al., 2010; Jia, 2016). Also, we control for *provincial governor's age*, as political leaders' incentive to prioritize certain goals usually varies with their tenure and age (Wang & Luo, 2019), which in turn influences both their incentives to co-opt entrepreneurs into politics (Wang et al., 2018) as well as the perception of firms under their jurisdiction in their chance to obtain financial and nonfinancial wealth from political connections. Lastly, we include *year*, *industry*, and *province* dummy variables in all estimations.

4.4.3 Estimation

We used random effects probit regression models with cluster-robust standard errors at the firm level. The Probit model is employed since our dependent variables are binomial. And, we choose random effects because our models cannot be estimated using the fixed-effect approach, which requires variance in both dependent and independent variables (Judge, Griffiths, Hill, & Lee, 1985). While many sample firms have political connections, their political connectedness do not change frequently. Also, whether firms are owned by family or not (i.e., independent variable) is also largely stable throughout the studying period. In our tests, all independent variables and moderator variables were measured at time t-1, while the dependent variables were measure at time t. For H1 and H2, we tested the relationship between *family firm* and two types of political connections formation. For H3a through H4b, we examine whether the main effects tested in H1 and H2 differed under different levels of importance of SEW goals and threats to financial performance. Specifically, for H3a and H3b,

we replaced the independent variable (i.e., *family firm*) with two variables indicating different importance of SEW goals, which are *family relation among firm controllers* and *no family relation among firm controllers*; for H4a and H4b, we tested two-way interaction effect between family firms and the indicator variable of *performance below aspiration*.

4.5 Results

Table 4-2 presents the main descriptive statistics and correlations of the variables. Overall, the magnitude of the correlations between variables is small. We standardized the variables and calculated the variance inflation factors (all < 1.47) to check for multicollinearity. All variables were below the suggested warning level of 10 (Hair, Anderson, Tatham, & William, 1998), so multicollinearity did not appear to be a major concern. In addition, these preliminary analyses indicates that among the variables of interest, family firms are negatively correlated with the formation of connections to the administrative branch but positively correlated with the formation of connections to the legislative branch.

Table 4-3 presents the probit regression models predicting the formation of two types of political connections to test all the hypotheses. In Model 1, 2, 5 and 7, dependent variables are *connections to the administrative branch*; in Model 3, 4, 6, and 8, dependent variables are *connections to the legislative branch*. Model 1 and Model 3 are the baseline models with control variables. Model 2 and Model 4 add the main effects of *family firm* to test H1 and H2. Model 5 and Model 6 add *family involvement level* to test H3a and H3b. Model 7 and Model 8 add main effects of *family firm* and the interaction between *family firm* and *performance below aspiration* to test H4a and H4b.

H1 posits a negative relationship between family firm and the formation of connections

to the administrative branch. In Model 2 of Table 4-3, this main effect is statistically significant and negative ($\beta=-0.525, p=0.000$), indicating that family firms are less likely to form new connections to the administrative branch. H1 thus receives strong support. H2 posits a positive relationship between family firm and the formation of connections to the legislative branch. In Model 4 of Table 4-3, the significantly positive coefficient ($\beta=0.561, p=0.005$) suggests that family firms are more likely to form new connections to the legislative branch. Therefore, H2 is also supported.

H3a and H3b propose that the importance of SEW goals, which is reflected in family relations among controllers, positively moderates the main effects. Results from Model 5 of Table 4-3 show that the negative coefficient of *family relation among firm controllers* ($\beta=-1.064, p=0.000$) is more significant than the negative coefficient of *no family relation among firm controllers* ($\beta=-0.931, p=0.044$). This suggests that the main effect is more prominent if there is family relation among firm controllers, thereby supporting H3a. The results in Model 6 of Table 4-3 present that the positive relationship between family firm and connections to the legislative branch is significant only when there is family relation among firm controllers ($\beta=1.321, p=0.038$) but not significant if there is an absent of family relation among controllers, further supporting H3b. Also, this indicates that the main effects of family firm mainly come from firms' prioritize SEW goals.

H4a and H4b predict that threats to financial performance, which can be reflected in whether firms' financial performance is below the aspiration level, weaken the main effects between family firm and the formation of political connections. According to the results in Model 7 of Table 4-3, the interaction item (i.e., *family firm * performance below aspiration*) has significantly positive effect on the formations of connections to the administrative branch

($\beta=0.977, p=0.042$), suggesting that family firms' propensity to form new connections to the administrative branch will increase when firm's financial performance is below the aspiration level and firm has to attend more to financial wealth. Thus, H4a is strongly supported. In Model 8 of Table 4-3, this interaction item does not have significant moderation effect on the formation of connections to the legislative branch ($\beta=0.225, p=0.706$). While H4b is not supported, this finding is also consistent with our argument that connections to legislative branch may bring some financial wealth even though it is limited. When firm's financial performance is below the aspiration level, family firms may not significantly reduce their pursuit of connections to the legislative branch for seeking the limited but still positive gain in financial wealth.

With regard to the control variables (based on the baseline models in Table 4-3), consistent with findings from prior literature (Marquis & Qian, 2014), firms are less likely to connect to the administrative branch for financial wealth if they enjoy high ROA. Also, firms are more likely to connect to the legislative branch if they actively engage in CSR so emphasize nonfinancial wealth.

4.5.1 Robustness Analyses

We conducted additional tests to check the robustness of our findings. First, used *family ownership* to replace independent variable. We suggest that the more family ownership, the more likely family firms avoid connections to the administrative branch but form connections to the legislative branch. Family ownership is measured with the percentage of family-owned shares in a firm. According to the results in Model 1 and Model 2 of Table 4-4, family ownership is negatively associated with the formation of connections to the administrative

Table 4-2 Summary statistics and correlations.

Variables	Mean	S.D.	Min.	Max.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 Connections to the administrative branch	.019	.136	0	1	1.000																				
2 Connections to the legislative branch	.02	.139	0	1	0.033	1.000																			
3 Family firm	.886	.317	0	1	-0.110	0.047	1.000																		
4 Family relation among controllers	.646	.478	0	1	-0.105	0.049	0.941	1.000																	
5 No family relation among controllers	.024	.153	0	1	-0.007	-0.009	0.107	-0.236	1.000																
6 Performance below aspiration	.055	.251	0	1	-0.064	-0.029	0.139	0.161	-0.074	1.000															
7 Prior connections to the administrative branch	.11	.313	0	1	0.397	0.026	-0.239	-0.225	-0.023	0.005	1.000														
8 Prior connections to the legislative branch	.237	.425	0	1	-0.023	0.218	0.188	0.200	-0.048	0.130	-0.041	1.000													
9 Industry peers' connections to the administrative branch	.101	.075	0	.333	0.070	-0.001	-0.186	-0.185	0.009	-0.044	0.254	-0.074	1.000												
10 Province peers' connections to the administrative branch	.102	.055	.024	.277	0.038	-0.006	-0.067	-0.084	0.055	-0.010	0.162	-0.012	0.100	1.000											
11 Industry peers' connections to the legislative branch	.215	.105	0	.514	-0.046	-0.011	0.140	0.154	-0.050	0.092	-0.085	0.306	-0.229	-0.027	1.000										
12 Province peers' connections to the legislative branch	.219	.077	.005	.356	-0.006	0.007	0.183	0.186	-0.021	0.105	-0.012	0.211	-0.068	-0.032	0.164	1.000									
13 Firm Age	5.9	4.115	1	19	-0.039	-0.000	0.261	0.252	0.008	0.012	-0.098	0.090	-0.177	-0.045	0.117	0.118	1.000								
14 Firm size	21.036	1.073	18.16	23.99	-0.004	-0.021	-0.077	-0.060	-0.043	0.289	0.074	0.083	0.064	-0.015	0.068	0.010	-0.016	1.000							
15 ROA	.02	.118	-.748	.32	-0.075	0.015	0.139	0.140	-0.013	0.293	-0.021	0.100	0.020	-0.019	0.045	0.049	0.033	0.123	1.000						
16 Firm leverage	.443	.452	.005	3.579	0.052	-0.037	-0.103	-0.126	0.075	-0.411	0.054	-0.104	0.027	0.035	-0.052	-0.082	-0.111	-0.072	-0.417	1.000					
17 State ownership	.067	.152	0	.649	0.119	-0.002	-0.531	-0.502	-0.051	-0.175	0.154	-0.122	0.064	0.060	-0.109	-0.194	-0.170	0.004	-0.058	0.020	1.000				
18 Foreign ownership	.059	.428	0	15.084	-0.005	-0.018	-0.101	-0.095	-0.013	0.006	0.060	-0.030	-0.017	-0.030	-0.005	-0.006	-0.014	0.091	-0.001	0.029	0.016	1.000			
19 Philanthropic donations	7.361	6.155	0	16.31	-0.004	0.027	0.145	0.140	0.004	0.220	-0.016	0.174	0.022	-0.020	0.091	0.045	0.042	0.296	0.164	-0.135	-0.073	0.013	1.000		
20 Institutional environments	7.483	1.859	2.84	11.39	-0.005	-0.026	0.120	0.127	-0.028	0.157	-0.077	0.011	-0.100	-0.487	0.031	0.205	0.152	0.084	0.050	-0.134	-0.141	0.053	-0.004	1.000	
21 Provincial leader's age	58.988	3.719	45	65	0.037	0.017	0.122	0.118	0.005	0.074	-0.000	0.016	-0.037	-0.104	0.019	0.076	0.106	0.020	0.025	-0.043	-0.115	0.014	0.012	0.281	1.000

Table 4-3 Primary analyses: Family firm, formation of political connections, importance of SEW goals and threats to financial performance.

Dependent variable	Main effects: the relationship between family firm and the formation of political connections				Moderation effects: importance of SEW goals		Moderation effects: threats to financial performance	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Connections to the administrative branch	Connections to the administrative branch	Connections to the legislative branch	Connections to the legislative branch	Connections to the administrative branch	Connections to the legislative branch	Connections to the administrative branch	Connections to the legislative branch
	Baseline	H1	Baseline	H2	H3a	H3b	H4a	H4b
Family firm		-0.525(0.000)		0.561(0.005)			-0.469(0.001)	0.575(0.004)
Family relation among firm controllers					-1.064 (0.000)	1.321 (0.038)		
No family relation among firm controllers					-0.931 (0.044)	1.312 (0.093)		
Family firm * Performance below aspiration							0.977(0.042)	0.225(0.706)
Performance below aspiration							0.506(0.306)	-0.405(0.284)
Prior connections to the administrative branch	omitted	omitted	-0.0568(0.860)	-0.0424(0.897)	omitted	0.151(0.792)	omitted	-0.0472(0.887)
Prior connections to the legislative branch	-0.214(0.429)	-0.205(0.462)	omitted	omitted	0.0445(0.915)	omitted	-0.222(0.430)	omitted
Industry peers' connections to the administrative branch	26.93(0.224)	29.50(0.183)	-47.52(0.001)	-47.37(0.001)	26.51(0.005)	-53.87(0.293)	42.77(0.065)	-45.82(0.003)
Province peers' connections to the administrative branch	-1.655(0.977)	-6.916(0.907)	94.68(0.032)	87.64(0.058)	29.81(0.616)	-174.59(0.135)	-23.33(0.701)	80.67(0.063)
Industry peers' connections to the legislative branch	-9.353(0.348)	-10.78(0.280)	61.12(0.008)	59.19(0.014)	-33.58(0.506)	-479.12(0.379)	-17.40(0.100)	56.80(0.024)
Province peers' connections to the legislative branch	1.939(0.942)	3.808(0.887)	-40.38(0.048)	-36.60(0.088)	-34.30(0.556)	164.26(0.149)	11.33(0.681)	-33.24(0.100)
Firm age	0.00890(0.482)	0.00815(0.538)	0.0155(0.209)	0.0136(0.274)	0.0215(0.402)	0.0315(0.245)	0.00980(0.478)	0.0110(0.388)
Firm size	0.0506(0.289)	0.0192(0.691)	-0.0690(0.186)	-0.0526(0.331)	-0.2613(0.041)	-0.0429(0.770)	0.0688(0.195)	-0.0212(0.704)
ROA	-0.866(0.005)	-0.875(0.005)	0.444(0.184)	0.423(0.210)	-0.545(0.556)	1.418(0.149)	-1.112(0.000)	0.383(0.262)
Firm leverage	-0.0167(0.850)	-0.0378(0.666)	0.0561(0.495)	0.0434(0.596)	-0.464(0.166)	-0.840(0.078)	-0.116(0.257)	0.0333(0.706)
State ownership	0.783(0.003)	0.635(0.017)	-0.0948(0.755)	0.130(0.658)	0.309(0.650)	0.910(0.510)	0.605(0.024)	0.0763(0.794)
Foreign ownership	0.00195(0.981)	-0.0122(0.875)	-0.0663(0.349)	-0.0470(0.546)	-0.7118(0.117)	0.0460(0.633)	-	-0.0463(0.518)
Philanthropic donations	-0.0196(0.008)	-0.0185(0.015)	0.0192(0.008)	0.0178(0.017)	-0.00223(0.889)	0.0160(0.394)	0.000870(0.991)	0.0190(0.014)
Institutional environments	-0.101(0.344)	-0.109(0.315)	-0.0946(0.355)	-0.102(0.320)	-0.366(0.139)	-0.362(0.156)	-0.0179(0.022)	-0.130(0.209)
Provincial governor's age	-0.00366(0.773)	-0.00416(0.747)	0.00603(0.657)	0.00716(0.598)	-0.0279(0.370)	0.0101(0.790)	-0.118(0.282)	0.00565(0.680)
Year, Industry, Province dummies	Yes	Yes	Yes	Yes	Yes	Yes	-0.00442(0.732)	Yes
Constant	-2.105(0.556)	-0.301(0.934)	-16.20(0.007)	-16.48(0.008)	7.706(0.335)	25.66(0.627)	0.00565(0.680)	-16.13(0.010)
Observations	4,960	4,960	4,569	4,569	4,960	4,569	4,895	4,432

Note: *p* value in parentheses.

branch ($\beta=-1.298, p=0.000$), but is positively associated with the formation of connections to the legislative branch ($\beta=0.895, p=0.001$). Thus, these results support H1 and H2.

Second, we examined alternative measures of dependent variables, namely, the count of the two types of political connections. In Model 3 and Model 4 of Table 4-4, the dependent variables were respectively the number of newly formed connections to the administrative branch and the number of newly formed connections to the legislative branch. Using these variables yielded consistent results for H1 and H2, thus providing support for the relationship between family firms and formation of two types of political connections.

Third, I employ Heckman selection model to address the potential endogeneity problems. Such problems may happen if there are common factors to influence family firms and political connections formation simultaneously. Heckman selection model includes a two-stage estimator to correct for endogeneity bias. I first estimate the Heckman's first-stage model and then calculate the inverse Mill's ratio for the second stage of the Heckman model. In line with Heckman (1979), in the first stage, I apply a standard probit model to sample firms in which the dependent variable is a dummy variable indicating whether a firm is a family firm or not in a given year. According to Certo et al. (2016), and Leung and Yu (1996), at least one additional variable should be included in the first-stage regression to ensure the identification of a sample selection model. So, I include the proportion of family firms in the same industry and same province into the first stage regression. I consider that if the industrial environment and regional environment are more favourable for family firms, there may be a higher likelihood to establish family firms. From the first-stage probit model, I calculate the "inverse Mills ratio" (i.e., *imill_family firm*), an adjustment term, and included it as a control variable in the second stage regression, where

Table 4-4 Robustness analyses.

Dependent variable	A. Alternative IV: family ownership		B. Alternative DV: count of formation of political connections		C. Test endogeneity: Heckman test					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Connections to the administrative branch	Connections to the legislative branch	Connections to the administrative branch	Connections to the legislative branch	Connections to the administrative branch	Connections to the legislative branch	Connections to the administrative branch	Connections to the legislative branch	Connections to the administrative branch	Connections to the legislative branch
Family ownership	-1.298 (0.000)	0.895 (0.001)								
Family firm			-0.0346 (0.000)	0.0284 (0.000)	-0.521 (0.000)	0.561 (0.004)			-0.464 (0.001)	0.574 (0.004)
Family relation among firm controllers							-1.072 (0.000)	1.324 (0.034)		
No family relation among firm controllers							-0.945 (0.047)	1.314 (0.089)		
Family firm * Performance below aspiration									-0.969 (0.073)	0.282 (0.628)
Performance below aspiration									0.525 (0.283)	-0.438 (0.434)
imill family firm					1.081 (0.381)	1.570 (0.242)	0.658 (0.854)	0.229 (0.957)	1.405 (0.260)	1.649 (0.226)
Control variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Observations	4,654	4,235	4,960	4,569	4,960	4,569	4,960	4,569	4,895	4,432

I examine the relationship between family firms and political connections formation. In Model 5-10 of Table 4-4, results are still consistent with the primary results. Therefore, the findings of this study still stand after mitigating endogeneity issues.

Furthermore, another endogeneity problem may be due to reverse causality. I reckon that “whether a firm is a family firm or not (i.e., IV)” is a trait of the firm that does not really change. And, this trait is formed at the time of establishment. By definition, it came before any decisions that firms may make, including the decisions to form political connections. Therefore, I think the reverse causality would not be a significant issue for this paper.

4.6 Discussion

Our study was motivated by the dilemma firms face in their pursuit of political strategy given that political connections create both gains and losses to the connected firms, there is an absence of explanation for how firms strategically make the tradeoffs so as to seek the potential gains while avoiding the potential losses when they form connections to political actors. We have developed a mixed gamble decision-making framework whereby family firms differ from nonfamily firms in terms of evaluating the gains and losses associated with connections to the administrative branch and connections to the legislative branch. Using the empirical context of firms’ formation of political connection in China, we found evidence consistent with our framework.

This study makes important contributions to the political strategy and family business research. First, an important contribution of this study is an expanded understanding of the antecedents of political connections. Despite burgeoning investigations into the impact of political connections, advances regarding the reason of forming political connections have

been surprisingly slow in coming (Chung & Zhu, 2021). Meanwhile, extant studies on the antecedents of political connections have mainly taken the view that firms form political connections to seek the prospected gains, such as greater resources, favorable policy, and protection (Jia, 2014; Li et al., 2006; White III et al., 2018). However, political connections may also bring potential costs to firms (Chen et al., 2017; Sun et al., 2016), which has not been adequately considered by existing scholarship. We offer a contribution to the research on political connections by taking both potential gains and losses associated with political connections into consideration. Specifically, our mixed gamble approach brings the trade-offs between gains and losses to the forefront. Thus, this study is an initial step towards a more balanced and complete understanding of the formation of political connections.

Critically, our mixed gamble approach differentiates connections to different political branches, responding to recent calls for examining the heterogeneity of political connectedness (Mellahi, Frynas, Sun, & Siegel, 2016). Prior studies have mainly viewed political connections as homogeneous, less attending to the distinctions regarding the formation of different types of political connections. By examining how family involvement unequally shape the formation of connections to the administrative branch and connections to the legislative branch, our study highlights the heterogeneity existing in the political branch that firms connect to. And, it suggests that the heterogeneity of political connections is not only reflected in their impact (i.e., different types of political connections have heterogeneous impact) (Siegel, 2007; Zheng et al., 2015), but drives heterogeneous firm decisions when they pursue political strategy.

Relatedly, by comparing the differences in the antecedents of political connections between family firms and nonfamily firms, our study also contributes to the political strategy

studies by adding a corporate governance factor. Prior studies predominantly view political connections as driven by firms' external dependence. For instance, studies suggest that firms facing the same level of external industry regulation tend to adopt similar political activities (Holburn & Vanden Bergh, 2008; Okhmatovski, 2010; Salancik & Pfeffer, 1978). This view overlooks that firms' internal attributes can affect their incentive and behaviors in political strategy. Our finding of the effects of family involvement on political connections suggests an important antecedent that resides in firm owners' interests and goals.

Second, this study helps to resolve the mixed findings over the relationship between family involvement and political strategy. The existing literature recognizes that political strategy is valuable for family firms to secure family assets and respond to bureaucracy, especially in environments characterized by weak institutions and strong power of government in the economy (Dinh & Calabrò, 2019). For this reason, family firms are more likely to take political strategy (Luo & Junkunc, 2008), especially when they intend to pass control of the firm to the next generations (He & Yu, 2019; Xu, Yuan, Jiang, & Chan, 2015) and in the times of significant political uncertainty (Swanpitak, Pan, & Suardi, 2020). However, recent studies found that family firms would avoid political strategy to secure family assets such as reputations (Combs et al., 2020). By conducting more nuanced analyses on the formation of connections to different political branches, our study resolves the conflict as follows: since connections to different political branches have unequal impact on family' financial and nonfinancial (i.e., SEW) goals, whether family firms are more or less likely to form political connections depends on which branch they evaluate and what their goals are.

Third, this study contributes to the mixed gamble research by broadening the concept application to a wider set of decision-making phenomena. Prior research has applied mixed

gamble framework to firms' various decisions, including R&D (Gomez–Mejia et al., 2014), acquisition (Hussinger & Issah, 2019), internationalization (Alessandri, Cerrato, & Eddleston, 2018) and stock options (Martin et al., 2013). This study resonates to such efforts with an in-depth analysis on the decision to implement political strategy by forming political connections. By allowing family firms to account for both potential financial gains and losses as well as potential SEW gains and losses associated with the formation of political connections, this study response to the needs to better understand how family firms make strategic decisions when both financial wealth and SEW are at stake (Kotlar, Signori, De Massis, & Vismara, 2018).

Our study also points to several directions for future research endeavor. Antecedents of political connections and family firms' political connections are areas that merit additional research. First, regarding to family firms' incentive to form political connections, our framework articulates a general differentiation between family's financial goals and nonfinancial (i.e., SEW) goals. We encourage future research to explore different types of nonfinancial goals such as succession and reputation that may drive family firms to make different decisions when seeking political connections (Combs et al., 2020; He & Yu, 2019). Second, the formation of political connections is complex. While our study examined connections to different political branches, we have little understanding of whether firms differed in terms of seeking connections to political organizations at different levels, or seeking political connections through connecting to incumbent versus retired political actors. Third, there are various approaches that can be used to explore family' influence on corporate political strategy. For instance, family firms' decisions can be affected by the generation of the family members, the number of family member positioned in the firm, gender and birth

order of the family leader, and the marriage of family members. These factors potentially influence family firms' decision to pursue political strategy. All of these directions suggest fruitful avenues for future research.

In conclusion, our study highlights the dilemma associated with the formation of political connection. Drawing attention to how firms trade off the gains and losses expected from different types of political connections, we argue that firms strategically form or avoid certain type of political connections to pursue gains and avoid losses simultaneously. Our findings that family firms are more likely to form connections to the legislative branch to gain SEW and avoid connections to the administrative branch to reduce SEW losses help to improve conceptual understanding of firms' strategic behavior in pursuing political strategy. Our study therefore supports and extends a mixed gamble lens of the formation of political connections.

Chapter 5 Conclusion

This chapter offers a brief review of the thesis. First, it summarizes all the findings of this thesis. Next, it reflects on the contributions of all the chapters. Finally, it states some limitations and suggests avenues for future studies.

5.1 Summary of the Thesis

Political connections have drawn increasing interest from scholars across social science disciplines. These scholars have applied theories across social science disciplines to research political connections in various domains, including political systems, economic markets, and social communities. However, such an increased attention raises an important question, namely, how to further progress the scholarship of political connections. As a result, this thesis emerged with an aim to contribute to the future development of this scholarship.

In doing so, this thesis has aimed to respond to three major needs the scholarship faces. First, guidance for future research is needed. While political connections studies flourished within each discipline, and especially in strategic management, the multidisciplinary nature of political connections has not been well utilized to develop research. Thus, we lack guidance for how to conduct political connections research with a multidisciplinary lens. Second, future efforts are needed for a better understanding of the impact of political connections. Conflicts regarding the impact of political connections continue with the growth of this scholarship. This means that resolving conflicting findings becomes increasingly crucial. Third, research on the antecedents of political connections remains in need. Despite significant growth in research on the impact of political connections, antecedents of political connections are still underexamined. For this scholarship's more complete and structured

development, how and why political connections are formed should also be examined.

To progress the scholarship of political connections by responding to the three needs above, this thesis has conducted three studies. Chapter 2 provided research guidance based on a multidisciplinary review. In particular, it not only suggested how to continue progress by developing this scholarship's intellectual structure with multiple social science theories but also guided scholars to extend this scholarship's findings with multiple social science research topics. Following the guidance of Chapter 2, Chapter 3 shed light on an underdeveloped research topic (i.e., innovation) and revisited the conflicting impact of political connections by focusing on the mechanisms through which political connections generate impact and the type of political connections that impact the firm. In addition, Chapter 4 was also motivated by the conflicting findings regarding the impact of political connections (i.e., political connections generate both positive and negative impact) and explored the antecedents of political connections by answering how firms would trade off the expected positive and negative impact when forming political connections.

Finally, findings from the three studies of this thesis well meet the needs. First, this thesis helped advance the political connections scholarship with important guidance for future research. Regarding the guidance stemming from intellectual structure, this thesis suggested to combine multidisciplinary theories and add new theories to understand political connections. As to the guidance stemming from research topics, this thesis provided approaches to add findings for both impact and antecedent of political connections. Next, this thesis found that the conflict of political connections' impact is due to less attention being placed on the resource mechanisms (i.e., resource acquisition and resource utilization) between political connections and the outcomes and on the differences between connections

to different political branches (i.e., the administrative branch and the legislative branch). By examining the outcome of firms' innovation performance, this thesis showed that connections to different political branches generate unequal impact on resource acquisition and resource utilization, thus leading to unequal innovation performance. Lastly, with regard to the antecedent of political connections, this thesis found that firms strategically select the type of political connections (i.e., connections to the administrative versus the legislative branches) to form according to their emphasize on financial and nonfinancial goals, thereby benefiting from the positive impact of political connections and also reducing their negative impact.

5.2 Contributions and Implications

This thesis makes four contributions to the scholarship of political connections. First, this thesis has contributed to a focused and a more complete understanding of the political connections scholarship. Prior reviews either view political connections as a part of nonmarket strategies and corporate political strategies or analyze political connections within a certain research stream only. Thus, we lack a focused understanding of political connections that does not mix it with other nonmarket strategies and also lack a more complete understanding that incorporates knowledge about political connections from across various social science disciplines rather than just one stream. In response, this thesis' specific focus on understanding political connections scholarship across social science disciplines has allowed for presenting and interpreting knowledge about political connections only and this knowledge was derived from political connections studies across various social science disciplines.

In addition, this thesis has also offered a more complete understanding by enhancing

our understanding of both impact and antecedents of political connections. As discussed in Chapter 2, prior studies on political connections have predominantly focused on the impact, resulting in a lack of understanding about why and how political connections are formed in the first place. Instead, this thesis offered a more complete understanding with investigations into both the impact and the antecedents of political connections. More notably, understanding of political connections' antecedents is based on findings of political connections' impact. By first recognizing both positive and negative impact of political connections and then revealing that the formation of political connections would be the outcome of trading off the expected positive and negative impact, this thesis advanced the knowledge about the role of political connections in various relationship and offered a more complete understanding of the political connections scholarship.

Second, this thesis contributes to the scholarship of political connections with further explorations into the heterogeneity of political connections. According to the findings in Chapter 2, prior research has largely viewed political connections as homogeneous, resulting in mixed findings about the impact of political connections. In contrast, only a handful of research acknowledged that political organization is not a monolithic entity. As Chapter 2 showed, this small stream of research has categorized political connections into various types according to the level, the political party, and the location of political organizations. In addition, this research stream found that different types of political connections generate distinct impact on the connected firm. Adding to this research stream, this thesis highlighted the heterogeneity of political connections by alternatively examining the difference between the connections to different political branches. For example, Chapter 3 has displayed that such a difference can exist in political connections' impact on firms' resource acquisition,

resource utilization, and innovation performance. Chapter 4 added evidence to such a difference by illustrating the formation of different political connections. Namely, firms have differed reasons to form connections to different political branches. In doing so, this thesis has responded to the calls for more nuanced analyses on political connections (Siegel, 2007; W. Zheng et al., 2015).

Third, this thesis extends research on the dark side of political connections. Literature has mostly focused on the bright side of political connections and suggested that such bright side can be manifested from various aspects, including resources, legitimacy, governmental policies, taxation, and protections. However, there is little evidence on the dark side of political connections. More specifically, the limited research on the dark side has not adequately demonstrated what kind of political connections has dark side and through which the dark side may be manifested. To offer such knowledge, this thesis first highlights the dark side of political connections (Chapter 2). Next, it illustrates that only connections to the administrative branch have a significant dark side, and such dark side is manifested by stakeholders' perceptions to political connections (Chapters 3). Furthermore, this thesis validates these findings by showing that firms can indeed aware the dark side of connections to the administrative branch and so avoid forming such connections if the prospected dark side goes gains their focused goals (Chapter 4).

Lastly, this thesis contributes to the scholarship with new lenses to study political connections. Research on political connections has been well developed within each discipline, meaning that a new research lens can be conducting cross- and multi-discipline research. This thesis contributes to research on political connections by offering suggestions for applying such a lens. In particular, it suggests that scholars can utilize multidisciplinary

theoretical perspectives to explain political connections and study political connections with research topics from multiple disciplines. Such a lens can help scholars to design fresh research on political connections in the future.

Another lens is to study political connections at the individual level, such as studying individuals' perceptions. As found by Chapter 2, literature, especially strategic management, still lacks individual level research on political connections. Corresponding to this finding, the empirical studies in Chapters 3 and 4 have shown that individuals' perceptions can be important for the outcomes and antecedents of political connections. Chapter 3 discussed the importance of outsider stakeholders (i.e., providers of human capital), arguing that their perceptions of firms' political connections can influence the impact of political connections. Moreover, Chapter 4 highlighted the importance of insider as well as outsider stakeholders. Its findings supported that insiders' and outsiders' perceptions of political connections can affect firms' decisions to form political connections. Combining these, this thesis added a perception-based research lens to study political connections, both in terms of the impact and the antecedents of political connections.

5.3 Limitations and Future Research

In this section, we highlight the following limitations of this thesis that may also provide directions for future research. First, the nature of political connections may vary in different research contexts. As empirical tests of this thesis are conducted with data from China, this may limit this thesis's generalizability and applicability to other countries. For instance, political connections in some other contexts can be formed through contributing to political campaigns. Since in such cases the connected political actors are not positioned in the firm,

this form of political connections may have a unique impact on the firm and may also be established for different reasons from what we identified. Even so, because our focus is on the political actors' influence within the firm, our study context is suitable for our purposes and allows us to generalize to those contexts where political connections are formed by involvement of political actors inside the firm, such as developing countries or emerging economies. For scholars who are interested in the differences between different forms of political connections, we suggest that they conduct studies in other contexts and compare the impact and antecedents of political connections in different research contexts.

Second, this thesis focuses on the differences between connections to the administrative and legislative branches as a way to study the heterogeneity of political connections. While the specific roles of these two branches can differ from country to country, theorizing generated from this thesis regarding how different political organizations have varying levels of control over resources and receive distinct perceptions and evaluations from various actors has the potential to be generalized to other research settings where political organizations have different roles and interests. We encourage future research to extend theorizing from this thesis to other contexts. In addition, given that political connections can also be disaggregated according to their levels, parties, and locations, it leaves questions about how other categorizations of political connections impact firms' innovation performance through resource mechanisms and questions about how firms' goals influence the formation of other types of political connections. Therefore, future research can further study the heterogeneity of political connections by extending our focus on the administrative and legislative branches to other categorizations of political system based on levels, parties, or locations.

Third, regarding research design, one limitation of this thesis is the employment of

interview data in Chapter 3. The data is collected by interviewing selected individuals and the interview data is quoted as supplementary evidence. It would be ideal to conduct pilot analysis first and code the interview data. While the primary results of this thesis are from secondary data, future research especially those focusing on individuals' attention and perceptions can conduct more organized and in-depth qualitative research.

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Appendices

Appendix 2-1 The top highly co-occurred terms identified in overall status research of topic analysis.

Cluster	Rank	Topic	Co-occurrence Strength	Cluster	Rank	Topic	Co-occurrence Strength	Cluster	Rank	Topic	Co-occurrence Strength	Cluster	Rank	Topic	Co-occurrence Strength	Cluster	Rank	Topic	Co-occurrence Strength
1	1	ownership	3036	2	1	network	3226	3	1	political ty	4893	4	1	internationalization	1123	5	1	ipo	1070
1	2	board	2783	2	2	organization	2522	3	2	innovation	3553	4	2	social network	638	5	2	non-soe	1042
1	3	cost	2761	2	3	political network	1945	3	3	business ty	1760	4	3	government support office	594	5	3	reputation	983
1	4	association	2607	2	4	system	1926	3	4	entrepreneur capability	1760	4	4	appointment	455	5	4	underwriter	618
1	5	director	2297	2	5	group	1515	3	5		1300	4	5		440	5	5	underwriting fee	522
1	6	investor	1548	2	6	politic	1441	3	6	social capital	1214	4	6	corporate philanthropy	440	5	6	identification	352
1	7	malaysia	1468	2	7	society	1271	3	7	managerial ty	1162	4	7	former politician	297	5	7	focal firm	228
1	8	shareholder	1398	2	8	position	1254	3	8	transition economy	1018	4	8	merger	240	5	8	government director	213
1	9	debt	1335	2	9	conflict	1056	3	9	new venture	658	4	9	political relation	202				
1	10	soe	1309	2	10	status	977	3	10	entrepreneurship	561	4	10	marketization	186				
1	11	monitoring	1184	2	11	law	974	3	11	sme	546	4	11	formal institution	178				
1	12	right	1183	2	12	authority	864	3	12	innovation performance	523	4	12	evolution	177				
1	13	institutional investor	1177	2	13	participation	854	3	13	finance	484	4	13	political participation	177				
1	14	firm value	922	2	14	congress	852	3	14	venture	452	4	14	chairman	170				
1	15	independent director	851	2	15	rule	833	3	15	competitive advantage	443	4	15	regulated industry	154				
1	16	government subsidy	827	2	16	action	804	3	16	social ty	434	4	16	revolving door	147				
1	17	earnings management	815	2	17	russia	799	3	17	establishment	401	4	17	japan	129				
1	18	auditor	774	2	18	leader	736	3	18	selection	401	4	18	private company	126			listed	
1	19	family firm	766	2	19	education	732	3	19	linkage	374	4	19	spain	120				
1	20	chinese listed firm	750	2	20	mne	717	3	20	product	372	4	20	technological innovation capability	116				

Appendix 2-2 The top emerging terms in the evolution analysis of research topics.

Cluster	Rank	Topic	Average Published Year	Cluster	Rank	Topic	Average Published Year	Cluster	Rank	Topic	Average Published Year	Cluster	Rank	Topic	Average Published Year	Cluster	Rank	Topic	Average Published Year
1	1	family ownership	2018.52	2	1	central asia	2020	3	1	trade credit	2018.565	4	1	informal institution	2018.111	5	1	focal firm	2016.933
1	2	anti-corruption campaign	2018.3784	2	2	tax avoidance	2019.364	3	2	relational capital	2018.091	4	2	financial fraud	2018	5	2	ipo	2016.558
1	3	political uncertainty	2018.2609	2	3	cpc	2017.611	3	3	innovation performance	2018.051	4	3	former politician	2017.13	5	3	non-soe	2016.5
1	4	crash risk	2018.2222	2	4	productivity	2017.208	3	4	exploratory innovation	2017.923	4	4	corporate philanthropy	2017.039	5	4	reputation	2016.482
1	5	value creation	2018.1364	2	5	informal ty	2017.167	3	5	entrepreneurial orientation	2017.5	4	5	formal institution	2016.941	5	5	underwriter	2016.238
1	6	bad news	2018	2	6	bribery	2017	3	6	absorptive capacity	2017.467	4	6	japan	2016.833	5	6	identification	2015.92
1	7	citizens united	2018	2	7	court	2016.967	3	7	upper echelons	2017.455	4	7	spain	2016.8	5	7	underwriting fee	2015.5
1	8	stock price synchronicity	2017.8235	2	8	host country	2016.95	3	8	innovation	2017.394	4	8	revolving door	2016.706	5	8	government director	2014.5
1	9	business tie	2017.7692	2	9	democracy	2016.885	3	9	chinese manufacturing firm	2017.182	4	9	savings bank	2016.6				
1	10	r & d investment	2017.7143	2	10	threat	2016.615	3	10	social ty	2017.104	4	10	government support	2016.521				
1	11	commissioner	2017.6471	2	11	turkey	2016.571	3	11	institutional transition	2017.059	4	11	regulated industry	2016.333				
1	12	debt financing	2017.5667	2	12	worker	2016.536	3	12	opportunism	2017	4	12	internationalization	2016.207				
1	13	family firm	2017.5128	2	13	liability	2016.5	3	13	resource acquisition	2016.955	4	13	market firm	2016.2				
1	14	accounting conservatism	2017.5	2	14	home	2016.474	3	14	provincial government	2016.9	4	14	home country	2016				
1	15	debt	2017.4343	2	15	adoption	2016.429	3	15	capability	2016.81	4	15	appointment	2015.973				
1	16	stock price	2017.4	2	16	bangladesh	2016.3	3	16	competitive advantage	2016.8	4	16	political relation	2015.783				
1	17	litigation	2017.3043	2	17	fdi	2016.2	3	17	chinese entrepreneur	2016.8	4	17	marketization	2015.563				
1	18	polcon firm	2017.2308	2	18	parliament	2016.048	3	18	ghana	2016.8	4	18	office	2015.561				
1	19	corporate investment	2017.2308	2	19	communication	2015.938	3	19	tenure	2016.75	4	19	financing constraint	2015.5				
1	20	audit committee	2017.125	2	20	congress	2015.904	3	20	ambidexterity	2016.7	4	20	foreign ownership	2015.333				

Appendix 3-1 First stage results predicting firms' two types of political embeddedness.

Endogenous variable	(1)	(2)
	Embeddedness in the administrative branch	Embeddedness in the legislative branch
Industry peers embedded in the administrative branch	-13.15 (0.000)	0.405 (0.642)
Province peers embedded in the administrative branch	-157.9 (0.000)	0.732 (0.845)
Industry peers embedded in the legislative branch	-0.227 (0.626)	-12.55 (0.000)
Province peers embedded in the legislative branch	3.835 (0.155)	-144.8 (0.000)
Firm age	-0.00618 (0.001)	-0.00586 (0.010)
Firm size	0.0155 (0.008)	0.0315 (0.000)
Leverage	-0.000818 (0.681)	0.00141 (0.576)
Firm slack	2.95e-06 (0.700)	4.28e-07 (0.965)
ROA	0.0236 (0.064)	0.0130 (0.421)
Firm growth	0.000385 (0.000)	0.000176 (0.192)
R&D intensity	3.94e-06 (1.000)	-0.0117 (0.340)
Prior patent stock	-0.00475 (0.068)	0.00267 (0.417)
State ownership	0.00101 (0.034)	-0.00135 (0.024)
CEO age	0.00172 (0.004)	0.00289 (0.000)
CEO tenure	0.00229 (0.066)	-0.00318 (0.044)
CEO education	0.0137 (0.006)	-0.00620 (0.320)
CEO duality	-0.0187 (0.028)	-0.00606 (0.574)
Marketization	0.00190 (0.368)	-0.00134 (0.616)
Constant	15.57 (0.000)	36.19 (0.000)
Observations	14,028	14,938
R-squared	0.611	0.562
Changes in F-Statistics	27.26***	43.17***

p value in parentheses; *** *p*<0.001

Note: The F-statistic indicates change over models without instrumental variables. All are significant and above the critical value of 11.04 suggested by Stock, Wright, and Yogo (2002), showing that instruments are strong.