

Three Essays on the Role of Political Connections in Corporate Finance

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Abstract

Three Essays on the Role of Political Connections in Corporate Finance

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This dissertation investigates the influence of political connections on corporate financing activities in China. The thesis consists of three chapters. In the first essay, we explore whether and how political connections affect the likelihood of completing a cross-border M&A deal for Chinese publicly listed, but privately-owned enterprises (POEs) and the resulting firm performance. In line with the proposed political connection trade-off theory, we demonstrate that POEs with politically connected top managers are more likely to complete a cross-border M&A deal than POEs with no such connections, but that this comes at the cost of negative announcement returns and subsequent lower accounting performance. These findings support the idea that politically connected top managers engage in empire building behavior at the cost of shareholders' wealth.

In the second essay, we examine how political connections influence the likelihood of corporate bond issuance for POEs in China. Using a sample of Chinese POEs from 2007 to 2016, the research shows that politically-connected POEs are more likely to issue corporate bonds as a debt-financing instrument than their non-connected counterparts, and that they achieve lower coupon rates (i.e., lower refinancing costs). On the other hand, this research indicates that corporate bond-issuing POEs in China have weaker corporate governance and a surprisingly higher default probability. Overall, the results show that the corporate bond market in China is strongly distorted by political factors.

In the third essay, we study how implicit government guarantees affect the yield spreads of Chinese corporate bonds. We presume that quasi-municipal corporate bonds (so called "Chengtou" bonds), issued by local government financing vehicles (LGFVs), carry an implicit government guarantee. Using a sample of publicly traded corporate bonds between 2010 and 2017, we find that bond investors are significantly less sensitive to bond-specific risks for corporate bonds with

an implicit government guarantee: the yield spreads of Chengtou bonds are significantly lower than those of corporate bonds issued by POEs in China. We also find that corporate bonds from Northeast China are riskier than those issued by firms elsewhere in the country. Furthermore, we discover that policy changes introduced by the central government, which were intended to regulate local debt financing activities, significantly reduced the gap in yield spreads between Chengtou bonds and bonds issued by POEs. Overall, the empirical results suggest that implicit government guarantees play a crucial role in corporate debt market and that China's recent policy changes reduce the effectiveness of implicit government guarantees, making corporate bond market more market-oriented.

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Contribution of Authors

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1. Introduction

Many studies have demonstrated that political connections can influence the corporate financing activities of listed firms (see Roberts, 1990; Fisman, 2001; Khwaja and Mian, 2005; Adhikari, Derashid, and Zhang, 2006; Charumilind et al., 2006; Faccio, 2006; Claessens, Feijen, and Laeven, 2008; and Bunkanwanicha and Wiwattanakantang, 2009). The benefits of political connections are experienced not only by firms in developed countries, but also by those in emerging markets, due to concentrated control structures and inefficient legal systems (La Porta et al., 1998, 2000). As an emerging market, China is not with exception. The thesis studies the impact of political connections at either management level or ownership level on Chinese corporations' financing activities.

In the first essay, we investigate how political connections can affect Chinese POEs' cross-border acquisitions.

Outbound foreign direct investments (FDI) by multinational corporations play a vital role in the world economy. According to the 2016 World Investment Report (UNCTAD, 2016), a strong FDI rally occurred in 2015. Global FDI increased by 38% to \$1.8 trillion, a record high since the 2008 financial crisis. The surge in cross-border mergers and acquisitions (CBMA) is the principal contributor to the recovery of FDI. The value of cross-border deals soared to \$721 billion in 2015, almost double the amount in 2014 (\$432 billion).

After the Chinese Communist Party (CCP) launched its "go global" initiative in 2001, Chinese state-owned enterprises (SOEs) became increasingly active in the world. In fact, the outbound FDI of Chinese SOEs increased more than threefold between 2009 and 2015 to \$128 billion. This helped China become the world's third largest foreign investor after the U.S. and Japan. Moreover, China is the only developing economy among the top ten foreign investors. In contrast to other major developing economies whose outbound FDI typically take the form of reinvested earnings, China's FDI mainly consists of new equity investments (UNCTAD, 2016).

In 2006, the Chinese government also incorporated privately owned enterprises (POEs) in its go global strategy by starting to offer tax rebates and access to long-term financing at favorable terms to POEs (Cheng and Ma, 2010). Despite these efforts, however, there is (anecdotal) evidence that POEs continue to face severe limitations when conducting overseas investments today.

According to Cheng and Ma (2010), the Chinese government may have technically lifted many of the restrictions for POEs, but adequate assistance remains out of reach for several reasons. Some POEs find the approval procedure for going global to be tedious and overly time-consuming. To address this problem, Cheng and Ma suggest that a “one-stop-shop” approach to obtaining approvals would be more efficient. In addition, many POEs feel that they are at a serious disadvantage when attempting to obtain credit for international business transactions because the quotas for long-term loans are allocated exclusively to SOEs (Poncet, Steingress, and Vandebussche, 2010; Guariglia, Liu, and Song, 2011).¹ Furthermore, most of the major Chinese commercial banks are owned and controlled by the Chinese government and their primary function is to support SOEs’ economic activities (Morck, Yeung, and Zhao, 2008). These banks tend to screen out POEs from their lending activities because they are considered high risk. Consequently, many Chinese POEs must turn to other sources, from employing their own capital (Liu and Tan, 2004) to raising capital overseas (Sutherland and Ning, 2011), or even allying with private equity (*Financial Times*, 2012).

Despite the ongoing restrictions faced by Chinese POEs, they have been challenging the dominance of SOEs in the area of cross-border acquisitions in recent years. As *China Daily* (2016) reports, in September 2016, China’s privately-owned enterprises (POEs) overtook SOEs for the first time in outbound FDI. Specifically, POEs now lead in terms of both value and number of cross-border M&A transactions, accounting for 65.3% of all deals. This development seems puzzling, given that the Chinese government has traditionally favoured SOEs for which it could effectively exercise its control rights. This raises the following question: Why have the cross-border investments of SOEs slowed down and how did POEs come to replace SOEs as the leaders of Chinese cross-border deals?

Some recent examples of SOEs experiencing setbacks in the global M&A market illustrate the potential reasons for the recent dominance of Chinese POEs in cross-border acquisitions. First, Tsinghua Unigroup, an SOE, attempted to acquire West Digital Corporation (a data storage group

¹ There are three policy banks in China coordinating government-directed spending: The Agricultural Development Bank of China, the China Development Bank, and the Export-Import Bank of China. They were established in 1994 and are responsible for financing economic and trade development as well as state-controlled projects.

in the U.S.) in 2015. However, Tsinghua withdrew the \$3.8 billion offer after the deal was flagged for investigation by the Committee on Foreign Investment in the United States (CFIUS) (see *Financial Times*, 2016). Similarly, the CFIUS challenged Philips' attempt to sell its lighting business to a Chinese consortium. Similar interventions have also occurred in other countries. In Germany, for example, the Federal Ministry of Economics and Energy withdrew its clearance certificate for the takeover of Aixtron, a semiconductor producer, by Fujian Grand Chip Investment Group (a Chinese state-owned bidder), indicating Berlin's reluctance to transfer Aixtron's cutting-edge technology and revealing security-related technologies through the acquisition (see *New York Times*, 2016). President Obama even issued an executive order prohibiting the acquisition of Aixtron's U.S.-based business. Presumably in response to the previously described case, as well as similar cases that took place around the same time in Germany, the German government initiated a regulation review at the EU-level for takeovers by investors from outside the EU and proposed the following changes: a) doubling the time for reviewing takeovers, b) restricting indirect takeovers, and c) re-defining a "threat to public order" to include a diverse array of new sectors that are considered critical (see *The Telegraph*, 2017).

These events clearly suggest increasing headwinds for Chinese SEOs that wish to complete cross-border acquisitions, as foreign governments fear the indirect transfer of cutting-edge technology or the loss of ownership of businesses with national security or strategic importance to Chinese government-controlled firms. Similar trends are identified by Linklaters (2017) who notes that in 2016, up to one-third of Chinese outbound M&A deals were blocked by the host governments – the vast majority of these deals involving Chinese SOEs. For POEs, ties to the Chinese government are less direct and support is offered in the form of tax rebates as well as subsidies and favorable financing terms if the firm completes the cross-border acquisition. This is neatly summarized by a member of the Chinese People's Political Consultative Conference (CPPCC) who suggests that "*Given the fact that SOEs often experience setbacks when acquiring foreign companies in advanced economies, POEs are encouraged to acquire the high technology for the growth of China's economy. Because POEs rarely have Chinese government background, they can avoid the scrutiny from foreign governments targeting Chinese SOEs. The government*

should provide financing to POEs for their cross-border deals and even state-owned companies could provide funding in the background to POEs” (see Sina Finance, 2010).

The above analysis suggests that using politically (well-) connected POEs as government agents appears to be the best solution because politically connected top managers tend to actively respond to the government’s suggestion to proceed with cross-border acquisitions and are better equipped to overcome market discrimination against POEs with regard to, for example, securing sufficient long-term financing from state-owned commercial banks (see Li et al., 2008). However, the fact that politically connected POEs have the incentives and means to carry out cross-border acquisitions does not necessarily imply that these acquisitions constitute sound business practice nor that they will be financially successful. This somewhat contradictory state of affairs is a key theme of the current paper and is illustrated by the following examples. The Anbang Insurance Group, a Chinese POE whose CEO and chairman has working experience in a governmental department (the Administration for Industry and Commerce), was aggressively bidding for Starwood. This raised concerns that the acquisition was motivated not entirely by commercial interests, but also by political ones, including the desire to acquire technology and expertise in strategic sectors (see *Bloomberg*, 2016). Similarly, in mid-2017, Hytera Communications, a Chinese POE telecom giant, successfully acquired Norsat, a Vancouver-based Canadian satellite communications company, thereby gaining access to “sensitive Western satellite technology.” This deal was heavily criticized because of the chairman’s close ties to the Chinese Ministry of Public Security, which oversees China’s security agencies. In response to the acquisition, the U.S Defense Department initiated a review of all existing contracts with Norsat because the same satellite communications technology would presumably now also be used by the Chinese (see *The Globe and Mail*, 2017). These examples suggest that one of the primary motivations for cross-border acquisitions by Chinese POEs is strategic asset seeking (see Deng, 2009; Huang and Chi, 2014).

Further evidence of the fact that cross-border acquisitions completed by politically connected POEs may not be motivated purely by commercial interests comes from a report by the Ministry of Commerce of China, which revealed that only 13% of the cross-border deals made by Chinese companies are profitable (see *Sina Finance*, 2016). As mentioned above, a possible explanation is

that politically connected top management of POEs aims to acquire strategic assets largely for political motives, trying to complete the acquisition at all costs and thereby sometimes overpaying. This behaviour was clearly evident in the previously described case of Anbang Insurance Group which started a bidding competition for Starwood and ended up in a high-risk financial model (see *Bloomberg*, 2016). According to analysts, Landbridge Group, a Chinese privately-owned company, recently bought the Australian port of Darwin for more than twice its true value (see *ABC*, 2015). Another example of politically connected top management attempting to “flatter” the government by blindly following its recommendations is the recent trend for Chinese firms to buy foreign football clubs. They rush into these deals not because they are particularly good investments, but because President Xi Jinping has expressed hopes that China will become a soccer powerhouse (see *South China Morning Post*, 2017).

A further possible explanation for the failure of outbound investments is that after deal completion, Chinese POEs often find that competition in the host country is much tougher and that some business practices commonly accepted in China, such as relaxing health and safety standards, cannot be mirrored abroad (see *Bloomberg*, 2017). A similar argument was also invoked by Antkiewicz and Whalley (2006) in discussing why most of the cross-border M&A transactions attempted by Chinese SOEs are unsuccessful in Organization of Economic Cooperation and Development (OECD) countries.

We use the term *political connection trade-off theory* to refer to the oppositional situation whereby politically connected POEs are better positioned (than their unconnected counterparts) to manage the necessary logistics of a cross-border M&A, but the deals often come at the cost of poor financial performance. If productivity and profitability were frequently to matter less than political goals, politically connected POEs would subject themselves to moral hazard and create a “principal-principal” conflict between the state and the firm’s shareholders (see Young et al., 2008)². Specifically, the “political empire building” behavior of politically connected top managers would have a negative effect on shareholders’ wealth.

² The hypothesized principal-principal problem conflict leans on the well documented principal-agent problem. For Chinese POEs with politically connected managers, it describes the behavior of politically active managers who pursue state interests and their own political careers at the detriment of the firm’s shareholders.

To test the *political connection trade-off theory*, i.e. that politically connected top managers of POEs are more likely to complete a cross-border M&A transaction than their unconnected counterparts, but at the cost of poorer performance, we conduct several analyses. First, based on a sample of 1,782 Chinese POEs listed on either the Shanghai or Shenzhen Stock Exchanges, we analyze the POEs' likelihood of completing a cross-border M&A deal. Consistent with our argumentation, we find that politically connected POEs have a greater likelihood of successfully completing a cross-border merger or acquisition than their unconnected counterparts. Our results remain robust after invoking a variety of robustness checks.

In a second set of analyses, we examine stock price returns and the return on equity after the announcement of a cross-border M&A to test for the market reaction and the impact on firm performance. We expect both the short- and long-term post-M&A performance to be lower for politically connected POEs than for non-politically connected POEs. We show that this is indeed the case; POEs with a politically connected chairman or CEO show significantly lower announcement returns (to the tune of about 1.5 to 2 percent) and are less profitable than their non-connected counterparts within the first three years after deal completion.

Overall, our study supports the *political connection trade-off theory* and makes the following contributions to the existing literature. First, to the best of our knowledge, this study is the first to deliver a theoretical framework and empirical analysis of how political connections influence a Chinese POE's decision to engage in cross-border M&A activities and what the related *costs* of these connections are. Second, our study contributes to the literature on how governmental influence in emerging markets can affect the decisions of domestic firms to expand internationally through cross-border M&A deals (see Xiao and Sun, 2005; Rui and Yip, 2008; Peng, Wang, and Jiang, 2008; Luo, Xue, and Han, 2010; and Du and Boateng, 2015). Finally, our study contributes to the research methodology typically used in studies in this area.

In the second essay, we examine the link between political connections and POEs' public debt financing.

In 2007, the Chinese government recognized that the absence of a well-developed corporate bond market was hindering the overall health of the economy. Henceforth, the government

undertook pivotal reforms and, as a result, China's corporate bond market experienced tremendous expansion. By the end of 2015, the market had transformed from being in a "deep coma" to being the largest corporate bond market in East Asia and the second largest (after that of the U.S.) in the world.³ Despite these developments, the Chinese corporate bond market has drawn little attention from the finance literature. Thus, the factors that motivate Chinese firms to obtain financing from this market are unclear. Our research aims to elucidate this issue.

Over 90% of Chinese corporate bonds are issued by state-owned enterprises (SOEs), suggesting that political connections seem to play a large role in bond issuance (see Chicago Booth Review, 2015). Political connections have been well documented to impact firms' financing activities, particularly in emerging markets. Emerging economies do not typically have solid institutional environments. Thus, they frequently experience irregular activities, such as corruption, which are at odds with free market forces but are often part of doing business, particularly for financing.

Even though several studies have shown empirically that in several countries around the world (particularly in emerging markets), politically-connected firms are able to receive preferential financing treatment (see, e.g., Roberts, 1990; Fisman, 2001; Dinç, 2005; Khwaja and Mian, 2005; Faccio, 2006; Faccio, Masulis, and McConnell, 2006; Charumilind, Kali, and Wiwattanakantang, 2006; Fraser, Zhang, and Derashid, 2006; Leuz and Oberholzer-Gee, 2006; Claessens, Feijen, and Laeven, 2008; Bunkanwanicha and Wiwattanakantang, 2009; Borisova and Megginson, 2011; Bliss and Gul, 2012; Boubakri, Cosset, and Saffar, 2012; Boubakri et al., 2012; Chen, Shen, and Lin, 2014; Houston et al., 2014; Kim and Zhang, 2015, and Ferris, Houston, and Javakhadze, 2016), and several studies have investigated the the impact of political connections on China's corporate finance (see, e.g., Fan, Wong, and Zhang, 2007; Li et al. 2008; Chen et al., 2011; Wu et al., 2012; Liu, Tang, and Tian, 2013; Piotroski and Zhang, 2014; Li and Zhou, 2015; Cao et al., 2017; Pan and Tian, 2017; and Cao et al., 2018), no study has yet investigated how political connections could influence the public debt market (existing literature on political connections and debt only limit to private bank debt). In China, the second largest public debt market some unique

³ As of 2015, the size of the Chinese corporate bond market had surged to 12.9 trillion Chinese yuan, equivalent to approximately USD \$2 trillion (Asian Development Bank, 2015).

features that does not exist in other emerging markets and therefore provides us a fertile laboratory for academic research to examine the political influence on the bond market. The public debt market in China is only around ten years old. As an immature market, it have some traits and relationships that due to increased regulation tend to disappear in more mature markets. The interplay between political connections and debt financing activities that are examined in existing literature are based on emerging economies that are largely considered market-oriented and feature market mechanisms. Although those economies are defined as emerging markets, they are comparable to the free markets of most developed countries. Conversely, China's unique political system with its highly concentrated political power tends to intervene in the market to a much larger extent. A surprising phenomenon in China's public debt market is a so called "zero default" myth. That is, corporate bond issuers cannot default on their debt, no matter what happens. We believe that the so called "zero default" myth substantially distorted the market forces of China's bond market. Specifically, the "zero default" myth could create room for corruption via political connections to influence the bond issuance. Through political connections, many issuers who did not actually qualify the bond market can collude with the authority and placed their bonds by corruption. Specifically, many issuers do not have satisfactory finance performance and sound corporate governance to protect bondholders' rights.

The anecdotal evidence from the media news supports our expectation. In recent years, China's central government has made concerted efforts to de-leverage its economy, tighten financial regulations and reform its debt market to become more market oriented. In the process, the "zero default" myth had to be broken. In 2014, Shanghai Chaori Solar Energy Science & Technology Co., Ltd (a politically connected POE) was the first Chinese firm ever to default on its onshore corporate bonds. As always, the firm's investors had assumed that the Chinese government would bail out any Chinese corporation in danger of defaulting (Financial Times, 2016). Chaori's retail bondholders pondered lawsuits after the default alleging defective information disclosure in the bond prospectus (which caused the bonds to be rated AA by China's rating agency). According to the minimum requirements for bond issuance, a bond issuer should exhibit positive net income for at least three consecutive years before the year of bond issuance. In contrast, Chaori surprisingly

had negative net income for the two years before the issuing year. Thus, Chaori even did not qualify the minimum requirements. Retail investors cannot understand how such a firm can place their bond issuance smoothly (Sina, 2014).

After the “zero default” myth vanished, more and more bond defaults occurred. In the first half of 2016, 17 corporate bonds defaulted, up from 6 in 2015, and at least 188 firms deferred or cancelled their debt issues (Bloomberg, 2016). According to lending data from the People’s Bank of China, these emerging solvency risks triggered a sudden shrinkage in the corporate bond market, to the tune of 40 billion yuan in the first half of 2016. In 2018, China’s corporate bond market deteriorated even further. During the first half of 2018, 31 corporate bonds issued by 16 issuers defaulted (Hexun, 2018) and 454 companies cancelled or postponed their originally planned bond issues. Specifically, among the corporate bond defaults in 2018, POEs were the “major players”: Among the 16 defaulters, 11 were POEs. According to a recent article in the Financial Times (Financial Times, 2019), the negative situation continues in 2019. The article states that Chinese POEs are likely to face an even more difficult time in the corporate bond market and an even bigger wave of defaults could happen in 2019.

Based on the media news, we investigate whether the bond issuers are indeed good and qualified issuers. We strongly suspect a collusion exists between the political connected POEs and corrupted officials and that brought many bad issuers. Thus, this study aims to reveal whether political connections can assist POEs get access to corporate bond market and are helpful in alleviating their financing costs. In addition, given the large number of bond default from POEs, we investigate that whether bond issuers have sound finance performance and corporate governance to protect debtholders’ rights. Using a sample of 1,546 Chinese-listed POEs over the 2007 to 2016 period, we find evidence that the likelihood of issuing corporate bonds is significantly higher for POEs with political connections. This result is robust, and holds after we control for the possibly endogenous relationship between political connections and corporate bond issuance. Moreover, we show that politically-connected POEs are more likely than non-connected POEs to choose public debt over private bank debt. In addition, we examine the link between political connections and the financing costs of corporate bond-issuing POEs and demonstrate that Chinese

POEs with political connections are able to place their corporate bonds with lower coupon rates. Finally, we examine the market reactions to POEs' corporate bond issuing announcements. Our results indicate that, overall, the stock returns of bond issuing POEs around the announcements are not statistically significantly different from zero. However, investors tend to react favorably to announcements by politically-connected POEs. Thus, the cumulative abnormal returns over the event window of (0, 1) are 1.2% higher for politically-connected corporate bond issuers than for non-connected. As our results illustrate, POEs generally experience great difficulty obtaining external financing, an issue that is well-documented by the Chinese media. Therefore, investors often view political connections as an implicit guarantee of additional debt financing and of reduced refinancing costs.

Furthermore, we find some surprising and counterintuitive results, namely that POEs issuing corporate bonds have poorer corporate governance and higher default probabilities (measured by the *Altman Z-score*), specifically the politically connected POEs. This empirical evidence echoes the anecdotal evidence from a large number of corporate bond defaults. We interpret this to mean that political connections somehow distort China's nascent corporate bond market by facilitating the entry of unqualified issuers into the market.

In the third essay, we delve into the relationship between government connections at ownership level and corporate bond yield spreads.

Government guarantees have not been directly identified in the debt covenants of corporate bonds: that is, there is no legal obligation for governments to guarantee corporate bonds in most countries around the world. However, there may be situations in which corporate bonds carry implicit government guarantees, meaning that the market expects the government to assume responsibility if the bond faces default. Implicit government guarantees may exist because of the close relationship between the bond issuer and the government, the importance of the bond issuer, or the main use of the raised funds. Research on implicit government guarantees has aimed to improve the understanding of a variety of topics in debt financing, including the too-big-to-fail (TBTF) phenomenon in banks (Balasubramnian and Cyree 2011; Acharya, Anginer, and Warburton, 2016; Gao, Liao, and Wang, 2018), the role of state shareholdings in bond pricing for state-owned

enterprises (Borisova et al., 2015), and sub-national government bond pricing in the presence of implicit support from the central government (Sola and Palomba, 2016; Beck et al., 2017; Feld et al., 2017).

Investors' expectations of government guarantees can often be observed by a bond's yield spread, which generally provides an indication of the risk carried by a bond. China's quasi-municipal corporate bond market offers a fertile laboratory for academic research regarding the effects of an implicit government guarantee on a bond's yield spread. Quasi-municipal bonds, which are called "Chengtou" bonds in China, are officially issued by Local Government Financing Vehicles (LGFVs). An LGFV is a state-owned enterprise (SOE) in which the corresponding local government is the dominant or the only shareholder. In China, the 1994 Budget Law forbids local governments from borrowing directly from the capital markets on their own (Chen, He, and Liu, 2017). Hence, the purpose of establishing LGFVs is to provide a financing platform for local governments to raise funds for local infrastructure and urban development projects. On one hand, Chengtou bonds are part of the corporate bond family, since the bond issuers are state-owned corporations (LGFVs). On the other hand, because local governments are the main or sole shareholders of LGFVs, Chengtou bonds are also considered municipal bonds.

It is controversial whether quasi-municipal bonds are supported by implicit government guarantees. On May 24, 2017, Moody's Investors Service downgraded China's sovereign debt rating, for the first time in nearly 30 years, from A3 to A1 (Moody's, 2017). The rationale for the downgrade was the expectation of an increase in the number of bonds issued by LGFVs, and the associated fear that the debt owed by state-owned enterprises (SOEs) might lead to a rise in contingent liabilities for the central government. China's Finance Ministry responded to Moody's downgrade by noting that it was based on "inappropriate methodology" and that it demonstrated the agency's lack of knowledge regarding Chinese laws and regulations. The ministry further claimed that "according to China's laws on guarantees and budgets, local government contingent liabilities include no more than the guaranteed debt they issue using loans from foreign governments or international organizations" (People.cn, 2017). Thus, according to Chinese corporate laws, the debt owed by local or central SOEs is only incurred by the enterprises

themselves, not by the government. In line with this rationale, as local SOEs, LGFVs are supposed to assume full responsibility for their debt, instead of receiving guarantees from local governments. On the other hand, given that Chengtou bonds share features with municipal bonds, investors of Chengtou bonds have certain “bail out” expectations. Indeed, academic studies frequently argue that Chengtou bonds, although they are issued by LGFVs, nevertheless carry an implicit government guarantee (Chen and Wang, 2015; Ang, Bai, and Zhou, 2016).

Both Chen and Wang (2015) and Ang, Bai, and Zhou (2016) empirically show that Chengtou bonds carry an implicit government guarantee. However, their results are based on data up to the year 2014. Since then, several important regulations have been enacted. Specifically, the State Council of China issued three pivotal documents (Document 43 in 2014, Document 88 in 2016, and Document 50 in 2017) that (a) attempted to curtail the rapid growth of local governments’ borrowing activities through LGFVs and (b) sought to limit the role of local governments in insuring the debts (mainly Chengtou bonds) issued by LGFVs. In a nutshell, these documents reflect the Chinese government’s desire to turn Chengtou bonds into market-oriented corporate bonds with no implicit government guarantee. These policy changes, which were largely invoked to address the budget constraints of local governments, are echoed by anecdotal evidence. In light of the government reforms, Fitch Ratings in 2017 noted that China is highly likely to witness its first quasi-municipal bond defaults in 2018, although the specific time is not certain. Fitch stated that China’s central government is ready to instill greater market discipline on LGFVs’ public debt by allowing lower quality LGFV-issued bonds to fail (CNBC, 2017). Meanwhile, Standard & Poor’s (S&P) made similar predictions as Fitch Ratings, indicating that China was likely to see the first Chengtou bond default in 2018. S&P reasoned that local governments’ burgeoning debt levels have become a major concern for China’s central government and that the central government was striving to remove expectations of implicit guarantees for LGFVs. In particular, S&P noted that allowing defaults could be a way to attenuate LGFVs’ debt risk and thereby involve a repricing of the Chengtou debt market (Reuters, 2018a). These predictions became reality in August 2018. At the time, a LGFV, Xinjiang Production and Construction Corps (XPCC) Sixth Division State-Owned Asset Management Co Ltd, was unable to make the principal and interest repayments

(521.8 million Chinese Yuan, equivalent to \$75.53 million) on their Chengtou bonds in a timely fashion, invalidating the myth of the “zero default” quasi-municipal bond (Reuters, 2018b). Reuters (2018b) further cites a financial practitioner’s words that “*It adds a lot of spread to LGFV bonds. It’s very bad for refinancing. Traders are losing trust in LGFV bonds.*”

Our research aims to provide the following contributions to understanding China’s quasi-municipal debt market. First, ours is the first study to investigate the implicit government guarantees carried by Chengtou bonds by comparing the yield spreads between Chengtou bonds and corporate bonds issued by more market-oriented issuers (privately-owned enterprises). Moreover, to study the market’s perception of implicit government guarantees for the same bonds over time and around the government’s recent policy changes, we specifically focus on the bonds’ trading yield spreads in the secondary market, rather than issuing yield spreads or coupon rates. Finally, on a related note, our study is the first to explore the validity of a common saying among Chinese investors that one should “never invest beyond Shanhaiguan” (i.e., never invest in Northeast China) and to examine the effectiveness of implicit government guarantees carried by LGFV bonds issued by different administrative levels of local government.

Through a panel regression analysis, we show that the yield spreads of quasi-municipal corporate bonds (Chengtou bonds) are significantly lower than the yield spreads of corporate bonds issued by privately-owned Chinese enterprises (POEs), even after the recent reforms. This suggests that implicit government guarantees are still a potent tool for mitigating corporate debt risk in China. In addition, we demonstrate that implicit government guarantees are more effective for issuers who are more likely to experience financial distress. Furthermore, we demonstrate that the risk of Chinese bonds is influenced by regional financial conditions. Specifically, bond yield spreads are significantly higher in provinces that are well recognized for their poor business environment (such as the Northeast of China). Moreover, our results demonstrate that the expected government support is most valuable for bonds issued in the lowest administrative level cities because such issuers have the highest expectation of financial distress. Conversely, for issuers in Chinese municipalities (the highest administrative level) with the lowest likelihood of bond defaults, the value of expected government bail-outs turns out to be the lowest. Finally, we employ difference-

in-differences (DID) regressions to study the individual impact of the three policy changes on bond yield spreads. Our results reveal that Document 43 was not effective in reducing the gap in yield spreads between quasi-municipal corporate bonds and POE bonds. However, the gap in yield spreads between the two types of bonds significantly decreased after the issuance of Documents 88 and 50, implying that these policy changes were successful in attenuating (although not fully eliminating) Chengtou bond investors' expectations of implicit government guarantees.

2. Cross-border Acquisitions by Chinese Enterprises: The Benefits and Disadvantages of Political Connections

2.1. Hypotheses Development

2.1.1. Political Connections and Cross-border M&A Deals

Political connections can be valuable to firms' financing activities in both developed and developing countries, as many empirical studies have shown.⁴ However, the benefits are generally more pronounced in emerging markets because of their relatively inferior institutional environments, more concentrated ownership structures, and less efficient legal systems (La Porta et al., 1998, 2000). In the case of China, we argue that the political connections of top management team members are more beneficial for POEs than SOEs simply because Chinese POEs face a different institutional environment. SOEs in China are the pillars of the national economy, while POEs must seek ways to overcome the discrimination they face in the capital market. One method is to build political ties with the government by hiring top managers with specific political backgrounds (Chen et al., 2011). Positive influences of political connections on various economic activities of Chinese POEs are documented in many empirical studies. Li et al. (2008) find that POE founders are more likely to obtain financing from state-controlled institutions if they have political party membership. Politically connected Chinese firms are also more likely to obtain loans with longer terms and lower interest rates when borrowing from state-owned banks (see Luo and

⁴ See, for example, Roberts (1990), Fisman (2001), Khwaja and Mian (2005), Adhikari, Derashid, and Zhang (2006), Charumilind, Kali, and Wiwattanakantang (2006), Faccio (2006), Claessens, Feijen, and Laeven (2008), Bunkanwanicha and Wiwattanakantang (2009), and Schweizer, Walker, and Zhang (2016).

Zhen, 2008; Yu and Pan, 2008; and Yuan, Jing, and Liao, 2010). Luo and Liu (2009) note that it is easier for politically connected POEs in China to enter industries with high entry barriers, such as banking and telecommunications. Similarly, Li and Zhou (2015) find that politically connected POEs are more likely to get IPO requests approved and that such POEs are less likely to be subjected to on-site auditing from regulatory authorities.

Based on the arguments above, we expect that POEs whose top managers have political ties to the Chinese government are both more willing and more able to complete cross-border M&A transactions. Thus, we postulate *Hypothesis 1* as follows:

Hypothesis 1: *Politically connected POEs are more likely to complete cross-border M&A deals than unconnected POEs.*

2.1.2. Corporate Governance and Cross-border M&A Deals

In the previous subsection, our argument for the value of political connections is based on the institutional environment of a POE's home country. Nevertheless, when POEs enter the global market, they are also affected by the institutional environment of the host countries (see Kostova, 1999; Lu et al., 2014; and Regner and Edman, 2014). Meyer and Rowan (1977) argue that when companies enter a foreign market, they are likely to adapt to the prevalent organizational practices and structures in the host country with the goal of enhancing their overall sense of legitimacy.

This issue is more prominent when companies from emerging economies, with relatively poorer institutional environments, enter more advanced economies that typically feature higher-level institutional environments (as is mostly the case in the present study). Therefore, we expect that some Chinese POEs will endeavor to ameliorate their corporate governance to ensure that they meet local governance standards before attempting to conduct cross-border deals. This would give them a greater chance of being successful. Therefore, in *Hypothesis 2*, we posit the following relationship between corporate governance and POEs' cross-border deals:

Hypothesis 2: *POEs with better corporate governance are more likely to complete a cross-border M&A deal.*

2.1.3. The Performance of Acquiring POEs

It is commonly known that the Chinese government intervenes with SOEs' business activities by appointing managers that have strong political ties. These politically connected managers can assist the government in achieving political and social objectives, which may be prioritized over commercial goals (see Wu, Wu and Rui, 2012). By following the government's recommendations, the managers can increase their political capital, which is vital to their political career. However, decision making based on a manager's political agenda may come at the expense of shareholders' wealth, creating a principal-principal conflict between the intervening government and non-state shareholders (see Young et al., 2008). This conjecture is supported by empirical analysis. For example, Wu, Wu, and Rui (2012) show that SOEs with politically connected top managers have lower accounting performance (measured by ROA) and fewer growth options (measured by Tobin's q). Similarly, Fan et al. (2007) examine the performance of Chinese IPO firms using a sample of 790 partially privatized SOEs. Their empirical analysis shows that IPO firms whose CEO is politically connected to the Chinese government have lower initial returns and lower accounting performance in the three years after going public. They argue that the political rent seeking behavior of politically connected CEOs expropriates the wealth of minority shareholders, which in turn harms firm performance. Evidence of the principal-principal conflict is also found by Sun, Vinig, and Hosman (2017) who show that SOEs have significantly lower stock performance around outbound M&A announcements than POEs, for which political connections are arguably less present. They reason that although SOEs enjoy patronage in obtaining bank loans with a lower cost of borrowing to finance their cross-border deals, this advantage is often misused in the sense that SOEs are more likely to invest in risky cross-border deals or to overpay for the target.

Although the above evidence pertains to SOEs, we conjecture that if politically connected POEs are politically motivated to conduct cross-border M&A transactions (e.g. for political empire building), then instead of maximizing shareholder wealth, a similar principal-principal conflict may occur, resulting in adverse firm performance. In contrast, non-connected POEs, being unaffected by this conflict, are more likely to pursue a cross-border M&A for commercial reasons, which is in line with shareholder interests. Based on these arguments, we formulate *Hypothesis 3* as follows:

Hypothesis 3: *Acquiring POEs with political connections have lower stock returns around the time of a cross-border M&A announcement and lower post-merger financial performance than non-politically connected POEs.*

2.2. Data

2.2.1. Financial and Corporate Governance Data

We identify listed Chinese POEs by using the China Listed Private Enterprise Research Database, provided by China Stock Market and Accounting Research (CSMAR), which includes all Chinese POEs listed on the Shanghai or Shenzhen Stock Exchanges. In contrast to Chinese SOEs, POEs are defined as enterprises directly controlled by individuals, families, other non-state entities, or foreign enterprises. Financial data for the Chinese POEs in our sample comes from CSMAR's China Stock Market Financial Statement Database and the corporate governance data comes from CSMAR's China Listed Firms' Corporate Governance Research Database. We found that some POEs are missing information on corporate governance-related data. We therefore manually collect the missing data from the Stockstar website (www.stockstar.com), which provides detailed information about the top management of firms traded on both exchanges. Our sample begins in 2007 after the Chinese government issued a call for stronger financing support for POEs wishing to go global and ends in 2016. We winsorize all the financial data at the 1% and 99% levels to minimize the influence of potential outliers. Our final sample consists of 1,782 POEs and 9,946 firm-year observations.

2.2.2. Identification of Cross-border M&A Transactions by Chinese POEs

We define a POE as acquisitive if a cross-border M&A deal was completed during the observation period. We obtain the cross-border deals of Chinese POEs from CSMAR's China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database. We exclude any cases where the cross-border M&A occurred in tax havens or offshore financial centers because

firms acquired in this way are not “real” or “producing” foreign companies, but rather Chinese “shell companies.”⁵

We find that 290 Chinese POEs completed 385 cross-border M&A deals between 2007 to 2016. We exclude two POEs that engaged in cross-border M&A activities before that time period, because these acquisitions might follow a different rationale. We consider the remaining 288 firms completing 385 cross-border M&A transactions as acquiring POEs (see Table 1). CSMAR’s China Listed Firms’ Merger & Acquisition, Asset Restructuring Research Database also provides the country of origin of each overseas target that is acquired. In total, the cross-border deals completed by Chinese POEs span forty countries (see Table 2 for an overview).

2.2.3. Identification of Political Connections

We proxy for political connections by following the recent literature by Faccio (2006), Fan, Wong, and Zhang (2007), Li and Zhou (2015), and Schweizer, Walker, and Zhang (2016). The present study only considers the political background of the Chinese POE’s board chairman and CEO. We hand-collect the information for each company in our sample from Stockstar, which provides detailed past and current work experience for the top management of each listed company.

We define a POE’s chairman or CEO as politically connected if he or she is or was a representative in the People’s Congress (PC), the Chinese People’s Political Consultative Conference (CPPCC), an officer in local or central government, or an officer in the military. We code the political connection dummy variable (*Connection*) as 1 for each year since the chairman or CEO is politically connected, and 0 otherwise (see Li and Zhou, 2015; Schweizer, Walker, and Zhang, 2016). In addition, we measure the *strength* of the political connections of each firm’s chairman or CEO by creating a political connection index (*PC Index*). The value of this index ranges from 1 to 3 depending on the strength of the political ties (where 3 represents the strongest political connection).⁶

⁵ Our sample excludes the following tax havens and offshore financial centers: American Samoa, the Bahamas, Bermuda, the British Virgin Islands, the Cayman Islands, Mauritius, Panama, and Samoa.

⁶ According to a research report by Harvard University’s Kennedy School, the PC, in conjunction with the CPPCC, act as the legislative arm of the government and thus as the highest political entity in China (see Saich, 2015). The PC’s functions include: overseeing the work of government departments and electing major officials; amending the constitution; supervising the enforcement of constitutional and legal enactments; and examining and approving the

2.2.4. Measuring Corporate Governance

To examine the impact of corporate governance on Chinese POEs becoming acquisitive overseas, we construct a comprehensive index that measures the overall corporate governance level of Chinese POEs. Our index aims to reflect a company's overall governance quality more accurately than single governance factors. It also eliminates multicollinearity that may arise in multivariate regressions when using single governance factors (Brown, Beekes, and Verhoeven, 2011). The advantages of a corporate governance index have been elaborated upon quite extensively in the extant literature (see Gompers, Ishii, and Metrick, 2003; Brown and Caylor, 2006; Dutordoir, Strong, and Ziegen, 2014; and Shan, 2015).

We follow Shan (2015) and construct an equally weighted corporate governance index for Chinese listed firms according to China's two-tier board system, but modify where necessary to account for the fact that our sample includes only POEs and no SOEs. Thus, we exclude the factor differentiating SOEs and POEs. We also exclude a factor for cross-listings.⁷ We obtain the corporate governance data from CSMAR's China Listed Firms' Corporate Governance Research Database and construct the final index (*Gov Index*) using nine equally weighted corporate governance factors. Detailed information on the construction of the index is provided in Panel B of Table 1.

2.2.5. Measuring Financial Performance

To examine how cross-border M&A deals affect a POE's *performance*, we calculate short-term stock returns in response to the announcement of a cross-border M&A deal. We collect all stock returns for acquiring POEs and the value-weighted Shanghai and Shenzhen Composite Index from

state budget and the economic plan. Members serving on the standing committee of the PC and CPPCC command particular power, as they work actively on law-making. In addition, Saich (2015) notes that the PC and CPPCC play more than a ceremonial role in China. Therefore, we assign the highest *PC Index* value of 3 to POEs in which the top managers are (or were) members of the standing committee of the PC and CPPCC, as well as to POEs whose top manager is the head of the central or provincial government. If the top managers of a POE are ordinary members of the PC or CPPCC, we assign a value of 2 to the *PC Index*. Finally, if the chairman or CEO is only an officer of a specific governmental department, or was an officer in the army, his or her political connections are considered more limited; hence, we assign a value of 1 to the *PC Index*.

⁷ In our sample, four POEs are cross-listed on the Hong Kong Stock Exchange. Because Hong Kong is a self-governing special administrative region of the People's Republic of China, those four POEs cannot be considered real cross-listed firms. We also checked whether these POEs completed cross-border deals within our sample period and they did not.

CSMAR’s China Stock Market Trading Database. To examine the accounting based performance of acquiring POEs, we measure each firm’s return on equity (*ROE*) three years after deal completion.

2.2.6. Control Variables

We include an array of control variables that could potentially affect the likelihood of a Chinese POE carrying out a cross-border deal: profitability (*ROA*), leverage (*Leverage*), firm size (*Firm Size*), growth opportunities (*Tobin’s q*), and a tangible asset ratio (*Tangibility*). We also use those variables to conduct a propensity score matching (PSM) technique. Detailed information for the control variables is provided in Panel A of Table 14poss.

To study the market reaction to the cross-border announcement, we include the following deal characteristics: the cultural difference between China and the country in which the target firm is located (*Hofstede and Culture Distance*), a frequent acquirer dummy (*Multi Acquirer*), deal value (*Deal Size*), a public listed target dummy (*Public Target*), method of payment dummies (*All Cash Deal* and *All Stock Deal*), and a legal origin dummy (*Common Law*). We obtain deal specific characteristics from CSMAR’s Merger & Acquisition, Asset Restructuring Research Database.

2.3. Methodology

2.3.1. Political Connections and Cross-border M&A

To examine how political connections can affect the likelihood of becoming an acquisitive POE, we carry out the following panel logit regressions which take account of the fact that some acquisitive POEs complete more than one cross-border M&A deal:

$$CBMA(1/0)_{i,t} = \alpha + \beta_1 \cdot Political\ Connections_{i,t} + \beta_2 \cdot Gov\ Index_{i,t} + \mathbf{v}_n \cdot \mathbf{N}_{i,n,t} + \varphi_k + \pi_t + \varepsilon_{i,t}, \quad (1)$$

where *CBMA* is a binary variable that equals 1 if Chinese POE *i* completes a cross-border deal in year *t*, and 0 otherwise; *Political Connections* are measured by either the independent variable *Connection* or *PC Index*; *Gov Index* captures the potential influence of overall corporate governance quality on the likelihood of completing a cross-border deal; \mathbf{N}_n is a vector of firm-

specific characteristics (*ROA*, *Leverage*, *Firm Size*, *Tobin's q*, *Tangibility*); φ_k are industry fixed effects⁸; and π_t are year fixed effects. If political connections increase a Chinese POE's likelihood of acquiring overseas targets, we expect the coefficients on *Connection* or the *PC Index* (β_1) to be positive. Similarly, if Chinese POEs with better corporate governance have a greater chance of entering the global market, we expect the coefficient on the *Gov Index* (β_2) to be positive.

We next describe the robustness checks pertinent to this part of the study (i.e. the effect of political connections). Firstly, we describe the steps taken to address any concerns about a self-selection bias, i.e. that politically connected top managers may not be randomly distributed across POEs. For example, larger and more profitable POEs may be more capable of building political connections by hiring a chairman or CEO with a political background. To overcome such a bias, we use the propensity score matching (PSM) technique to study the pure effect of political connections on cross-border M&A activity. The treatment variable is cross-border M&A (*CBMA*). We use the nearest neighbor matching method to match acquiring firms in the year before completing a cross-border M&A with non-acquiring POEs on the vector of control variables (*ROA*, *Leverage*, *Firm Size*, *Tobin's q*, *Tangibility*). This results in two subsamples: 1) 770 (= 385 acquiring plus 385 control) firm-years when considering all cross-border M&A deals and 2) 576 (= 288 acquiring plus 288 control) firm-years when only considering deals which were the first cross-border M&A transactions carried out by the POE in question. For each subsample, we re-run equation (1), but instead of a panel regression we use a cross sectional logistic regression.

A further robustness check is carried out to examine whether political connections identified via a firm's ownership structure (i.e. the presence of politically connected blockholders⁹) influence a POE's decision to engage in cross-border M&A activities. To measure the blockholder effect we create two additional variables: the ownership percentage of the largest politically connected blockholder (*LBH Connection*) and a dummy variable that is set equal to 1 if more than one blockholder is politically connected and 0 otherwise (*Multi BH Connections*). We consider a blockholder to be politically connected if he or she has political ties to the government (as in the

⁸ We use fifteen industry dummy variables based on CSMAR's industry classifications.

⁹ A blockholder holds at least 10% of the voting rights (see, Thomsen, Pedersen, and Kvist, 2006).

definition of political connections for top managers) or if the blockholder is the state. We obtain information about blockholders’ backgrounds from the Stockstar website. To isolate the effect of ownership-level political connections from management-level political connections, we only include politically-connected blockholders who are not top managers at the same time.

A third robustness check determines whether the results are primarily driven by “active” acquisitive POEs, i.e. POEs that complete more than one acquisition during our sample period. To this end, we employ both panel Poisson regressions and post-matching cross-sectional Poisson regressions (and using the same PSM technique as in the logit model). The baseline model follows the logic of equation (1), but the dependent variable is now a count variable that measures the number of overseas targets acquired by a POE over our sample period:

$$\begin{aligned} Count(CBMA)_{i,t} = & \alpha + \beta_1 \cdot Political\ Connections_{i,t} + \beta_2 \cdot Gov\ Index_{i,t} + \mathbf{v}_n \cdot \mathbf{N}_{i,n,t} + \\ & + \varphi_k + \pi_t + \varepsilon_{i,t}, \end{aligned} \quad (2)$$

2.3.2. Endogeneity Concerns

We note that the potentially endogenous nature of political connections may impede the robustness of the proposed causal relationship between political connections and the likelihood of acquiring overseas targets for Chinese POEs. We conduct a quasi-natural experiment to cope with this problem. Specifically, we examine whether chairman/CEO turnovers that result in an increase in the *PC Index* (i.e. that cause firms to be more politically connected) increase the likelihood of POEs engaging in cross-border M&A transactions. Our first step is to apply a similar PSM routine to that used in our previous analysis. We include the *PC Index* as an additional matching variable and match in the year before the POE completed its first cross-border M&A deal (288 firm-year observations) with POEs that did not acquire any overseas companies during the observation period. This ensures that acquiring and non-acquiring POEs have “identical” company characteristics just before their first cross-border M&A. If political connections facilitate cross-border deal completions, we expect that companies replacing their top management with more politically connected successors will be more likely to engage in cross-border M&A activities.

To measure this effect, we create a dummy variable (*Political Turnover*) that equals 1 if the CEO or chairman is replaced in the five years before the firm completed the first cross-border M&A deal

with a CEO/chairman with a higher *PC Index* (stronger political ties), and 0 if there is no turnover or a turnover that does not result in a higher *PC Index*.¹⁰ Our model reads as follows:

$$CBMA(1/0)_{i,t} = \alpha + \beta_1 \cdot Political\ Turnover_{i,t} + \beta_2 \cdot Connection_{i,t-1} + \beta_3 \cdot Gov\ Index_{t-1} + \mathbf{v}_n \cdot N_{i,n,t-1} + \varphi_k + \pi_t + \varepsilon_{i,t}, \quad (3)$$

The variable of interest in equation (3) is the coefficient on *Political Turnover* (β_1). If political connections indeed increase the likelihood of a Chinese POE going global, we expect β_1 to be positive. We also perform a robustness check in which we replace *Political Turnover* with a variable that indicates the change in the political connections of the blockholders within the five years before the firm's first cross-border M&A (*PBH Turnover*).

2.3.3. The Financial Performance of Chinese POEs after Cross-border M&A

Announcements

We begin our analysis of how the market reacts to cross-border M&A announcements by Chinese POEs by using a standard event study approach. Following Du and Boateng (2015), we use an event window of (-1, 1) and an estimation period of (-240, -21) relative to the first announcement date of an acquisition ($t = 0$). The cumulative average abnormal returns (CAARs) are calculated using a one-factor market model (employing the value-weighted Shanghai and Shenzhen Composite Index as a market index). For robustness, we also consider the event windows (0, 1), (-2, 2), and (-3, 3).

To examine the link between political connections and the market reaction to cross-border deal announcements, we estimate the following multivariate regression:

$$CAR_i = \alpha_i + \beta_1 \cdot Political\ Connection_i + \beta_2 \cdot Gov\ Index_i + \beta_j \cdot \sum_j Distance_{j,i} + \beta_k \cdot \sum_k Deal\ Characteristics_{k,i} + \mathbf{v}_n \cdot N_{i,n} + \varphi_k + \pi_t + \varepsilon_i, \quad (4)$$

where CAR_i is the cumulative abnormal return of the acquiring POE i during the period starting one day before and ending one day after the cross-border deal announcement. The independent variables are the same as in equation (1) with the addition of j *Distance* measures, which represents

¹⁰ First, we retrieve the chairman/CEO turnover information from CSMAR's China Listed Firms Corporate Governance Research Database. Next, we manually check the background information in the top managers' profiles provided by Stockstar to identify whether the turnover is considered political (i.e. whether the *PC Index* value increases).

differences in the two cultural dimension measures (*Hofstede* and *Culture Distance*), and *k Deal Characteristics*, which include the target size (*Deal Size*), the method of payment (*All Cash Deal* and *All Stock Deal*), the listing status of the target company (*Public Target*), and the legal system of the target's home country (*Common Law*). According to our hypothesis, if the politically connected top managers of POEs tend to build their political capital at the expense of shareholder interests, we expect the coefficients on the political connection variables *Connection* and *PC Index* (β_1) to be negative.

To complete the picture, we also examine the accounting performance of POEs, measured by *ROE*, after completing a cross-border M&A transaction. However, the decisions to hire politically connected top executives and to become active in acquiring foreign companies are likely to be made simultaneously in an equilibrium setting. This raises a potential endogeneity concern, which ideally would be overcome by finding a suitable instrument. Unfortunately, we were not successful in finding or constructing a convincing instrument. Consequently, the coefficients can be interpreted as indicating correlation only.

We compare the financial performance of (politically connected) acquiring companies during the three-year period after completion of the cross-border M&A deal with the performance of non-acquiring POEs. The model is specified as follows:

$$ROE_{i,t} = \alpha + \beta_1 \cdot Connection_{i,t} + \beta_2 \cdot Post\ CBMA_{i,t} + \beta_3 \cdot Post\ CBMA \times Connection_{i,t} + \beta_4 \cdot Gov\ Index_{i,t} + \beta_5 \cdot Multi\ Acquirer_{i,t} + \mathbf{v}_{i,t} \cdot \mathbf{N}_{i,n,t} + \varphi_i + \pi_k + \varepsilon_{i,t}, \quad (5)$$

where the dependent variable is the *ROE* of firm *i* and *Post CBMA* is a dummy variable that equals 1 if POE *i* completed a cross-border M&A between years *t* and *t + 3*, and 0 otherwise. *Multi Acquirer* is a dummy variable that equals 1 if firm *i* acquires more than one overseas target starting in year *t* when the second acquisition is completed until the end of the observation period, and 0 otherwise. All other variables are as defined in equation (1). Our main coefficient of interest is that for the interaction term, β_3 . If politically connected POEs tend to incur moral hazard problems by engaging in political empire building, we expect β_3 to be negative and statistically significant. In other words, we expect the effect of political connections on firm performance to decrease for POEs that have completed a cross-border M&A transaction.

2.4. Empirical Results

2.4.1. Descriptive Statistics

Panel A of Table 1 shows the annual number of Chinese POEs entering the global market via a cross-border M&A transaction for the first time between 2007 and 2016. In total, there are 288 Chinese POEs that complete foreign acquisitions during our sample period. The annual percentage of newly acquiring POEs during our sample period increased substantially in 2011 and peaked at 21.53% in 2015, with sixty-two POEs entering the international market. However, 2016 saw a significant drop in that number, presumably because of the economic slowdown in China during that year. Panel B of Table 1 displays the number of cross-border deals completed by Chinese POEs and shows that the vast majority (about three-quarters) of POEs completed only one deal, about 18 percent two deals and only about five percent engaged in more than two acquisitions.

[Insert Table 1 about here]

Table 2 specifies the countries of origin of the target companies acquired by Chinese POEs. The targets are geographically spread around the world. However, the majority are from major world economies such as Australia, Canada, Japan, Germany, the U.K., and the U.S. Interestingly, most POEs in China seem to extend their business to countries that are not politically “close” to the Chinese government. This is in contrast to the situation for SOEs which, according to the findings of Ramasamy, Yeung, and Laforet (2012), are more attracted to countries that have closer bilateral political relationships with China and/or are natural resources-based. This underlines our earlier argument that POEs tend to be market seekers. Their motivations for going global are based on technology and strategy, as demonstrated by our sample.

[Insert Table 2 about here]

Table 3 provides descriptive statistics for the company characteristics of non-acquisitive and acquisitive POEs (see Table 1 for variable definitions). Our sample consists of 1,494 non-acquisitive POEs (7,975 firm-year observations) and 288 acquisitive POEs (385 firm-year observations). We note that, in China, only a small percentage of POEs have entered the international markets.

For acquisitive POEs, we can clearly see that a majority of the firms are politically connected to the government, regardless of which index is used (i.e. *Connection* or the *PC Index*). The mean of *Connection* (0.405) implies that about 40% of acquisitive POEs have political ties. The differences in *Connection* and the *PC Index* between non-acquisitive and acquisitive POEs are statistically significant at the 1% level, providing univariate support for *Hypothesis 1*, i.e. that politically connected POEs are more likely to complete cross-border M&A deals than unconnected POEs. However, we find no univariate evidence that the corporate governance (*Gov Index*) of acquisitive POEs is higher than that of non-acquisitive POEs (*Hypothesis 2*). We will explore this factor further in our multivariate analyses.

For the control variables, we find that acquisitive POEs are on average more profitable (*ROA*), larger (*Size*), and have lower growth opportunities (*Tobin's q*) than non-acquisitive POEs. In addition, we find that non-acquisitive firms have stronger ownership-based political connections, measured by the variables *LBH Connection* and *Multi BH Connections*. A lower level of state ownership may help acquisitive POEs in the sense that they could be perceived as less government connected. The correlation matrices in Table 4 show that the pairwise correlations are not greater than 0.5. To further unveil any potential multicollinearity issues, we also calculate the Variance Inflation Factors (VIF) in our multivariate regressions. In line with our bivariate correlation analysis, multicollinearity does not appear to pose any problems in a multivariate context.

[Insert Tables 3 and 4 about here]

2.4.2. Political Connections and M&A Engagement by POEs

To investigate the link between political connections and the probability of becoming acquisitive in international markets, we show the results of a fixed-effects panel logit regression in Table 5. Our baseline results in column 1 indicate that politically connected POEs are more likely to acquire overseas companies. The coefficient of *Connection* is 1.474 and statistically significant at the 1% level. Column 2 shows the results when measuring political connections via the *PC Index*, which likewise supports *Hypothesis 1*, i.e. that the likelihood of completing a cross-border M&A transaction increases with the strength of political connections. However, we do not find any

statistical support for *Hypothesis 2*, namely that a firm with sounder corporate governance is more likely to complete a cross-border M&A deal.

[Insert Table 5 about here]

Next, to have a one-to-one comparison, we perform cross-sectional logistic regressions based on a balanced matched sample of acquisitive and non-acquisitive POEs using the PSM method. The results in Table 6 (Panels A and B) indicate that after matching, the firm characteristics of non-acquisitive POEs are not statistically different from those of acquisitive POEs. Thus, the sample is well-balanced.

Using this balanced sample, the baseline results in column 1 (Table 7) indicate that politically connected POEs are more likely to acquire overseas companies. The coefficient of *Connection* is 0.472, which is statistically significant at the 5% level. The related marginal effect reveals that the predicted probability of becoming an acquisitive POE increases from 45.8% by 11.5 percentage points (equivalent to a relative increase of 25.1%) when hiring a politically connected top manager. Similar results are obtained when measuring political connections via the *PC Index* (column 2). The coefficient of the *PC Index* is 0.185, also statistically significant at the 5% level. Specifically, the predicted probability of becoming a cross-border bidder is 46.3% when the *PC Index* is 0. This probability increases by 4.6 percentage points (or 9.9%) when the *PC Index* increases from 0 to 1, by 8.8% when the *PC Index* increases from 1 to 2, and by 7.9% when the *PC Index* increases from 2 to 3. Columns 3 and 4 show that comparable results are obtained when only the first cross-border deal of acquisitive POEs is included. In sum, these PSM results provide further support for *Hypothesis 1*, namely that politically connected POEs have a higher likelihood of entering the global market through cross-border M&A deals. Furthermore, the results are both statistically and economically significant. They are in line with the intuition that the top managers of POEs are more likely to follow the government's call to go global by completing cross-border M&A transactions if they have political connections. These POEs are also more likely to be able to manage the logistics of these transactions and to get preferential treatment by the government after completing a cross-border M&A transaction. This is supported by our sample firms receiving on

average an 83% percent higher loan volume in the two years after completing a cross-border M&A deals than in the two years before (see Figure 1).

[Insert Tables 6 and 7 and Figure 1 about here]

2.4.3. Corporate Governance and M&A Engagement by POEs

To investigate the link between corporate governance and a POE's likelihood of acquiring an overseas target, we focus on the coefficient of the governance index (*Gov Index*). When performing post-matching cross-sectional analyses (see Table 7), this coefficient is positive and statistically significant, at least at the 10%-level, indicating that POEs with higher corporate governance standards are more likely to acquire companies outside China (in line with *Hypothesis 2*). However, the *Gov Index* was not significant in the panel logistic regression setting in Table 5. Thus, we do not find robust empirical support for *Hypothesis 2*.

To address a potential endogeneity issue associated with the decision to become an acquisitive POE, we conduct a quasi-experiment in which we focus on the replacement of a CEO or chairman by a successor with stronger political ties than his or her predecessor (i.e. a higher *PC Index*). We characterize these turnovers using the variable *Political Turnover*. If political connections result in a higher probability of acquiring a company outside China, we expect to find a higher likelihood of POEs entering the global markets after a political turnover. To ensure a balanced sample of acquisitive and non-acquisitive POEs, we run a similar PSM routine to that used previously, but also require the 288 firm-year observations (corresponding to the POEs' first cross-border deals) to have the same *PC Index* as those in the control group. The diagnostic tests from Table 8 show that the PSM successfully balances the sample.

We again run a logit regression with the dependent variable of becoming an overseas acquisitive POE and a set of explanatory variables that include the *Political Turnover* dummy. The results (see Table 9) show that the coefficient of *Political Turnover* is positive and statistically significant, indicating that the likelihood of a POE proceeding with a cross-border M&A significantly increases after a political turnover. This finding provides strong support for *Hypothesis 1* and for a causal relationship between political connections and cross-border M&A activities by Chinese POEs.

[Insert Tables 8 and 9 about here]

2.4.4. The Financial Performance of Multinational POEs after Cross-border M&As

To explore how POEs fare after completing a cross-border acquisition, we first provide univariate results for an event study in which we examine the stock returns of acquisitive POEs around the announcement of a cross-border M&A deal (see Table 10). We find that shareholders react positively to cross-border M&A announcements with statistically significant CAARs between 1% and 1.9%, depending on the event window. These findings are in line with Du and Boateng (2015) who find that shareholders react positively to cross-border M&A deals by Chinese acquirers. Over similar event windows, their CAARs range from 0.45% to 0.64%. However, their study pools SOEs and POEs together. Our results suggest that, overall, cross-border M&A announcements by POEs generate higher abnormal returns. However, shareholders react differently depending on whether the cross-border M&A deal is announced by firms with politically connected or unconnected top management (Panel B). On average, we find that the announcement returns of politically connected POEs are 1.6% lower for all cross-border M&A transactions and 1.9% lower for the announcement of a first cross-border deal. These univariate findings match what we expect under *Hypothesis 3*, i.e. that politically connected top managers are more likely to engage in political empire-building behavior, which may not be in line with shareholder interests.

We complement these univariate findings with a multivariate analysis in which we control for deal characteristics as well as cultural differences between China and the country where the target company is domiciled (see Table 11). The results are consistent with the univariate analysis above. The announcement returns are on average about 1.6% lower for politically connected POEs.^{11,12} We interpret this as further support for *Hypothesis 3*, namely that investors may believe that a

¹¹ To ensure the robustness of our results, we also examine the CARs for other event windows; the empirical results remain qualitatively unchanged. The respective results are available from the authors upon request.

¹² Differences in the cross-border acquisition announcement returns for politically connected and unconnected POEs may be driven by differences in the completion probability. All of our announcements resulted in completed deals, but this is clearly unknown ex ante. We check CSMAR's Merger & Acquisition, Asset Restructuring Research Database for failed cross-border M&A deals to determine the difference in deal completion probability between the two cases (i.e. when top management is and is not politically connected). We find that deal failure is quite uncommon for POEs and occurred only twelve times during our observation period. Among these twelve POEs, five had politically connected top managers. Given that there are comparatively few deal failures relative to the number of completed deals, it seems unlikely that market participants would assume a high probability of deal failure. However, even if they do price it in, the probability of failure among politically connected and non-connected POEs is almost evenly distributed. Therefore, market participants would be unable to infer any information about the probability of deal failure from knowledge of the political connectedness of top management.

politically connected top management has other (e.g. political) motives when completing cross-border M&A transactions instead of focusing purely on shareholder wealth maximization. In additional analyses we tested indirectly if the acquisition is related to strategic asset seeking. To do so, we compared the difference in *Research Intensity* between POEs that have completed a cross-border M&A and propensity-score-matched “control” firms that are not active in the acquisition market (see Proelss et al., 2017). We find that the average two-year *Research Intensity* of acquisitive POEs after deal completion is 1.3 percentage points higher than that of control firms (p-value = 0.008). We interpret this as evidence that POEs that gain access to “cutting-edge technology” through cross-border acquisitions need to increase their R&D spending to successfully employ that technology in China (see Wu, 2015).

The only deal characteristic that is statistically significantly related to the observed announcement returns is a deal payment by cash only (*All Cash Deal*). This positive relationship is well documented in the literature (see Travlos, 1987; Fishman, 1989; Brown and Ryngaert, 1991; Martin, 1996; and Fuller, Netter, and Stegemoller, 2002).

[Insert Tables 10 and 11 about here]

To examine a POE’s financial performance during the three-year period after it has completed a cross-border deal, we calculate the return on equity (*ROE*) for acquisitive and non-acquisitive POEs. Our main variable of interest is the interaction term *Post CBMA* × *Connection*. The coefficients of *Connection* and the interaction term (*Post CBMA* × *Connection*) are 0.054 and -0.198, respectively, and are both statistically significant at the 1% level (see Table 12). This indicates an underperformance of about 14 percentage points (0.054 - 0.198), measured by *ROE*, of politically connected POEs relative to non-connected POEs during the three-year period after completing a cross-border M&A deal. Notwithstanding the potential endogeneity concern, this result is consistent with our *political connection trade-off theory* (and *Hypothesis 3*), under which politically connected top managers complete cross-border M&A deals largely as a means of political empire building. This may occur at the expense of shareholder value, and may thus be associated with a decrease in the POE’s firm value. The coefficient of *post CBMA* is positive and significant at the 5%-level, which is consistent with our univariate evidence showing that, on

average, investors react positively to cross-border M&A announcements. We also find that serial acquirers have statistically significantly higher accounting performance than one-time acquirers after completing a cross-border M&A deal, which could be explained by learning gains through serial acquisitions (cf., Aktas, Bodt and Roll, 2013).

[Insert Table 12 about here]

2.4.5. Robustness Checks

Our first set of robustness checks focuses on an alternative explanation for the importance of political connections, namely that ownership-level political connections matter more than those of the top management. To rule out this alternative explanation, we re-estimate the previous panel logistic regressions, the cross-sectional logit regressions, and the quasi-experiment while also including two ownership-level political connection variables (*LBH Connection* and *Multi BH Connections*). The results show that neither *LBH Connection* nor *Multi BH Connections* is statistically significantly positively related to the likelihood of completing a cross-border M&A deal. Moreover, the coefficients for the top management political connection variables (*Connection* and *PC Index*) do not change substantially and remain statistically significant at least at the 5% level. Similarly, when we re-perform our quasi-experiment, we find that the replacement of a blockholder by a new blockholder with stronger ties is unrelated to the probability of completing a cross-border M&A transaction, unlike a political turnover of the top management (see Table 9). In sum, we find no evidence that ownership-based political connections increase the likelihood of a POE becoming acquisitive in foreign markets, while the political connections of top management continue to produce similar effects.

Furthermore, to address the potential influence of clustered or serial acquisitions by POEs, we checked for robustness by using a count model (i.e. panel and cross-sectional Poisson regressions) in which the dependent variable is the number of overseas targets acquired by POEs. Some of these model specifications also control for ownership-level political connections. We find that political connections (measured by *Connection* and the *PC Index*) are statistically significantly positively related to the number of completed cross-border M&A deals whereas ownership-level political

connections show no association. Therefore, we do not find any evidence that the main results are driven by clustered or serial acquisitions¹³.

Finally, we test for a potential interaction between political connections and a POE's corporate governance. Such an interaction might be expected if politically connected top managers tend to pursue cross-border M&A deals for reasons other than maximizing shareholder value, such as maximizing political capital. In this context, we conjecture that higher corporate governance standards within a company limit top management's propensity for political empire building at the cost of shareholder value. For example, we expect the interaction term (*Connection x Gov Index*) to have a positive coefficient in a regression of POEs' financial performance after a cross-border M&A. In unreported results, we include this interaction term in all previous analyses and find that it has no statistical significance, regardless of the dependent variable in question (e.g. the likelihood of a cross-border M&A or stock prices following cross-border M&A announcements). One possible explanation is provided by Claessens and Fan (2002) who argue that corporate governance mechanisms have very limited effectiveness in systems with weak institutions. The arguably weak institutional environment in China seems to carry more weight than a sound corporate governance system; thus, the latter is neither able to block (value destroying) cross-border M&A deals nor deter politically connected top managers from prioritizing their political capital over shareholder interests.

¹³ The results of Poisson regression will be provided upon request.

3. Do Privately-owned Enterprises in China Need Political Connections to Issue Corporate Bonds?

3.1. Hypotheses Development

3.1.1. Political Connections and Corporate Bond Issuance

The evidence presented in the previous sections suggests that the approval of corporate bond issuances in China may not be based solely on firm characteristics, such as credit risk, firm size, and corporate governance quality, but also on political ties. Liu, Tang, and Tian (2013) argue that the probability of tapping the financial markets in emerging economies is strongly influenced by the central government and that discrimination against entrepreneurial firms is prevalent. To overcome the market discrimination effectively, entrepreneurial firms tend to build political ties to the central authority. In their empirical analysis, Liu, Tang, and Tian (2013) show that Chinese entrepreneurial firms with politically connected top executives are more likely to have their IPO request approved. They state that the requirements for security issuance imposed by the China Securities Regulatory Commission (CSRC) are quite soft, qualitative, and ambiguous and that there is ample room for political connections to facilitate a firm's IPO approval. Similarly, because of the ambiguous requirements for security issuance in China, prospective corporate bond issuers can use political connections as an effective way to tap into the public debt market. In addition, the ambiguous requirements create potential room for corruption. Politically connected bond issuers may collude with regulators through means of corruption. For example, an officer of the CSRC was arrested during President Xi Jinping's anti-corruption campaign. He accepted bribes to assist several enterprises with the approval of IPOs and corporate bonds during his time as deputy director in charge of securities issuance for small and mid-cap enterprises (Sina, 2016). Therefore, we postulate a *collusion and corruption hypothesis*: the POEs with political ties to the authority can collude with the corrupt officials to place their corporate bonds even though such POEs are not necessarily qualified issuers.

Also, as argued by Pessarossi and Weill (2013), the fact that the Chinese government has been committed to developing the corporate bond market since 2007 implies that POEs with strong

political connections are also likely to be encouraged along this agenda and are thus more likely to favor corporate bonds over private bank debt than their non-connected counterparts.

Overall, we posit that politically-connected POEs are favored in the corporate bond issuance process. Furthermore, in comparison to non-connected POEs, politically-connected POEs are more likely to prefer corporate bonds to bank debt. Consequently, our first two research hypotheses are:

Hypothesis 1: *Politically-connected POEs are more likely to issue corporate bonds than non-connected POEs.*

Hypothesis 2: *The more politically connected the POE, the greater the likelihood that it will issue a corporate bond rather than take out a bank loan.*

3.1.2. Political Connections and Corporate Governance

In the previous subsection, we hypothesized that politically-connected POEs have an incentive to issue corporate bonds, and that the issuance requests are more likely to be approved for connected than for non-connected POEs. However, we also need to determine whether higher corporate governance standards (measured by higher corporate governance index levels) coincide with bond-issuing POEs. Higher corporate governance standards are clearly intended to protect bondholders' rights. Bhojraj and Sengupta (2003) shed light on the positive impact of corporate governance on corporate bond default risk for companies with corporate bond issuance. Their empirical evidence reveals that firms with higher institutional ownership and board independence exhibit higher ratings for their issued corporate bonds.

Ashbaugh-Skaife, Collins, and LaFond (2006) explore whether firms with stronger corporate governance can benefit from higher credit ratings. They find that default risk is significantly lower for firms with higher financial transparency, weaker takeover defenses, board independence, board stock ownership, and board expertise, but higher for firms with greater CEO power on their boards and more blockholders. Given the surprisingly high number of corporate bond defaults during the past two years, it is likely that corporate bond-issuing companies have weaker corporate governance than previously and are failing to protect bond investors.

We have argued that political connections can facilitate the approval of POEs' corporate bond issuances. Such benefits could be viewed as corruption. This would be in clear contrast to high quality corporate governance, which we would expect to circumvent or at least reduce corruption (La Porta et al., 2000). Therefore, if corporate governance mechanisms function effectively, political connections should not significantly impact firms' financing activities. Thus, the use of political connections itself implies lower corporate governance standards. Moreover, the "zero default" myth in China can further create a moral hazard. That is, the firms will issue bond anyway even though they do not necessarily exhibit qualified level of corporate governance to protect creditors' right. Our argument is consistent with perspective investors' concerns that Chinese bond issuers may not have sound corporate governance to make them disclose sufficient and authentic information. "Because of poor information disclosure, land mines are everywhere in the corporate bond market. You never know when you'd step on one," said Peter Zhao, chief executive of Eagle Investments, Shanghai (Wall Street Journal, 2016). Arthur Lau, Asia ex-Japan fixed income asset manager of Pine Bridge Investments, declared: "We won't invest in any corporate bonds issued in mainland China even if they are rated triple-A, unless the company has already sold debt outside the country, where transactions require a higher level of financial disclosure" (Wall Street Journal, 2016).

Based on these arguments, we propose the following hypotheses:

Hypothesis 3: *POEs issuing corporate bonds have lower corporate governance standards than POEs without corporate bond issuances.*

Hypothesis 4: *Among the POEs issuing corporate bonds, politically connected POEs have lower corporate governance standards. .*

3.1.3. Political Connections and Refinancing Costs

We mentioned that the existing literature on how political connections in emerging-market countries are related to debt-financing costs focuses solely on bank loans, not on corporate bonds.

However, we expect the relationship across both financing instruments to be similar, based on the following arguments.

For the Chinese market, borrowing companies are capable of obtaining bank loans with drastically lower interest rates when they are politically connected (see Luo and Zhen, 2008; Yu and Pan, 2008). These authors explain that the lower interest rates stem from the fact that state-owned banks act as financial agents for SOEs (which comprise the majority of the samples) and tend to offer them preferential treatment.¹⁴ However, it is not obvious whether the same dynamics exist for POEs, because the majority of POEs in China were not previously SOEs, but were founded by private entrepreneurs. Those firms have grown alongside the economic reforms and may be subject to “disciplining” market forces that rationally assess the required refinancing costs. However, given the realities of the Chinese capital market, it is reasonable to assume that politically-connected POEs can place their corporate bonds at favorable terms because state-owned banks are the main corporate bond investors.¹⁵ We therefore state our Hypothesis 5 as follows:

Hypothesis 5: *Corporate bonds issued by politically-connected POEs have lower coupon rates (refinancing costs) than those issued by non-connected POEs.*

3.1.4. Political Connections and Stock Returns around Bond Issuing Announcements

Ross (1977) and Heinkel (1982) argue that debt issuance can essentially certify the quality of the issuing firm. Their theoretical framework shows that managers deliver positive private information to the market through debt issuance. In China, Chinese media has frequently noted that it is extremely difficult for mid- and small-cap POEs to obtain credit from state-owned commercial banks, owing to the favoritism shown toward SOEs. If political connections can facilitate POEs’

¹⁴ In contrast, Bliss and Gul (2012) document a different relationship in the Malaysian market. They show that politically-connected firms have better access to bank credit and face fewer financial constraints, but their interest expenses are actually higher than those of non-connected firms. They argue that this is because politically-connected companies inherently have higher risk. The higher cost of borrowing stems from the efficiency of contracting. Although both China and Malaysia are emerging economies in the same region, their market structures differ significantly. Malaysia’s market orientation is well established, while China is still a transitional economy. Therefore, the dynamics in Malaysia are unlikely to be pertinent for China.

¹⁵ According to the November 2015 “Asia Bond Monitor,” published by the Asian Development Bank, corporate bond investors in China are predominately state-owned banks. This differs significantly from other emerging East Asian economies, where domestic institutional investors (pension funds, mutual funds, and insurance companies) and foreign investors make up the largest stake.

access to public debt financing with lower costs, investors will likely view political connections as a credible signal of quality. We therefore posit Hypothesis 6:

Hypothesis 6: *Investors react positively to corporate bond issuing announcements by politically-connected POEs.*

3.2. Sample Construction

3.2.1. Accounting, Governance, Bond, and Loan Data

To identify privately-owned, listed Chinese enterprises, we only consider firms listed in the China Listed Private Enterprise Research Database provided by China Stock Market and Accounting Research (CSMAR). This database contains all POEs listed on either the Shanghai or Shenzhen stock exchanges. For the years 2015 and 2016, we identify POEs by using another database called the China Listed Firms' Shareholder Research Database, because CSMAR ceased the first database in 2014.

All firms in our sample are directly controlled by individuals, families, other non-state entities, or foreign enterprises. Accounting data are obtained from CSMAR's China Stock Market Financial Statement Database and corporate governance-related data from CSMAR's China Listed Firms' Corporate Governance Research Database. Missing information is manually collected from Stockstar (www.stockstar.com), a website that provides detailed information on the top management of each exchange-listed firm in China.

Our sample begins in 2007, the year China conducted a crucial reform of its corporate bond market, and ends in the first half of 2016. The full sample contains 1,546 privately-owned firms with 9,879 firm-year observations. Following the existing literature on publicly listed Chinese firms (Wu et al., 2012; Li and Zhou, 2015; Proelss et al., 2016; and Xu et al., 2016), we winsorize all accounting data at the 1% and 99% levels to minimize the impact of any outliers¹⁶.

¹⁶ We also follow Wu et al. (2012) and perform a robustness test in which we conduct all analyses without winsorizing our accounting related variables. The results remain qualitatively unchanged. In addition, following Fan, Wong, and Zhang(2007), we perform all analyses by winsorizing the top and bottom 5% of all accounting data. Again, the results remain qualitatively unchanged.

Information on corporate bond issues comes from the Chinese Bond Market Series section in CSMAR, which provides detailed information for all corporate bonds issued on the Shanghai and Shenzhen stock exchanges. However, the information in this section does not cover our entire sample period, because the bond database has updated information only through 2015. Therefore, we also hand-collect corporate bond issuance information for the first half of 2016 from the official websites of the Shanghai and Shenzhen stock exchanges (www.sse.com.cn and www.szse.cn).

Our corporate bond issuing sample comprises 246 issues by 213 unique Chinese POEs. Because our sample only includes publicly listed but not privately held companies, we aim to complement the sample with privately held companies that issue bonds. This should reduce any potential selection biases that may arise from the fact that publicly listed companies previously raised capital by issuing equity. Specifically, we check whether privately held companies have been active in issuing corporate bonds. We find that no privately held company issued a corporate bond until 2015 (Hexun Bond, 2015). In 2015, an SOE (Zhoushan Port Co., Ltd) became the first non-publicly listed company to issue a corporate bond on the Shanghai and Shenzhen stock exchanges. Given that non-publicly listed companies do not frequently issue publicly listed bonds, our subsequent statements will be based on the condition that the companies managed a successful IPO.

To identify bank loans, we search for the 1,546 POEs in CSMAR's China Listed Firms' Bank Loan Research Database and find 330 POEs with 661 bank loans (see Table 2). We only include bank loans with durations of at least two years. Because many firms obtain multiple loans in the same fiscal year, we only include one entry in a fiscal year for each firm. In addition, based on CSMAR's classification, we only include "credit loans" and "loans against collateral."¹⁷ We find that 61 POEs issued bonds and obtained bank loans. When comparing the choice between bond issues and bank loans in Table 12, we exclude these 61 cases.

3.2.2. Measuring Political Connections

To measure political connections, we follow the recent literature by Faccio (2006), Fan, Wong, and Zhang (2007), Chen et al. (2011), Li and Zhou (2015), and Xu et al. (2016). Political

¹⁷ We exclude project financing, trade credits, discounts on notes, letters of credit, acceptances of bills, and other on- and off-balance sheet transactions.

connections are based on the political background of a company's chairman or CEO. We manually collect this information from the Stockstar website. Each profile provides specific details on past and current work experience. For each year, we classify a chairman or CEO as being politically connected if he/she is or was an officer in a central or local government department or the military, a member of the People's Congress (PC), or a member of the Chinese People's Political Consultative Conference (CPPCC). Thus, our political connection dummy (*Connection*) equals 1 if the chairman or CEO of a POE has political connections in a given year, and 0 otherwise (see Li and Zhou, 2015; and Xu et al., 2016).¹⁸

In addition, we construct a political connection index (*PC Index*) to measure the degree of connection. The *PC Index* ranges from 0 to 3, where 3 stands for the highest degree of political connectedness. According to a research report by Harvard University's Kennedy School, the PC, in conjunction with the CPPCC, act as the legislative arm of the government and thus as the highest political entity in China (see Saich, 2015). The PC's functions include overseeing the work of government departments and electing major officials; amending the constitution; supervising the enforcement of constitutional and legal enactments; and examining and approving the state budget and the economic plan. Members serving on the *standing committee* of the PC and CPPCC command particular power, as they work actively on lawmaking. In addition, Saich (2015) notes that the PC and CPPCC play more than a ceremonial role in China. Therefore, we assign the highest *PC Index* value of 3 to POEs in which the top managers are (or were) members of the standing committee of the PC and CPPCC, as well as to POEs whose top manager is the head of the central or provincial government. If the top managers of a POE are ordinary members of the PC or CPPCC, we assign a value of 2 to the *PC Index*. Finally, if the chairman or CEO is only an officer of a specific governmental department, or was an officer in the army, his or her political connections are considered more limited; hence, we assign a value of 1 to the *PC Index*. Detailed information on how the index is constructed is provided in Panel A of Table 14.

¹⁸ In unreported robustness checks, we use Fan, Wong, and Zhang's (2007) alternative measure for political connections, which also considers the connections of board members besides the chairman or CEO. It is equal to 1 if anyone on the board is politically connected, and 0 otherwise. We use this measure in place of our *Connection* variable, and our results remain qualitatively the same.

In our robustness checks in Section 7, we measure political connections for blockholders (ownership-level political connections) rather than for top managers. Following Thomsen, Pedersen, and Kvist (2006), the threshold of being considered to be a blockholder is 10%. For each POE, we identify all the blockholders who are politically connected and then define the variable *LBH Connection* to be the ownership percentage of the largest of these blockholders. We consider the blockholder to be politically connected if he or she has political ties to the government (as in the definition of political connection for top managers) or if the blockholder is the state. To measure the ownership-level political connections, we manually check the background of all blockholders of each POE from the Stockstar website. Given that in the majority of Chinese POEs, the chairman is the largest blockholder, if we were to consider all politically-connected blockholders, the results would generally be the same as those for management-level political connections. Thus, to isolate the effect of ownership-level political connections, we only include politically-connected blockholders who are not top managers at the same time. In addition, we create the dummy variable *Multi BH Connections*, which is set equal to 1 if more than one blockholder (who is not also a top manager) is politically connected and 0 if no more than one blockholder is politically connected.

Finally, for the POEs without any type of political connections, we investigate whether the new arrival of a politically-connected blockholder (who is not also a top manager) increases the likelihood of corporate bond issuance. To do this, we construct the dummy variable *PBH Turnover*, which takes the value of 1 for the POEs without management and ownership-level political connections in the year when a politically-connected blockholder joins a POE for the first time and the following years s/he serves as a blockholder in a POE, and 0 otherwise.

3.2.3. Corporate Governance and Control Variables

To evaluate the impact of corporate governance on the likelihood of bond issuance, we construct a comprehensive corporate governance index rather than using several governance factors individually. According to Brown, Beekes, and Verhoeven (2011), the latter do not capture a firm's full corporate governance quality and are mostly correlated with each other, potentially causing multicollinearity in multivariate regressions. A composite governance index is expected to reflect a firm's governance quality more precisely.

Several studies use corporate governance indices for U.S. companies (Gompers, Ishii, and Metrick, 2003; DeFond, Hann, and Xu, 2005; Brown and Caylor, 2006) and European companies (Dutordoir, Strong, and Ziegen, 2014). In a similar fashion, Shan (2015) constructs an equally-weighted corporate governance index for Chinese-listed firms that accounts for China's two-tiered board system. We follow Shan's (2015) procedure, but because the firms in our sample are privately-owned, the governance factors are somewhat different (for example, we obviously do not have a factor for "privately-owned enterprises"). Our governance index (*Gov Index*) is constructed using nine equally-weighted governance factors. Detailed information on the index construction can be found in Panel B of Table 14.

Following the debt financing and capital structure literature, we control for a vector of firm-specific characteristics that may influence a firm's likelihood of issuing corporate bonds. We control for profitability (*ROA*), leverage (*Leverage*), firm size (*Firm size*), the ratio of income taxes to total assets (*Tax*), growth opportunities as measured by *Tobin's q*, and the ratio of fixed assets to total assets (*Tangibility*). When examining the debt-financing choice between corporate bonds and bank loans, we add an additional control variables, the Altman's Z-score (*Altman Z*). Finally, when analyzing the refinancing cost of corporate bond-issuing firms, we include the risk free rate (*Risk free*), the bond's time to maturity (*Maturity*) and total bond issue volume (*Volume*). Panel A of Table 14 gives detailed descriptions of these variables.

3.2.4. Market Reactions to Corporate Bond Issuance

To provide a more in-depth examination of how investors react to the announcements of corporate bond issuances by POEs, we calculate the short-term stock returns in response to the announcements using the value-weighted Shanghai and Shenzhen Composite Index as a market factor. The index data is retrieved from CSMAR's China Stock Market Trading Database.

3.3. Methodology

3.3.1. Political Connections and Corporate Bond Issuance

To test whether political connections affect corporate bond issuance (Hypothesis 1), we apply the following research design. We begin with a nearest-neighbor propensity score matching (PSM) routine, which aims to match each firm-year observation in which a firm issues a corporate bond ($Bond=1$) with one that does not ($Bond=0$) on the basis of a vector of firm-specific characteristics. We use the PSM approach to overcome potential self-selection bias.

To obtain the propensity scores, we estimate a probit regression using all Chinese POEs in our primary sample. The dependent variable equals 1 if the POE issues a corporate bond in a given year, and 0 otherwise. The vector of firm-specific matching variables includes profitability (ROA), leverage ($Leverage$), firm size ($Firm\ size$), the income tax ratio (Tax), growth options ($Tobin's\ q$), and tangibility ($Tangibility$). We also include industry dummy variables¹⁹ and year dummies to control for unobserved heterogeneity across industries and over time. After matching, we perform the following logit regression to test Hypothesis 1:

$$Bond(1/0)_{i,t} = \alpha + \beta_1 \cdot Political\ Connections_{i,t-1} + \beta_2 \cdot Gov\ Index_{i,t-1} + \mathbf{v}_n \cdot \mathbf{N}_{i,n,t-1} + \varphi_k + \pi_t + \varepsilon_t, \quad (1)$$

where $Bond$ is a binary variable that equals 1 if a POE i issues a corporate bond in year t , and 0 otherwise. $Political\ Connections$ are measured by either the independent variable $Connection$ or the $PC\ Index$ and the influence of corporate governance is measured by the $Gov\ Index$. \mathbf{N}_n is a vector of firm-specific characteristics (ROA , $Leverage$, $Firm\ size$, Tax , $Tobin's\ q$, and $Tangibility$), φ_k are industry fixed effects, and π_t are year fixed effects. Political connections and all control variables are measured in year $t-1$ to predict the likelihood of corporate bond issuance in year t . We omit firm-level notations for clarity.

If political connections help a firm issue a corporate bond, we expect the coefficients on $Connection$ or the $PC\ Index$ (β_1) to be positive (Hypothesis 1). If POEs issuing corporate bonds have lower corporate governance standards, we expect β_2 to be negative (Hypothesis 3). As a

¹⁹ Specifically, we use fifteen industry dummy variables following CSMAR's industry classifications.

robustness check, we also employ the fixed-effects logit model to address the within-firm and across-time variations in political connections.

Establishing a causal effect between political connections and the likelihood of corporate bond issuance is subject to several potential problems, including endogeneity, selection bias (e.g., due to the fact that companies that issue corporate bonds are generally larger), and reverse causality (i.e., an anticipated corporate bond issuance may cause a firm to hire a politically-connected manager).

To circumvent these potential problems, we use a quasi-natural experiment. We examine whether chairman or CEO turnovers that result in an increase in the *PC Index* (better political connections) increase the likelihood of issuing corporate bonds. Our first step is to apply a similar PSM routine to that of our previous analysis. We include the *PC Index* as an additional matching variable and match POEs that issue corporate bonds within a given year (246 firm-year observations) with POEs that do not issue corporate bonds during the observation period. PSM ensures that POEs with and without corporate bond issuance have “identical” company characteristics at the time of issuance. If stronger political ties increase the chance of issuing a corporate bond, we would expect that POEs that replace their top management with more politically-connected successors will be more likely to tap into the public debt market than other POEs. Our model is specified as follows:

$$\begin{aligned}
 \text{Bond}(1/0)_{i,t} = & \alpha + \beta_1 \cdot \text{Political Turnover}_{i,t} + \beta_2 \cdot \text{Connection}_{t-1} + \beta_3 \cdot \text{Gov Index}_{t-1} + \\
 & + \mathbf{v}_n \cdot \mathbf{N}_{i,n,t-1} + \varphi_k + \pi_t + \varepsilon_{i,t},
 \end{aligned} \tag{2}$$

where *Political Turnover_t* is a dummy variable that equals 1 if the chairman or CEO of a POE is replaced by someone with a stronger political index within five years prior to the bond issuance, and 0 otherwise.²⁰ All other variables are as defined in Equation (1). The coefficient of interest is β_1 , which will be positive if a political turnover increases the likelihood of a subsequent bond issue.

²⁰ We first obtain chairman/CEO turnover information from CSMAR’s China Listed Firms Corporate Governance Research Database. Next, we manually check background information on Stockstar to identify whether the turnover is considered political. Chairman/CEO turnover is considered to be political if there is an increase in the *PC Index*.

3.3.2. Corporate Governance and Corporate Bond Issuance

To examine the overall corporate governance of the POEs that issue corporate bonds, we employ the ordered logistic regression analysis.

$$\begin{aligned} Gov\ Index_{i,t-1} = & \alpha + (\beta_1 \cdot Bond_{i,t}) + \beta_2 \cdot Political\ Connections_{i,t-1} + \mathbf{v}_n \cdot \mathbf{N}_{i,n,t-1} + \varphi_k + \\ & + \pi_t + \varepsilon_t, \end{aligned} \quad (3)$$

This is because the dependent variable (*Gov Index*) is an index variable ranging from 0 to 9 (0 reflecting the worst corporate governance and 9 representing the best corporate governance) that capture a POE's overall governance. The independent variable that we are interested in is the bond issuance dummy (*Bond*) that takes the value of 1 if a POE issues corporate bonds, and 0 otherwise. All other variables are as defined in Equation (1). If political connections imply lower corporate governance and bond issuing POEs fail to exhibit promising corporate governance to offer bondholders' adequate protection, we will observe the coefficient of β_1 and β_2 to be negative. To study the corporate governance among bond issuing POEs, we omit the bond issuing dummy and only focus on political connections.

3.3.3. Choice of Debt Instrument

To test the hypothesis that the more politically connected the top management team, the greater the likelihood that a POE will choose a corporate bond over a bank loan (Hypothesis 2), we estimate the following multinomial logit regression:

$$\begin{aligned} Debt\ Instrument(2/1/0)_{i,t} = & \alpha + \beta_1 \cdot Political\ Connections_{i,t-1} + \beta_2 \cdot Gov\ Index_{i,t-1} + \mathbf{v}_n \cdot \\ & \mathbf{N}_{i,n,t-1} + \varphi_k + \pi_t + \varepsilon_{i,t}, \end{aligned} \quad (4)$$

where *Debt Instrument* equals 2 if a POE *i* issues a corporate bond, 1 if it obtains a bank loan, and 0 if no financing is raised. *Political Connections* are measured by either the independent variable *Connection* or the *PC Index* and the influence of corporate governance is measured by the *Gov Index*. \mathbf{N}_n is a vector of firm-specific characteristics (*ROA*, *Leverage*, *Firm size*, *Tax*, *Tobin's q*, *Tangibility*, and *Altman's Z-score*). All other variables are as defined in Equation (1). We again omit firm-level notations for clarity. We expect that the greater the degree of political connections, the more likely it is that the firm will issue a corporate bond (as opposed to either taking out a bank

loan or not raising any financing). Thus, we expect β_1 to be positive (Hypothesis 2). If POEs issuing corporate bonds have lower corporate governance standards than POEs in the other two *Debt Instrument* categories, we expect β_2 to be negative (Hypothesis 5).

An important prerequisite of multinomial logit estimation is that the independence of irrelevant alternatives (IIA) must hold among different utility choices (Hausman and McFadden, 1984). Before running the multinomial logit regression, we perform the Hausman test for this assumption. The results reveal that IIA is not violated for our sample.

3.3.4. Refinancing Cost Analysis

To test the influence of political connections on the refinancing cost of POEs, we estimate the following tobit regression:

$$Coupon_{i,t} = \alpha + \beta_1 \cdot Connection_{i,t-1} + \beta_2 \cdot Gov\ Index_{i,t-1} + \mathbf{v}_n \cdot \mathbf{N}_{i,n,t-1} + \boldsymbol{\tau}_o \cdot \mathbf{T}_o + \varphi_k + \pi_t + \varepsilon_{i,t}, \quad (5)$$

where *Coupon* is the corporate bond's coupon rate and measures the refinancing cost because all corporate bonds are issued at par value. Political connection is measured by *Connection* and the influence of corporate governance is measured by the *Gov Index*. \mathbf{N}_n is a vector of firm-specific characteristics (*ROA*, *Leverage*, *Firm size*, *Tax*, *Tobin's q*, *Tangibility*, and *Risk free*), and \mathbf{T}_o is a vector of bond characteristics (*PD_{predicted}*, *Volume*, and *Maturity*). All other variables are as defined in Equation (1). Note that *PD* measures the probability of default of the corporate bond. We obtain this measure by transforming the bond rating provided in CSMAR's China Bond Market Research Database using Standard & Poor's probability of default table for corporate bonds. However, *PD* could be endogenous if political connections are considered in the rating process. To address this issue, we first regress *PD* on *Connection* (and a vector of firm-specific characteristics) and calculate the predicted value of *PD* (*PD_{predicted}*). Next, we regress *Coupon* on *Connection*, using Equation (4), by including *PD_{predicted}* and other control variables. Because the lower bounds of both *PD* and *Coupon* are zero, we employ a tobit model for both regressions. If a politically-connected top manager is able to achieve lower refinancing costs than a non-connected manager, we expect β_1 to be negative (Hypothesis 6).

3.3.5. Stock Returns around Corporate Bond Issuing Announcements

To study how the market reacts to corporate bond issuance announcements by POEs, we apply a standard event study approach. Following Dutordoir, Strong, and Ziegen (2014), we use the event window (0, 1) and an estimation period of (-300, -46) prior to the first announcement date of a bond issue ($t = 0$). We calculate cumulative abnormal returns (CARs) using a one-factor market model (with the value-weighted Shanghai and Shenzhen Composite as the market factor). For robustness checks, we also use (-1, 1), (-2, 2), and (-3, 3) event windows.

To examine the potential link between political connections and market reactions due to bond issuance announcements, we use the following multivariate regression:

$$\begin{aligned} CAR_i = & \alpha_i + \beta_1 \cdot Political\ Connections_i + \beta_2 \cdot Gov\ Index_i \\ & + \beta_j \cdot \sum_j Bond\ Characteristics_{j,i} + \mathbf{v}_n \cdot \mathbf{N}_n + \varphi_k + \pi_t + \varepsilon_i, \end{aligned} \quad (6)$$

where CAR_i is the cumulative abnormal return of the bond-issuing POE i during the announcement day and the one day afterwards. The independent variables are the same as in Equation (1) and are complemented by bond characteristics (*Multi Issuer*, *Volume*, *Maturity*, *Coupon*, and *PD*; see our definitions in Table 14, Panel A). If politically-connected POEs can enhance the likelihood of external financing through public debt markets, as well as capitalize on their connections by reducing their refinancing costs, we argue that political connections will deliver a positive signal to shareholders about the firm's quality. According to Hypothesis 6, we expect the coefficient (β_1) on *Political Connection*, as measured by *Connection* and the *PC Index*, to be positive and statistically significant.

3.4. Empirical Results

3.4.1. Descriptive Statistics

Table 15 and Figure 2 show the number of corporate bond issues and bank loans by Chinese POEs during each year of our sample period. Note that the number of corporate bond issues proliferated after China reformed its corporate bond market. The only exception is 2010, which had only five issues, likely due to the recent global financial crisis. Overall, we observe that, despite China's corporate-debt market historically favoring SOEs, the market has become more accessible to non-

state-owned companies in recent years (see Aharony et al., 2000; Brandt and Li, 2003; and Wang, Wong, and Xia, 2008).

[Insert Figure 2 and Table 15 about here]

Table 16 provides descriptive statistics for Chinese POEs with and without corporate bond issues. Our sample consists of 1,546 POEs (8,441 firm-year observations), of which 213 POEs (246 firm-year observations) borrowed from the corporate bond market. Moreover, for POEs that do issue corporate bonds, we see that their average values of political connection (*Connection* = 0.504, *PC Index* = 1.126) are about twice as high as the corresponding values for POEs without bond issues. The variable *Connection* implies that half of all POEs that issue corporate bonds are politically connected. According to Fan, Wong, and Zhang (2007) and Li et al. (2008), the mean value of political connections for Chinese-listed firms ranges from 25% to 35%. We interpret this as univariate support for Hypothesis 1.

We also find that corporate governance (i.e., the *Gov Index*) is statistically significantly lower at the 1% level for bond-issuing POEs. This could be interpreted as support for Hypothesis 3, in that the effective use of political connections may require comparably weak corporate governance. With respect to our control variables, we find that companies with higher profitability and borrowing capacity (*Leverage*), larger size (*Firm size*), and fewer growth opportunities (*Tobin's q*) have a higher chance of tapping into the corporate bond market. There is no significant difference in income tax ratios (*Tax*) or asset tangibility (*Tangibility*) between the two groups (see Table 16, Panel C).

Panels D and E in Table 16 provide a comparison between politically-connected and non-connected POEs. Politically-connected POEs have significantly lower corporate governance standards as measured by the *Gov Index*. They are also more profitable, have higher borrowing capacity, larger firm size, and more tangible assets. In contrast, politically-connected POEs have lower income tax ratios and fewer growth options (see Table 16, Panel F)²¹.

[Insert Table 16 about here]

²¹ The descriptive statistics for the subsample of debt instrument choice, refinancing costs analysis, and announcement returns analysis will be provided upon request.

Before moving on to our multivariate analysis, we review the correlation matrix for all variables in the main sample (see Table 17). The table raises only few concerns about potential multicollinearity in our subsequent regression analysis. This is supported by the variance inflation factors (VIFs) in our main regression models, which reveal no evidence of multicollinearity. In all tables, the mean and maximum VIF values are well below the critical value of 10 (see Kutner et al., 2005)²².

[Insert Tables 17 about here]

3.4.2. Political Connections and Corporate Bond Issuance

We first report the results of using Equation (1) to examine the link between political connections and the probability of issuing a corporate bond. As described in Section 5.1, Equation (1) is applied to a balanced, propensity score matched sample. The results of the PSM routine are shown in Table 18. The procedure produces 492 firm-year observations (246 matched firm-year pairs).²³ In the unbalanced sample, we find that bond issuers have statistically significantly different firm characteristics from non-connected POEs (see Table 18, Panel B). These differences disappear for the PSM sample, implying that the procedure was successful (Table 4, Panels A and B).

Panel A in Table 19 reports the results of the logit regression using the PSM sample (Equation 1). For our primary measure of political connections (*Connection*), we find a significantly positive association with corporate bond issuance (see Specification 1). The coefficient is 0.722 and the marginal effects show that the probability of corporate bond issuance rises from 42.5% by 17.2 percentage points (an increase of 40.5%) when hiring a politically-connected top manager. The results are very similar for our second measure, *PC Index* (Specification 2), which has a coefficient of 0.299. The predicted probability of issuing corporate bonds is 43.1% when the POE's top management is not politically connected (*PC Index*=0). The probability increases by 7.1 percentage

²² We check the correlation matrices for different subsamples and discover no potential multicollinearity.

²³ We also use the full (unbalanced) sample with all 9,879 firm-year observations to run the logit regression analysis. The results are highly consistent with those obtained with the post-matching sample. The results are omitted for brevity but are available upon request.

points (a 16.5% increase) when the *PC Index* increases to 1. The predicted probability of corporate bond issuance increases by an additional 7.2 percentage points (a 14.3% increase) when the *PC Index* increases from 1 to 2, and by 6.8 percentage points (or 11.8%) when the *PC Index* increases from 2 to 3. In the fixed-effects panel logit regression, shown in specifications (1') and (2'), the results reveal similar effects of political connections on the likelihood of corporate bond issuance. These results support Hypothesis 1, suggesting that politically-connected managers can use their ties to issue corporate bonds.

We also consistently find that POEs with lower corporate governance standards are more likely to issue corporate bonds, measured by the *Gov Index* (see Panel A in Table 19). This finding is consistent with that from Lin et al. (2013). We explain our findings with their monitoring avoidance hypothesis. They argue that bank borrowing is monitored and closely scrutinized by bank lenders. Poorly governed firms prefer public debt as a way of insulating themselves from bank monitoring.

[Insert Tables 18 and 19 about here]

Next, we estimate Equation (2), which focuses on chairman and CEO turnovers, in an attempt to overcome, e.g., possible endogeneity concerns. We search for turnovers in which the succeeding manager is more politically connected than his/her predecessor (*Political Turnover* = 1). If political connections are an essential factor for corporate bond issuance, we expect to find a greater likelihood of issuance in the years after such a turnover. We find 246 corporate bond-issuing firm-year observations that fulfill the criterion of a political turnover. For the control group, we run the same PSM routine as described for Equation (1), but on this occasion, we also require that the turnover POE and the control company have the same *PC Index* before the turnover. We further require that the control firm has no turnover in subsequent years. The diagnostic tests show that the firm characteristics and political connections for the turnover companies are not statistically different from those of the control companies (see Table 20), implying that matching is successful.

Post matching, we re-estimate the logit regression specified in Equation (2), expecting a positive coefficient for the variable *Political Turnover*. This expectation is confirmed by Table 21, although the level of statistical significance is only 10%. We interpret this as further support for a causal

relationship between top management’s political connections and a firm’s corporate bond issuance (Hypothesis 1).²⁴

[Insert Tables 20 and 21 about here]

3.4.3. Corporate Governance and Corporate Bond Issuance

Table 22 reports the results of the ordered logit regression analysis. We can see that the coefficient of bond in all specifications is negative and statistically significant at the 5% level. This empirical finding is in line with our Hypothesis 3: POEs issuing corporate bonds are not able to maintain overall high governance standards. Interestingly, the empirical results suggest that the link between political connections and corporate governance is negative, confirming our expectation that the function of political connections could be viewed as corruption. Therefore, POEs relying on political connections exhibit poorer corporate governance.

The empirical results of the corporate governance among corporate bond issuers only are displayed in Column 5 and 6. If we only examine the corporate governance for the POEs that have placed their corporate bonds, we can see that the overall corporate governance of POEs with government connections is significant worse than POEs without such connections, measured either by *Connection* or *PC Index*.

Overall, the analysis of bond issuers’ corporate governance suggests that POE bond issuers have relatively low corporate governance standard, specifically the ones with political connections. Companies whose corporate governance are poor may not able to protect their bond investors. Thus, the large amount of bond defaults issued by POEs in recent years may partially stem from such POEs’ low corporate governance standards.

[Insert Tables 22 about here]

²⁴ In unreported tests, we investigate whether the importance of political connections in China decreased over time by splitting the sample into two subperiods (2007-2011 and 2012-2016) and rerunning the main regression tables (see Lin et al., 2016; Xu and Yano, 2017). We find no loss in statistical significance in the later subperiod, but the magnitude of the coefficients for our main variables of interest, *Connection* and *Gov Index*, are slightly lower. Our findings suggest that the importance of political connections in China decreased over time, but that they still matter both statistically and economically.

3.4.4. Political Connections and the Choice of Debt-Financing Instruments

Our previous analyses suggest that politically-connected POEs are in a better position to issue corporate bonds than their non-connected counterparts. However, we have not ruled out the alternative explanation that politically-connected POEs simply *prefer* private over public debt to finance their operations. Therefore, we test Hypothesis 2, which states that, in comparison to their non-connected counterparts, politically-connected POEs are more likely to choose public debt (corporate bonds) over private bank loans as a debt-financing instrument.

Table 23 provides the results of this multinomial logit estimation, which is defined in Equation (3). Specifications 1 and 3 provide a comparison between corporate bond issuing POEs and non-issuing POEs.²⁵ We consistently find evidence (at the 1% significance level) that POEs are more likely to issue corporate bonds when they hire politically-connected top managers, regardless of whether political connections are measured by *Connection* or the *PC Index*. Consistent with Hypothesis 2, specification 2 shows that politically-connected POEs (*Connection*=1) are more likely to issue corporate bonds (as opposed to obtaining bank loans) than their non-connected peers. Our results are very similar when using the *PC Index* to measure political connections (specification 4). Similar to our univariate analysis, POEs better political connections are more likely to choose corporate bonds over bank loans.

Surprisingly, our empirical results show, counterintuitively, that POEs facing a higher likelihood of bankruptcy are more likely to issue public debt compared to those without debt issuance and those taking private bank debt. Intuitively, we would expect that firms with a higher default risk would choose private bank debt because of the renegotiation feature (see Denis and Mihov, 2003). Denis and Mihov's (2003) empirical analysis using U.S. firms confirms their conjecture that companies with lower Altman Z-scores are more likely to avoid issuing public debt. We interpret this surprising result as further evidence that the Chinese corporate bond market is influenced by political factors. In line with Hypothesis 1, it may be that political connections provide POEs with an implicit guarantee when they are in default, and that, as a result, connected

²⁵ Results from the multinomial logit are highly similar to those from a binary logit model. Respective tables are available from the authors upon request.

POEs are bold enough to tap into the public debt market even though their financial indicators infer higher default probability.

Given these counterintuitive findings, we explore further whether politically-connected bond issuers exhibit higher default risk using *Altman's Z-score*. According to the anecdotal evidence described in Section 1 that suggested that China's corporate bond market has experienced a high number of bond defaults over the past two years, we question whether politically-connected issuers are actually less qualified for the corporate bond market, and whether it is these political connections that brings them to the table. To this end, we include an interaction term, *Connection* \times *Altman Z*, in our multilogit framework. The results are in line with our expectation that politically-connected issuers have higher default risk (lower *Altman Z*) than POEs without debt issues. The coefficient of the interaction term is statistically significant at the 10% level (see Column 5). However, the *Altman Z-scores* for politically-connected issuers are not significantly different from those of POEs that take out bank loans (see Column 6).

Thus, in a nutshell, our empirical evidence provides at least a partial explanation for the large number of corporate bond defaults. Political connections, rather than market forces, appear to distort China's nascent corporate bond market.

[Insert Table 23 about here]

3.4.5. Political Connections and Financing Costs

Our final analysis sheds light on the impact of political connections on a POE's financing costs when it issues a bond. We measure financing costs via the bond's *Coupon rate*, because all bonds in our sample are issued at par. To capture the determinants of the bond's *Coupon rate* we employ a tobit regression as specified in Equation (4). As noted in Section 5.3, we first address the endogenous nature of the probability of default (*PD*) by regressing it on political connections, firm characteristics, and issuance-related control variables. The predicted probability of default ($PD_{predicted}$) that results from this process is then employed in Equation (4).

The results are provided in column 1 of Table 24. In support of Hypothesis 5, we find that politically-connected POEs have lower financing costs (lower *Coupon rates*) when they issue a corporate bond than their non-connected peers. The coefficient of the political-connection dummy

(*Connection*) is -0.781, indicating that politically-connected POEs are able to issue corporate bonds at approximately a 0.8% lower *Coupon rate* than POEs without political connections. This discount is economically significant and supports the view that, in China, a POE's financing costs are not only determined by financial fundamentals and corporate governance quality, but also by political ties. This effect is consistent with prior findings that SOEs are able to borrow at lower interest rates than the market rate (see Ferri and Liu, 2010). We also find a positive relationship between the predicted value of a firm's probability of default and the *Coupon Rate*, which is intuitive assuming that credit rating agencies grasp a company's credit risk appropriately. The relationship indicates that firms with better creditworthiness (a lower value of $PD_{predicted}$) have lower financing costs (Qian and Strahan, 2007; Jiang, Kim, and Shen, 2012).

Overall, we find that political connections not only affect the likelihood of bond issuance by POEs, but also the coupon rate of the bonds they issue. This fact underscores the still immature nature of the Chinese corporate bond market and its links to political factors. It appears that, in China, politically well-connected corporate borrowers can lower their financing costs through their "political friends" instead of, e.g., providing better protection to investors. However, we also find that the standard principles of corporate borrowing, such as risk and firm size, are in place and have predictive power for the cost of borrowing.

[Insert Table 24 about here]

3.4.6. Stock Returns around Corporate Bond Issuing Announcements

Next, we perform an event study to examine how bond issues affect the stock returns of POEs. CAAR is calculated with one factor market model (value-weighted Shanghai and Shenzhen Composite Index as the market factor) In unreported tests, we find that the CAAR during a (0,1) event window around all bond issues in our sample is -0.5%, and is not statistically significant at conventional levels.²⁶ This finding is consistent with the existing literature that suggests that the overall average stock price reaction to public debt issuance is not significantly different from zero (see Eckbo, 1986; Shyam-Sunder, 1991; Kim and Stulz, 1992). However, shareholders react

²⁶ Because the CAAR is not statistically significantly different from zero, we do not include the table reporting the CAAR and its associated t-statistic and p-value in the main text. This table is available from the authors upon request.

differently if corporate bonds are issued by politically-connected top management (see Table 25). On average, we find that the announcement returns of politically-connected POEs are 1.2 percentage points higher. This univariate result echoes what we posit under Hypothesis 6, i.e. that political connections have a certification effect for issuing firms and enhance their financing sources while also reducing their financing costs. Thus, shareholders react positively to the public debt issue announcement.

We complement this univariate analysis with a multivariate regression analysis in which we control for bond and firm-specific characteristics (see Table 26). The empirical results are consistent with those from the univariate analysis above, with the announcement returns again being 1.2 percentage points higher on average for politically-connected POEs.²⁷ For robust check, CAAR are calculated with a one factor market model (equal-weighted Shanghai and Shenzhen Composite Index as the market factor), a Fama-French three factor model (Fama and French, 1996), and a Fama-French five factor model (Fama and French, 2015), respectively. The results from those estimations consistently show that POEs with political ties generate higher bond issuing announcement returns. We interpret this as further support for Hypothesis 6.

[Insert Tables 25 and 26 about here]

3.5. Robustness Tests

3.5.1. Further Endogeneity Check

The quasi-natural experiment above may not perfectly resolve the endogeneity issue because the top managers' turnover is still endogenously determined within the firm. Thus, top managers' turnover cannot be viewed as a purely exogenous shock and the estimation based on the quasi-natural experiment may not be robust. To further cope with the endogeneity issue and provide more robust estimation, we employ an instrument variable for our interested variable, political connections. Following Boubakri, Cosset, and Saffar (2012) and Houston et al. (2014), we

²⁷ To ensure the robustness of our results, we also employ the CARs for alternative event windows in our regression analysis. The empirical results remain qualitatively unchanged. The respective tables are available from the authors upon request.

instrument political connections by the geo-distance between a POE's headquarter and the provincial capital city where the POE is located. The data of Chinese cities' coordinates is purchased and collected from *GeoPostcodes* to calculate the geo-distance²⁸. In the first-stage estimation, we predict political connections using the geo-distance between a POE's headquarter and the capital city of the province where the POE is located. Geo-distance is measured by the natural logarithm of one plus the geo-distance between a POE's headquarter and the provincial capital city through a probit model. The fitted values of political connections obtained from the first-stage estimation are then applied in the second-stage regression. We perform the instrument variable analysis for both post-match cross-sectional analysis and panel analysis, because propensity score matching routine may not perfectly mitigate potential endogeneity of the political connections. For the first stage estimation, we observe that geo-distance is a good predictor of political connections: the geo-distance to the provincial capital city is significantly (significant at the 1% level) shorter for connected POEs than their unconnected counterparts²⁹. The panel B in Table 19 shows results of the second-stage estimation. We can see that the instrumented value of political connections is positive and statistically significant at the 1% level in both the post-match cross-sectional analysis (Colum 1) and the panel analysis (Column 2). In addition, The Stock-Yogo test (Stock and Yogo, 2005) and Durbin-Wu-Hausman test (Durbin, 1954; Wu, 1973; and Hausman, 1978) suggest that endogeneity is at presence and our instrument variable is not a weak instrument. Overall, the results from the instrument variable analysis reinforce the positive impact of political connections on Chinese POEs' access to the public debt market.

Given the endogeneity concerns for political connections, the suggested relationship between political connections and refinancing costs, and announcement returns may not be robust as well.

²⁸ We are aware that in the study of Houston et al. (2014), they instrument political connections by not only the distance between a firm's location and the state capital of the U.S., but also the distance between a firm's location and the capital city of the U.S., Washington D.C. We intend to do the similar estimation by calculating the geo-distance between a POE's headquarter and the Chinese capital city, Beijing. However, because Chinese POEs are highly clustered in China's east and coastal provinces, there is no significant variations on the distance between a POE's location and Beijing.

²⁹ To avoid further inflating the page numbers, we only report the results of the second stage estimation for the instrument variable analysis. The results of the first stage estimation will be provided upon request.

Thus, we additionally perform similar instrument variable analysis for the refinancing costs analysis and the announcement returns analysis. The results are shown in Column 2 of Table 24 and in Column 5-8 of Table 26. The results of the instrumented value of political connections consistently reveal that politically connected POEs are able to place their bonds at lower costs and shareholders in connected POEs positively react to the bond issuing announcement.

Furthermore, Cooper et al. (2010) state that firms may choose to hire politically connected top managers to overcome certain weakness in their business. Thus, there might be a selection effect in political connections. Although we have already employed propensity score matching routine to deal with the potential selection bias in political connections, applying the conventional Heckman selection model (Heckman, 1976) may further strengthen our argument. We report the second stage of the Heckman selection model including the inverse Mills ratio in Colum 3 in Panel B, Table 19. The inverse Mills ratio is statistically significant at the 5% level, indicating there is a selection bias. After controlling for the selection bias, the positive link between political connections and bond issuance remain unchanged³⁰.

3.5.2. The Political Connections of Blockholders

An alternative explanation for our findings might be that the political connections of a firms' blockholders and not those of the top management are driving our results. This notion is related to the research of Anderson, Chi and Wang (2017), who analyze the link between political connections and venture capitalist (VC) exits in China. They differentiate between management-level political connections (top managers having political connections) and ownership-level political connections (the controlling shareholder is the government). Their empirical results suggest that political connections facilitate successful VC exits, but that management-level political connections have a much greater impact than ownership-level political connections, since the latter come at the cost of severe agency problems.

³⁰ We perform Heckman selection model for both refinancing costs analysis and announcement returns analysis. However, we do not find a statistically significant value of inverse Mills ratio and the results on political connections remain qualitatively unchanged. Results can be provided upon requests.

To control for ownership-level political connections, we use the methodology described in Section 4.2. There is no single best way to measure these connections, thus we employ several proxies (see also Table 14): *LBH Connection* (the percentage ownership of the largest politically-connected blockholder) and *Multi BH Connections* (a dummy variable that equals 1 if more than one non-management blockholder is politically connected). We incorporate these variables simultaneously with the management-level political connection variables in our model.

Interestingly, we find that – in contrast to management-level political connections – ownership-level connections measured by *LBH Connection* are negatively associated with the likelihood of issuing a corporate bond. Furthermore, it seems that having additional politically-connected blockholders does not affect the probability of issuing a corporate bond over and above having one politically-connected blockholder. In our dataset, the biggest non-management, politically-connected blockholder is, in general, the state and their percentage ownership is predominantly in the 10% to 20% range. Hess, Gunasekarage, and Hovey (2010) find that governmental ownership for listed Chinese firms is only beneficial above the 35% level. Low-level state ownership is in fact detrimental to firm value, especially when the company is a POE. They argue that state blockholders with lower levels of ownership tend to extract rents for their own benefits, creating a severe agency problem (see also Shleifer, 1998; Lerner, 2010). Our results suggest a similar relationship in that the costs of direct governmental ownership outweigh the benefits of potential preferential treatment.

We examine the relationship between ownership-level political connections and the choice of debt instrument (loans versus bonds), and find that they are unrelated, regardless of whether we use *LBH Connection* or *Multi BH Connections* as a proxy.

Finally, as described in Section 4.2, we perform a quasi experiment to test the robustness of the previous results regarding the relationship between ownership-level political connections and corporate bond issuances. We identify all non-connected POEs, and define a variable, *PBH Turnover*, that equals 1 if a politically-connected blockholder comes in for the first time (while management remains non-connected). We find the coefficient of *PBH Turnover* to be statistically

insignificant, indicating that such turnovers have no significant influence on the likelihood of corporate bond issuance.

In summary, the above robustness tests reveal that 1) the influence of top management political connections is not altered by simultaneously considering ownership-level political connections, and 2) ownership-level political connections are not positively associated with the issuance of corporate bonds³¹.

4. The Great Wall and beyond: The value of implicit government guarantees for corporate bonds in mainland China and its Northeast regions

4.1. Institutional Background

4.1.1. The Development of LGFVs and Chengtou Bonds

Local government financing vehicles (LGFVs) are state-owned companies whose controlling or sole shareholders are local governments. Specifically, the shareholders are mainly the State-owned Assets Supervision and Administration Committees (SASACs) of local governments. Prior to the Tax Sharing Reform of 1994, local governments in China were free to allocate their tax revenue to infrastructure and urban development projects of their choice. However, the reform removed the rights of local governments to control their tax revenue. In response, they were obligated to seek other sources of funding (Zhang and Barnett, 2014; Ambrose, Deng, and Wu, 2015). Along with the tax reform, the updated Budget Law in 1994 prohibited local governments from running budget deficits, thereby motivating them to run implicit budget deficits through their LGFVs. Thus, the aforementioned policy changes resulted in an abundance of LGFVs. Nevertheless, before 2009, the financing activities of LGFVs were severely regulated by China's central government.

In 2009, in response to the global financial crisis, the Chinese government issued a four-trillion Chinese yuan stimulus package to prompt China's economic growth. Local infrastructure projects were the major component of the stimulus package, meaning that local governments were burdened with the financing. Because the central government only provided 25% of the four-trillion yuan

³¹ The results of ownership-level political connections will be provided upon request.

package, it left a shortfall of three trillion for local governments to find (Bai, Hsieh, and Zheng, 2016; Chen, He and Liu, 2017). As noted above, due to the 1994 Budget Law, local governments were forced to finance their investments through LGFVs. Nevertheless, China's lawmakers alleviated the regulations and allowed some flexibility with regard to financing using LGFVs. In particular, local governments were permitted to finance infrastructure projects by acquiring bank loans through their LGFVs and consequently, such loans grew at an unprecedented rate³². In turn, LGFVs issued a large number of bonds to finance the massive bank debt. In 2008, there were only 12 LGFVs that issued these bonds, a figure that increased to 516 in 2013 (Chen, He, and Liu, 2017). The percentage of China's aggregate corporate bonds accounted for by Chengtou bonds rose from 13% in 2008 to 61.5% by the end of 2016 (Chen, He and Liu, 2017). Chengtou bonds are not only traded on the Shanghai and Shenzhen stock exchanges, but also in a specific market called the "interbank market"³³. The bondholders are mostly qualified financial institutions including banks, mutual funds, and insurance companies (Borst, 2016).

The nature of Chengtou bonds is controversial. Legally, Chengtou bonds are classified as corporate bonds, but the Chinese media and academics often consider them to be municipal debt. The related uncertainty largely stems from the fact that the rules and regulations are continually in flux. Chengtou bond investors are uncertain of the extent to which local governments are liable for the Chengtou bonds issued by their LGFVs. Because of the natural tie between local governments and LGFVs, and the fact that China's lawmakers encouraged local governments to raise funds for the stimulus package through LGFVs, it is reasonable for investors in quasi-municipal corporate bonds to expect an implicit governmental guarantee in the case of default (Chen, He, and Liu, 2017).

¹ Bai, Hsieh, and Zheng (2016) estimate that about 90% of local government infrastructure projects were financed with bank loans in 2009. In addition, Chen et al. (2017) show that LGFVs took out approximately 2.3 trillion Chinese yuan in new bank loans in 2009, accounting for 27.5% of China's GDP. The average proportion of bank loans to GDP in previous years was only around 15%.

² Unlike the exchange-traded corporate-bond market, which is regulated by China's Securities Regulatory Commission, the interbank bond market is regulated by China's central bank (the People's Bank of China). The corporate bonds issued in the interbank market are called enterprise bonds. Only high quality state-owned companies can issue corporate bonds in the interbank market (Huang and Zhu, 2009).

4.1.2. Policy Changes Regarding LGFVs

Even if an implicit governmental guarantee is assumed, Chengtou bond investors may be worried about the ability of local governments to bail out the debt in the case of default. Their worries may well stem from local governments' massive debt accumulation, China's slowing economic growth, and the large number of corporate bond defaults in recent years (Schweizer, Walker, and Zhang, 2017). Furthermore, Gao, Liao, and Wang (2017) provide direct evidence that LGFVs have defaulted on their bank loans (at least before 2014), suggesting that Chengtou bonds could also be at risk.

Recent policy changes reducing the liabilities of local governments for their LGFVs are likely to have further curtailed investors' bail-out expectations. On September 2014, the State Council of China (SCC) issued Document 43, which (a) prohibited local governments from providing guarantees for the corporate bonds issued by their LGFVs and (b) revoked the option of local governments raising funds through their LGFVs (Chen, He, and Liu, 2017).

In addition to Document 43, the SCC issued another document, Document 88, in November 2016. This document further limited local governments from offering implicit guarantees for Chengtou debts. It states that if the Chengtou bondholders do not agree to a "swap program" which would replace their Chengtou bonds with newly issued municipal bonds, they should assume that their Chengtou debts no longer carry any government guarantees (Sina Finance, 2017a).

Finally, in April 2017, the Ministry of Finance issued Document 50, which specified the following rules to further limit local governments' guarantees for their LGFVs. Firstly, local governments cannot inject their assets of public welfare, nor their land reserves, into their LGFVs. Moreover, local governments cannot promise to use revenue from expected land sales as a guarantee for LGFVs' debt repayment. Secondly, LGFVs must declare to Chengtou bondholders that local governments are not responsible for new Chengtou debts. Thirdly, financial institutions are not permitted to ask for or accept any sort of guarantee from local governments when providing financing to LGFVs (Sina Finance, 2017b). It is widely agreed by the Chinese media that

Document 50 completely stalled the possibility for local governments to offer guarantees for LGFVs' Chengtou debts. A news article on a well-known Chinese website (Sohu Finance, 2017) reported that the yield spread of both AA+ and AA Chengtou bonds increased by 1.5 basis points after the announcement of Document 50.

4.2. Literature Review and Hypotheses Development

Kahan and Rock (2010) provide the theoretical background for understanding the role of implicit government support in determining corporate debt pricing. They argue that unlike private investors, whose goal is purely to maximize their wealth, government investors can incorporate social as well as political objectives into corporate financing decisions. In addition, government investors are able to influence the cost of debt in their invested companies via unique channels that are not available to private investors.

4.2.1. Implicit Government Guarantees and the Bond Yield Spread

Methodologically, we follow existing research that sheds light on the relationship between implicit government guarantees and debt pricing. In general, these studies show that implicit government guarantees alleviate bond risk. Flannery and Sorescu (1996) investigate the effect of implicit government support on the yield spreads of the subordinated debt of U.S. banks between 1983 and 1991. They argue that subordinated debentures are perceived by investors to have an implicit government guarantee. Their empirical results support this hypothesis by showing that investors of subordinated debt accept lower yield spreads. Heppke-Falk and Wolff (2008) and Schuknecht, von Hagen, and Wolswijk (2009) examine the effect of government bail-outs in the sub-national bond market in Germany. They find that receiving a bail-out from the federal government significantly reduces the risk premia of sub-national bonds issued by local governments with financial troubles. Acharya, Anginer, and Warburton (2016) investigate the credit spreads of unsecured bonds issued by U.S. financial institutions. They demonstrate that these credit spreads are sensitive to risk for most U.S. banks, but not for the largest banks (in the 90th percentile). They attribute this result to the “too big to fail” phenomenon. The bondholders of the

largest U.S. financial institutions expect the government to bail them out in the event of financial distress. Hence, bondholders do not price the risk accurately and the largest banks are able to borrow at discount rates.

The aforementioned literature has documented that implicit government guarantees are beneficial for debt pricing in developed countries. In more general terms, a vast body of literature has shown the positive effect of government support on the financing activities of firms in emerging markets, including China (Fan, Wong, and Zhang, 2007; Pessarossi and Weill, 2013; Li and Zhou, 2015; Schweizer, Walker, and Zhang, 2017). However, no study has examined the specific impact of implicit government support on investors' risk perception of corporate bonds in China. The institutional landscape in China exhibits a very concentrated political and governmental system, and as a result the government intervenes strongly in corporate financing activities (Schweizer, Walker, and Zhang, 2017). Hence, we postulate that in China, implicit government guarantees should have a relatively strong influence on the yield spread of corporate bonds. Moreover, as discussed in Section 2, Chengtou bonds are issued by LGFVs, with China's local governments being the sole or dominant shareholders. Therefore, we expect local governments to offer even more support to such LGFVs and to aim preventing them from defaulting on their Chengtou bonds. A widespread perception of an implicit government guarantee on the part of Chengtou bond investors would effectively lower their required risk premium. Based on the above arguments, we propose the following hypothesis:

Hypothesis 1: *The yield spreads of Chengtou bonds are lower than those of corporate bonds issued by privately-owned enterprises (POEs).*

4.2.2. Implicit Government Guarantees and Credit Ratings

It has been argued thus far that bond investors expect the government to bail out firms in financial trouble when those firms have implicit government support. Hence, an implicit government guarantee should be more valuable for firms with a higher probability of default. The existing literature supports our conjecture. Borisova et al. (2015) study the effect of implicit government

guarantees on the cost of publicly-traded corporate bonds for a sample of 43 countries. Governments' equity ownership, which is used as a proxy for implicit government guarantees, is found to produce lower yield spreads for firms that are experiencing a greater degree of financial distress. Yet, in the case of high-quality Chengtou bonds, issuers possess high credit ratings. Thus, bond investors should perceive such bonds as having a low likelihood of default and hence of being less likely to be rescued by the government. In other words, we expect the value of an implicit government guarantee to be lower for Chengtou bonds with higher credit ratings. We therefore postulate our second hypothesis as follows:

Hypothesis 2: *The effectiveness of implicit government support increases as the credit rating of a Chengtou bond decreases.*

4.2.3. Regional Effects and the Bond Yield Spread

The provincial fiscal and business environment is likely to have a direct influence on the effectiveness of implicit government guarantees. Evidence in support of this view is mainly based on studies for the United States. Poterba and Rueben (1999, 2001) investigate the impact of local fiscal rules on the yield spreads of state obligation bonds. They demonstrate that U.S. states with tighter budget rules and more restricted provisions on the authority of state legislatures to issue bonds tend to have lower yield spreads on their issued bonds. Similarly, Lowry (2001) shows that investors place a higher risk discount on bonds issued by states with tougher fiscal rules, whereas they attribute higher risk to bonds issued by states experiencing consecutive deficits. Feld et al. (2017) investigate the difference in yield spreads of sub-national ("canton") bonds across different cantons in Switzerland and find a substantial negative effect of the strength of cantonal fiscal rules on bond yield spreads.

In China, it is well recognized by bond investors and the financial media that the provinces in Northeast China ("Dongbei") exhibit the poorest fiscal and business environments³⁴. After the

³⁴ Northeast China consists of three provinces: Heilongjiang, Jilin, and Liaoning.

founding of the People's Republic in 1949, Northeast China, historically known as Manchuria, became the cradle for the country's Soviet-style development of heavy industry. However, Northeast China has been experiencing economic difficulties for the past three decades, lagging far behind provinces in the south and coastal areas where market-oriented reform has created economic miracles. According to the East Asia Forum (2017), the economic decline of Northeast China is due to the fact that "the system is broken: [The Northeast has] a poor environment for businesses, a lingering concept of 'big government' inherited from the planned-economy era, and unpredictable administrative interference". Anecdotal evidence also testifies as to Northeast China's poor financial condition. For instance, China Banking News (2017) reports that Northeast China has a very high ratio of non-performing loans. Similarly, Bloomberg (2017) notes that bond investors have blacklisted provinces in Northeast China after a run of defaults. The Bloomberg article also documents that the Liaoning province of Northeast China holds the highest number of corporate bond defaulters out of the 31 provinces in mainland China. In addition, the economic growth of the province is the lowest among all provinces in mainland China. Furthermore, an analysis conducted by Standard & Poor's (Financial Times, 2014) shows that Northeast China fared the worst among all regions in China and that two of the three provinces in Northeast China have speculative-grade credit features. The state of affairs is adroitly summarized by a saying among Chinese investors to "never invest beyond Shanghaiguan", meaning that it is unwise to invest in Northeast China (Global Times, 2018).

Based on the above evidence, we posit that bond investors demand a higher risk premium from bonds issued located in Northeast China. Moreover, because of the poor financial condition and highly corrupt political environment, bond investors are likely to expect the implicit government guarantees offered by the governments of Northeast China to be less credible than those of other regions. Our research hypotheses are thus:

Hypothesis 3: *The Chengtou bonds issued by LGFVs located in Northeast China have a higher yield spread than those issued by LGFVs in other regions of the country.*

Hypothesis 4: *Implicit government guarantees for Chengtou bonds are less effective in Northeast China than in other regions of the country.*

4.2.4. Policy Changes and the Bond Yield Spread

Policy changes can alter investors' expectations of implicit government guarantees and, thus, their perceived risk premium on debts. Flannery and Sorescu (1996) find that after the passage of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991, the yield spreads of U.S. banks' subordinated debt became more sensitive to the specific risks of issuing banks. This phenomenon reflects the fact that as the implicit guarantee was diminished through policy and legislative changes, debt holders realized that they were no longer protected from losses and responded by more accurately pricing risk. Sironi (2003) finds that the yield spreads of subordinated debt in EU countries started to exhibit risk sensitivity in the second half of 1990. The author argues that the implicit government guarantee perceived by investors diminished during this period due to the introduction of the Euro (which resulted in EU countries losing their own monetary policies) and due to specific budget constraints imposed by the EU. Acaya, Anginer, and Warburton (2016) study the effect of the passage of the Dodd-Frank Act in 2010 on the link between credit spreads and risk sensitivity for unsecured bonds issued by large U.S. financial institutions. Their empirical results show that the act did not remove investors' expectations of an implicit government guarantee. However, the act specifically targets too-big-to-fail financial institutions, which are a special case, as bond investors tend to assume that government support for such institutions will always be in place.

As described in Section 2, the three documents issued by the State Council of China (SCC) sought to restrict local governments from providing guarantees on Chengtou bonds issued by their LGFVs. We expect the yield spreads of Chengtou bonds to become more sensitive to specific risks associated with individual LGFVs than before as a result of this legislation. Therefore, we expect the difference in yield spreads between Chengtou bonds and POE bonds to become smaller after the issuance of each of the three documents, respectively. Consequently, we postulate Hypothesis 5 as:

Hypothesis 5: *The issuance of Document 43 (Document 88, Document 50) has a more positive influence on the yield spreads of Chengtou bonds than on the yield spreads of POE bonds.*

4.3. Data and Sample

4.3.1. Sample Construction

We collect information on Chinese-listed corporate bonds from the “China Bond Database”, part of the so-called Wind database, which is the most comprehensive database covering China's fixed-income markets and providing fundamental, pricing, credit rating, and transaction data. Specifically, we collect data on all publicly traded corporate bonds on the Shanghai and Shenzhen stock exchanges as well as in the interbank market. The Wind database classifies corporate bonds into several categories including Chengtou bonds, corporate bonds issued by state-owned enterprises (SOEs), and corporate bonds issued by privately-owned enterprises (POEs). To study the effect of implicit government guarantees on quasi-municipal corporate bonds, we only include Chengtou bonds and corporate bonds of POEs in our sample³⁵. Our final sample thus includes information on 2,700 quasi-municipal corporate bonds and 890 POE-issued corporate bonds during the period January 2010 to December 2017, i.e., the full sample period available from the Wind database at the time of our analysis.

4.3.2. Bond Yield Spreads

Our dependent variable is the monthly trading yield spread of Chengtou bonds and POE corporate bonds (*Spread*). The trading yield spread captures a bond's individual bond risk as perceived by the market. Specifically, the yield spread is calculated as the difference in the bond yield between a corporate bond and a treasury bond with the same maturity.

³⁵ We screen out SOEs for the following reason: Although China has been transforming into a more market-oriented economy, it still has a highly concentrated political system. Capital allocations and legal systems in China are ultimately controlled by central and local governments. The Chinese government tends to guarantee the prosperity of SOEs on the grounds that the state is the controlling shareholder (Schweizer, Walker, and Zhang, 2017). Because we only want to investigate the implicit government guarantee carried by Chengtou bonds issuers (LGFVs), the inclusion of SOEs would undermine the robustness of our analysis.

4.3.3. Implicit Government Guarantee

As mentioned previously, we consider Chengtou bonds to carry an implicit government guarantee because local governments are the sole or dominant shareholder of Chengtou bond issuers (LGFVs). We proxy for implicit government guarantees with a dummy variable (*Implicit*) that equals one if a corporate bond is classified as a Chengtou bond in the Wind database and zero otherwise.

4.3.4. Credit Rating

To capture the differential effect of implicit government guarantees on the yield spreads of “Chengtou” bonds of different credit ratings (see Hypothesis 2), we obtain the bond issuers’ credit rating from the Wind database³⁶. Credit ratings in this database are classified into four categories: AAA, AA+, AA, and AA-³⁷. We create a variable (*Rating*) ranging from one to four, with AA- assigned a value of one and AAA a value of four.

4.3.5. Regional Effects

To examine whether the poor financial and business environment in Northeast China is associated with higher bond yield spreads, we construct a dummy variable (*Northeast*), which takes on a value of one if a bond issuer is located in Northeast China and zero otherwise.

4.3.6. Control Variables

Following the literature on debt financing, we first control for a vector of firm-specific characteristics that may influence a bond issuer’s risk: profitability (*ROA*), leverage (*LEV*) and firm size (*Size*). Second, we control for a variety of bond-specific characteristics, i.e., the issuing volume (*Volume*), the remaining time to maturity (*Maturity*), and the difference between the highest and

³⁶ Bonds are rated at issue by one of the five major credit rating agencies: (i) the China Chengxin International Credit Rating Co., Ltd. (a joint venture with Moody's); (ii) the China Lianhe Credit Rating Co. Ltd. (a joint venture with Fitch Ratings); (iii) the Dagong Global Credit Rating Co., Ltd.; (iv) the Pengyuan Credit Rating Co., Ltd.; and (v) the Shanghai Brilliance Credit Rating & Investors Service Co., Ltd. (see Ang, Bai, and Zhou, 2016).

³⁷ Ang, Bai, and Zhou (2016) argue that bond ratings in China are highly inflated and homogeneous, ranging from AAA to A only.

lowest price in a given month (*Liquidity*). Third, to control for macroeconomic conditions, we include the quarterly change in the gross domestic product (GDP) of the province in which the bond issuer is located (*GDP growth*), the yearly return of the one-year treasury bill (*Risk free rate*), the difference in the yearly return between ten-year and two-year treasury bonds (*Yield curve slope*), and a ratio that measures the growth rate in the money supply (*M2 growth*). Finally, we include an indicator variable that represents the presence of an explicit guarantee (*Explicit*). We include this variable because some of the bond issuers have explicit guarantors, who are usually SOEs or state-owned financial institutions. Thus, the indicator variable is set equal to one if a bond issuer has a guarantor at the time of bond issuance and zero otherwise. Table 27 provides detailed descriptions for all variables.

4.4. Methodology

4.4.1. Implicit Government Guarantees and Bond Yield Spreads

To examine whether implicit government guarantees lower bond investors' risk perception, we estimate the following panel regression:

$$Spread_{i,t} = \alpha + \beta_1 \cdot Implicit_{i,t} + \beta_2 \cdot Rating_{i,t} + \beta_3 \cdot Implicit_{i,t} \times Rating_{i,t} + \gamma \cdot Firm_{i,t} + \delta \cdot Bond_{i,t} + \theta \cdot Macro_{i,t} + \pi_t + \varepsilon \quad (1)$$

where $Spread_{i,t}$ is the monthly trading yield spread for bond i . Implicit government guarantees are measured by $Implicit_{i,t}$ and credit ratings are measured by $Rating_{i,t}$. $Firm_{i,t}$ is a vector of firm-specific characteristics (*ROA, Leverage, Size*), $Bond_{i,t}$ captures bond-specific characteristics (*Volume, Maturity, Liquidity, Explicit*), $Macro_{i,t}$ proxies for macroeconomic conditions (*GDP growth, Risk free rate, Yield curve slope, M2 growth*), and π_t are year fixed effects. If bond investors expect the implicit government guarantee in “Chengtou” bonds to mitigate the bonds' individual risk, β_1 will be negative (Hypothesis 1). Furthermore, we expect the implicit government guarantee to be more effective for bonds with a higher probability of default (Hypothesis 2), in which case the interaction coefficient β_3 will be positive.

4.4.2. Regional Effects and Bond Yield Spreads

To investigate whether bond investors attribute a higher risk to bonds for which the issuer is located in Northeast China, we add the dummy variable *Northeast* to equation (1):

$$\begin{aligned} Spread_{i,t} = & \alpha + \beta_1 \cdot Implicit_{i,t} + \beta_2 \cdot Rating_{i,t} + \beta_3 \cdot Northeast_i + \beta_4 \cdot Implicit_{i,t} \times Rating_{i,t} + \beta_5 \cdot \\ & Implicit_{i,t} \times Northeast_i + \gamma \cdot Firm_{i,t} + \delta \cdot Bond_{i,t} + \theta \cdot Macro_{i,t} + \pi_t + \varepsilon \end{aligned} \quad (2)$$

If the poor investing environment of Northeast China causes bond investors to have higher risk expectations, β_3 will be positive (Hypothesis 3). In addition, if investors believe that the implicit support offered from the governments in Northeast China is not credible, the coefficient of the interaction term β_5 will be positive (Hypothesis 4).

4.4.3. Policy Changes and Bond Yield Spreads

We carry out a difference-in-differences (DID) regression to examine whether the strength of implicit government guarantees diminished after the issuance of Documents 43, 88, and 50. Our DID model is specified as follows:

$$Spread_{i,t} = \alpha + \beta_1 \cdot Implicit_{i,t} + \beta_2 \cdot Post_{43,88,50} + \beta_3 \cdot Implicit_{i,t} \cdot Post_{43,88,50} + \mathbf{v}_n \cdot \mathbf{N}_n + \pi_t + \varepsilon \quad (3)$$

where $Implicit_{i,t}$ captures the treatment status and $Post_{43,88,50}$ represents a series of three dummy variables ($Post_{43}$, $Post_{88}$, and $Post_{50}$) that indicate whether a given observation in our sample falls after the issuance of either of the three documents (post Document 43, post Document 88, and Document 50, respectively). \mathbf{N}_n is a vector of all control variables. Our main interest is the coefficient of the DID estimator (β_3). If the implicit government guarantee originally embedded in “Chengtou” bonds diminished after the issuance of a given document (43, 88 or 50), the coefficient of the DID estimator will be positive. To study the isolated effect of each document, we only include the observations for the five months before and after the document was issued³⁸.

³⁸ We initially planned to compare the yield spreads for a period of six months before and after each document was issued. However, this would have led to an overlap between Document 88 and Document 50.

4.5. Empirical Results

4.5.1. Descriptive Statistics

We start our empirical analysis by examining three figures that depict the dynamic change in yield spreads for Chinese corporate bonds over our sample period. Figure 3 shows the fluctuation in yield spreads for different Chengtou bonds, classified by credit rating. The yield spreads decrease for bonds with higher credit ratings, which is in line with common knowledge. Of greater interest is the effect of the issuance of the three documents intended to refrain local governments from providing implicit guarantees for corporate bonds issued by their LGFVs. We can see clearly that there is a significant increase in the yield spreads of Chengtou bonds immediately following the issuance of Document 43, reflecting a greater sensitivity of investors to bond-specific risks. What is perhaps surprising is that this increase only lasts for a relatively short period, from the issuance of Document 43 (September 2014) to the beginning of 2015. From the beginning of 2015, the yield spreads decrease to an even lower level than before Document 43. This seemingly counter-intuitive finding is further addressed in our multivariate analysis and is discussed in detail in Section 6.5. Unlike Document 43, the subsequent documents exhibit the expected effects; the risk of Chengtou bonds increases after the issuance of both Document 88 and Document 50.

The yield spreads of POE corporate bonds, depicted in Figure 4, fluctuate more than those of Chengtou bonds. Moreover, we do not observe the same effect of the three governmental documents, which is not surprising since they targeted Chengtou bonds. We interpret this finding as evidence that POE bonds are not guaranteed by Chinese governments and that their prices are therefore more market-driven, i.e., their price movement is affected by market forces only. Finally, to facilitate a comparison of the temporal behavior of Chengtou and POE bonds, Figure 5 shows the difference in yield spreads between the two bond types.

[Insert Figures 3, 4, and 5 about here]

Table 28 provides descriptive statistics for Chengtou and POE bonds. The table shows that Chengtou bonds are less risky than corporate bonds issued by POEs, with average yield spreads of

220.4 basis points (or 2.204%) and 287.6 basis points (or 2.876%), respectively. The differences in both the mean and the median (shown in Panel C) are significant at the 1% level. We interpret this finding as univariate evidence for Hypothesis 1, namely that implicit government guarantees effectively alleviate the risk of Chinese corporate bonds. In addition, we conclude that - compared with more market-oriented POEs - Chengtou bond issuers are less profitable (*ROA*), larger (*Firm size*), and have fewer liabilities (*LEV*). With respect to bond-specific characteristics, Chengtou bonds tend to have larger issue volumes (*Issue size*) and longer maturities (*Maturity*); they are also more likely to have an explicit guarantor (*Explicit*).

[Insert Table 28 about here]

Table 29 shows the univariate differences in the yield spreads between different classifications of corporate bonds. In Panel A, we classify both Chengtou bonds and POE bonds into four sub-groups based on credit ratings. Regardless of the credit rating, corporate bonds with an implicit government guarantee consistently exhibit lower risk than private companies' bonds, with the differences in both the mean and median being significant at the 1% level. These results further corroborate Hypothesis 1. In addition, the difference in the yield spread between Chengtou and POE bonds increases with decreasing credit ratings. This indicates that the implicit government guarantee is more potent for bond issuers who are more likely to experience financial distress, supporting Hypothesis 2.

Panel B classifies Chengtou and POE bonds based on the province in which the bond issuer is located – specifically, Northeast China versus other provinces. The panel shows that both types of bonds are riskier when issued in Northeast China. This finding provides univariate support for Hypothesis 3.

[Insert Table 29 about here]

Before proceeding to our multivariate analysis, we examine the correlation matrix for all variables in our sample. The results in Table 30 raise few concerns about potential multicollinearity.

[Insert Table 30 about here]

4.5.2. Implicit Government Guarantees and Bond Yield Spreads

We first present the results of our regression analysis of Equation (3) to investigate the influence of implicit government support on corporate bond yield spreads. We can clearly see from the first column of Table 31 that the coefficient of *Implicit* is negative (-163.58) and statistically significant at the 1% level. This indicates that the risk (as captured by the yield spread) of corporate bonds with an implicit government guarantee is approximately 1.64% lower than that of bonds without such a guarantee. Together with the previous univariate evidence, this implies that our first hypothesis is supported: investors attribute lower risk to Chengtou bonds, presumably due to the implicit government support they carry. Column 2 includes the interaction term between an implicit government guarantee and the bond issuer's credit rating. The coefficient is positive and statistically significant at the 5% level, while the coefficients of both of the base effects (*Implicit* and *Rating*) are negative. Taken together, these results reveal that for bond issuers with better credit ratings, the mitigating effect of implicit government guarantees on corporate bond risk is attenuated. Put differently, an implicit government guarantee is more valuable for bond issuers that have a higher probability of default, which supports Hypothesis 2. In addition, Columns 3 to 6 provide the results for a robustness check of Hypothesis 2 by dividing the sample into four groups according to credit rating. Consistent with Hypothesis 2, we find that with a decrease in the credit rating from AAA to AA-, the effect of an implicit government guarantee in lowering the yield spread (relative to corporate bonds without such a guarantee) increases from 75.39 basis points to 166.85 basis points.

In addition, consistent with the corporate debt literature, we find some statistical evidence that bond yield spreads are lower for more profitable firms (*ROA*), firms with lower leverage (*LEV*), larger firms (*Firm size*), bonds with higher issue volume (*Issue size*) and bonds with explicit guarantors in the bond prospectus (*Explicit*). Furthermore, bond risks are positively associated with time to maturity (*Maturity*) and the *Yield curve slope*, whereas they are negatively associated with monetary expansion (*M2 growth*). Interestingly, for the lowest-rated bonds (AA-) only, leverage is

negatively associated with yield spreads. Perhaps for the firms that are most likely to experience financial troubles, the existing debt level has a signaling effect for bond investors about the firm's future financial performance (Ross, 1977; Barclay, Smith, and Watts, 1995). Another interesting finding is that the GDP growth rate (*GDP growth*) has a positive sign, suggesting that corporate bonds are riskier in provinces with a higher GDP growth rate. A possible explanation is offered by Ang, Bai, and Zhou (2016). They demonstrate that provinces with higher GDP growth also have higher growth volatility, which is perceived by bond investors as a greater macroeconomic risk.

[Insert Table 31 about here]

4.5.3. Regional Effects and Bond Yield Spreads

Our empirical analysis related to Hypotheses 3 and 4 is provided in Table 32. The coefficient of the indicator variable *Northeast* is positive and statistically significant at the 1% level. This result confirms Hypothesis 3; that is, due to the poor business and economic environment of the three provinces of Northeast China, bond investors are more sensitive to risk for bonds issued in this region. To test Hypothesis 4, we include the interaction effect of the implicit government guarantee and the *Northeast* dummy. As noted in our hypothesis development, if bond investors feel that the governments in Northeast China are not credible, the mitigating effect of the implicit government guarantees on bond yields should be weakened by the interaction with *Northeast*. However, we do not observe a significant effect for the interaction term (Column 2). Interestingly, after including the interaction effect, the *Northeast* dummy itself loses significance, whereas the implicit government guarantee remains statistically significant. These findings suggest that, contrary to our expectations, the effect of implicit government guarantees is not eroded by the poor business environment in Northeast China. In other words, bond investors are still confident in the governments of the Northeast provinces.

[Insert Table 32 about here]

4.5.4. Document 43 and Bond Yield Spreads

Next, we perform a DID estimation to examine the impact of an exogenous shock that occurred during our sample period, that is, the impact of a crucial document issued by China's central government to limit the influence of implicit government guarantees. The effect of Document 43 is shown in the first column of Table 33. Surprisingly, we observe a negative and statistically significant coefficient for the interaction term $Implicit \times Post_{43}$, suggesting that the mitigating effect of the implicit government guarantees on bond yield spreads became even stronger after the issuance of Document 43. The magnitude of the interaction coefficient (-19.68) shows that the difference in yield spreads between Chengtou and POE bonds increases by almost 20 basis points. This finding, which is consistent with Figure 5, indicates that implicit government guarantees are perceived to be even more effective after the issuance of Document 43. In a nutshell, this finding is seemingly at odds with the Chinese government's initiative to limit local governments' implicit support for Chengtou bonds, as well as our hypothesis. Logically, if Document 43 was effective in reducing investors' expectations about the implicit government guarantees embedded in Chengtou debts, we should observe no significant difference in the yield spreads between Chengtou and POE bonds, or at least a reduced gap in the yield spreads between Chengtou and POE bonds after the passage of Document 43. The following section aims to resolve this puzzle.

4.5.5. On the Effectiveness of Document 43

In an attempt to explain the stronger effect of implicit government guarantees as well as the enlarged gap in yield spreads between the two types of corporate bonds following the issuance of Document 43, we delve into the existing literature pertaining to China's Chengtou debts. Chen, He, and Liu (2017) argue that it is unclear whether the rules specified in Document 43 have been strictly implemented. In addition, they suggest that rules from other regulatory bodies of the Chinese government counteracted the effectiveness of Document 43. Specifically, in 2015, the Ministry of Finance initiated the "swap program" allowing local government to issue municipal bonds to replace some "qualified" debts. Since municipal bonds carry an explicit guarantee from the central government, the perceived default risk of Chengtou bonds was greatly reduced. In other words,

investors in Chengtou bonds believed that some level of implicit government guarantee was still in place. This is reflected in the fact that, although the net issuance of “Chengtou” bonds dropped from 1.7 trillion Chinese yuan in 2014 to 1.1 trillion in 2015, it rebounded to 1.5 trillion in 2016 (Chen, He, and Liu, 2017). Clarke (2016) further explains why “Chengtou” bonds were viewed as safer rather than riskier following the issuance of Document 43. He notes that in order to cope with the economic slowdown during that time, three government departments jointly issued Document 40, which was widely viewed by the public as reversing the original policies specified in the previously issued Document 43. Document 40 states the following: “*local financing firms can continue to get loans from banks to fund ongoing projects. If the local firms have trouble repaying their bank debts, their loan contracts should be renegotiated and extended*” (Clarke, 2016, pp. 19). Clarke’s (2016) observation is consistent with a report from the Wall Street Journal, which stated that the Chinese authorities announced their intention to relax some of the limits on the capability of local governments to raise funds through their LGFVs (Wall Street Journal, 2015). The move restored a back door that was closed by Document 43. In effect, China resorted to greater stimulus measures to meet its economic development targets while compromising its initiative to clean up the runaway local Chengtou debts (Wall Street Journal, 2015). Alongside these regulatory changes, China’s corporate-bond market experienced a large number of defaults, mostly for POE bonds (see Schweizer, Walker, and Zhang, 2017). The first corporate bond default, which involved a bond issued by a POE, is reported to have taken place in 2014 (Sohu Finance, 2018). Thereafter, the default risk of corporate bonds increased drastically, with 59 defaults reported between 2014 and 2016, of which 48 involved POEs (Sohu Finance, 2018). In summary, these events help explain why the gap in yield spreads between Chengtou and POE bonds increased after Document 43 was issued.

4.5.6. The Effects of Document 88 and 50

In contrast to Document 43, Columns 2 and 3 in Table 33 show that Documents 88 and 50 were effective in reducing the influence of implicit government guarantees on bond yield spreads. The interaction terms $Implicit \times Post_{88}$ and $Implicit \times Post_{50}$ are positive (17.34 and 21.71, respectively) and are statistically significant at the 5% level or better. These results indicate that the Chinese

authorities' ongoing efforts to curtail local governments' support for their LGFVs were successful. Although implicit government guarantees for Chengtou bonds are still in place, we can see the general trend that the yield spreads of Chengtou and POE bonds are converging. The gap in the yield spreads between Chengtou and POE bonds significantly mitigated following the initiatives of the Chinese government.

[Insert Table 33 about here]

4.6. Further Analysis

To further investigate the value of implicit government guarantees carried by Chengtou bonds, we test whether the effectiveness of these guarantees exhibits variations across different levels of the Chinese government. According to Wu and Feng (2014), local government debt financing not only has a long history in China that goes back to 1979, but is also widespread across all levels of local governments.³⁹ Similarly, the existing literature reveals that the debt financing of LGFVs varies significantly across different administrative levels of China's local governments. Ambrose, Deng, and Wu (2015) show that higher administrative levels of local governments are more active in debt financing, with larger issue volume and shorter issue intervals. Moreover, their study suggests that the risk premium of the bonds issued by LGFVs is significantly associated with the administrative levels of local governments. Specifically, bonds issued by lower administrative levels have higher yield spreads. They reason that the localities of higher administrative levels have better economic conditions and that companies in these areas enjoy a more promising business environment, and thus investors price less risk into bonds issued by their LGFVs. At the same time, they find that investors' risk sensitivity for POE bonds is unaffected by administrative levels. Instead, the yield spreads of POE bonds depends more on the issuers' accounting performance.

Based on Ambrose, Deng, and Wu's (2015) findings, we argue that the value of implicit

³⁹ According to China's governance structure, local governments are divided into five levels. They are provincial-level (municipalities) governments, sub-provincial-level governments, city-level governments, prefecture-level governments, and county-level governments (Wu and Feng, 2014).

government guarantees perceived by bond investors is different for Chengtou bonds issued by different level governments. Because cities that house higher administrative levels of government tend to have better economic conditions and business environments, investors would expect Chengtou bonds issued by the LGFVs at a higher administrative level to be less likely to default and price less risk into the bonds' risk premiums. For instance, municipalities (provincial-level cities) are of the highest administrative level among all localities, and in turn the Chengtou bonds issued by municipalities' LGFVs should have the lowest yield spreads, compared to Chengtou bonds issued by LGFVs in other administrative level cities. Therefore, implicit government guarantees are not valuable for such bonds as bond investors would assume these bonds to have stable cash flows and a lower default risk. With a low likelihood of financial distress, the expectation of government bail-outs is low. On the contrary, LGFVs in lower administrative level cities operate in a riskier business environment and thus their Chengtou bonds should have a higher probability of default. As a result, investors' bail-out expectations would be higher, making the implicit government guarantees more valuable for Chengtou bonds issued by LGFVs with lower administrative levels. Based on the above arguments, we hypothesize that the mitigating effect of implicit government guarantees on Chengtou bond yield spreads increases as the issuer city's administrative level decreases.

To test our hypothesis pertaining to local governments' administrative level, we create an indicator variable (*Level*) which ranges from 4 to 1, with 4 indicating that the bond issuer is located in a provincial-level city, 3 for issuers in sub-provincial-level cities, 2 for issuers in city-level cities, and 1 for issuers in prefecture-level cities⁴⁰. Our main interest is the interaction term between *Implicit* and *Level*. If implicit government guarantees are most valuable for issuers in prefecture-level cities and least important for those in municipalities (provincial-level cities), we should observe a positive coefficient for the interaction term.

⁴⁰ Please note that we only assign four values for the indicator variable measuring local governments' administrative level because in our sample, the lowest administrative level cities in which bond issuers are located are prefecture-level.

Our empirical results are presented in Table 34. As we can see, the effect of local governments' administrative level on yield spreads is negative (Column 1) and this base effect remains negative after including the interaction term (Column 2). This finding is consistent with that of Ambrose, Deng, and Wu (2015): corporate bonds issued in lower level administrative cities are riskier for bond investors. Most importantly, the positive coefficient on the interaction term between *Implicit* and *Level* on yield spreads confirms our hypothesis that implicit government guarantees are more desirable for Chengtou bonds issued by LGFVs in lower administrative level cities, as these bond issuers face a higher probability of financial turmoil and in turn government bail-outs are more useful. This result also provides a marginal contribution by complementing the findings of Ambrose, Deng, and Wu (2015). In their study, they find that the administrative level of local governments is only related to the yield spreads of LGFV bonds, but not that of POE bonds. Arguably, we provide a more convincing explanation for the implicit government guarantees carried by LGFV bonds. We argue that it is the embedded government guarantees in Chengtou bonds that make the yield spreads correlate to local governments' administrative level. However, POE bonds do not carry such implicit support from local governments. This is why their yield spreads depend more on market forces.

[Insert Table 34 about here]

We suspect that the administrative level of local governments may measure the same thing as credit ratings do. If bond issuers in lower administrative level cities have a higher probability of default, they may in turn have lower credit ratings. Therefore, the administrative level indicator variable may be highly correlated with credit ratings. As a robustness check, we thus measure the pairwise correlation coefficient between our credit rating and administrative level variables. Our analysis reveals a correlation coefficient of only 0.315. We consequently rule out this concern.

In another robustness test, we include the interaction effect between implicit government guarantees and local governments' administrative levels into our DID regression analysis. We generally find similar results as in our previous DID analysis.

[Insert Table 35 about here]

5. Conclusions

The first essay investigates the factors that affect the likelihood and consequences (in terms of firm performance) of cross-border M&A transactions by Chinese POEs. Using a sample of 1,782 privately owned and publicly listed firms in China over the 2007-2016 period, we find strong empirical evidence that politically connected POEs have a greater chance of expanding their operations internationally through cross-border M&A activities than POEs without such connections. This is in line with the first part of our political connection trade-off theory, namely that politically connected top managers are more motivated to carry out cross-border M&A deals than their unconnected counterparts and are in a better position to handle the logistics. Our results hold after accounting for the potentially endogenous relationship between political connections and Chinese POEs' global expansion and after controlling for ownership-level political connections. However, we find at most weak support for the notion that sounder corporate governance increases a POE's probability of completing a cross border M&A deal.

Finally, with respect to Chinese POEs' performance after announcing and completing a cross border M&A deal, our results are consistent with the second part of our political connection trade-off theory. We find that the average announcement returns of cross-border M&A deals are lower for POEs in which the top managers are politically connected. We further show that accounting performance (measured by ROE) in the three-year period after deal completion is poorer for connected than for unconnected POEs. These findings provide empirical support for the anecdotal evidence (reported in the news) that top managers with political connections might be pursuing a political agenda and thereby create a moral hazard conflict at the expense of shareholder value.

Overall, our empirical analysis supports the notion that for emerging markets, the institutional environment affects POEs' decisions to become acquisitive in foreign markets. Specifically, it highlights the crucial role played by political connections in China in facilitating POEs' outbound FDI. When operating in an institutional environment that features excessive favoritism toward

SOEs, building political ties can be an effective way of overcoming market discrimination and obtaining state-controlled financial resources. In other words, establishing political connections allows Chinese POEs to receive preferential treatment from the Chinese government in completing the financial and bureaucratic activities necessary for successful cross-border M&A (for example, obtaining credit from state-owned banks, obtaining tax rebates, and simplifying the tedious and complex “going global” approval process). However, this may come at the cost of politically connected top managers overweighing their objective to create political capital while ignoring shareholder interests. In sum, the outcomes of this study are as expected under the political connection trade-off theory.

In the second essay, we examine how political connections can affect a Chinese POE’s likelihood of issuing corporate bonds. We hypothesize that political connections can facilitate corporate bond issuance because the state remains the ultimate controller of financial resources, as illustrated by the fact that it shows favoritism toward SOEs in the allocation of capital.

Using a sample of 1,546 Chinese-listed POEs over the 2007-2016 period, we find supporting evidence for our prediction. The likelihood of issuing corporate bonds is significantly higher for POEs with political connections. This result is robust and holds after we control for other potential problems, such as the endogenous relationship between political connections and corporate bond issuance. Moreover, we provide empirical evidence that political connections play a role in influencing the debt-financing decisions of Chinese POEs. In comparison to their non-connected counterparts, politically-connected POEs are significantly more likely to choose public debt over private bank debt.

In addition, we further examine the link between political connections and the financing costs of corporate bond-issuing POEs. Our empirical results are consistent with the notion that politically-connected Chinese POEs are able to place their corporate bonds at a lower coupon rate. This suggests that they can capitalize on their political ties because their bondholders are, to a large extent, state-owned banks.

We also examine the market's reaction to corporate bond issuance announcements by POEs. Our empirical results show that the stock returns of politically-connected issuers around the announcements exceed those of non-connected issuers by 1.2 percentage points. This result indicates that investors view political connections as a positive signal of firm quality, because such connections can help privately-owned companies acquire additional financing resources at lower costs in an institutional environment that exhibits strong favoritism toward state-owned companies.

Surprisingly, we find that corporate bond-issuing POEs actually have a higher probability of experiencing a bankruptcy than either POEs without debt issuance or those choosing private bank debt. This is counterintuitive to the general notion that firms with higher default probabilities tend to borrow from the private debt market due to its renegotiation feature. This finding is as unexpected as the negative corporate yield spread detected by Luo, Ye, and Hu (2016). Given the significant number of recent corporate bond defaults and the worries of foreign investors about the murkiness of the corporate bond market in China, it is possible that the "misuse" of political connections has partly contributed to the recent problems regarding corporate bond defaults and to the worries of foreign investors about investing in China. We argue that political factors distort the market forces of the corporate bond market by bringing less qualified companies to the public debt market. Ultimately, such unqualified issuers will be penalized by the market.

In summary, our empirical results show that political connections are a key determinant for POEs that are considering a corporate bond issue in China. Furthermore, they indicate that debt financing in China is not purely driven by financial or corporate governance factors. This study is one of few that highlights the influence of political connections on a firm's financing decisions, and, to the best to our knowledge, is the first to consider the interplay between corporate governance and political connections. Our findings show that the likelihood of POEs issuing corporate bonds is highest when top management is politically well-connected, the firm's corporate governance standards are comparatively low, and there is a higher probability of bankruptcy. Thus, we find that political ties appear to be most valuable in an environment with low corporate governance standards. Our study has practical implications for Chinese policymakers and POEs. Although

Chinese authorities have recognized that an underdeveloped corporate bond market severely hinders the development of the Chinese economy, they may have underestimated the negative consequences of political intervention. The considerable favoritism toward politically well-connected POEs has the potential to not only economically misallocate the state's financial resources, but also to greatly discourage foreign investors from participating in China's corporate bond market.

Although our event study shows that political connections can, in the short term, add value to firms, if political ties, rather than sound financial performance, continue to be a key determinant for issuing corporate bonds, then credit risk cannot be effectively or accurately priced. Under this scenario, the corporate bond markets will most likely fail to solve the financing constraints faced by (in particular mid-cap) enterprises. Presumably, this will have a negative effect on the sustainable growth of China's corporate bond market and its overall economy. In this context, Gu and Kowalewski (2016) find that countries with strong creditor rights protection and better information disclosure have a better developed corporate bond market.

Thus, Chinese policymakers should work on improving the transparency of the corporate bond market, with an eye toward establishing an effective and trustworthy bond rating system. Similarly, the top management of POEs should focus on establishing sound corporate governance policies and on disclosing reliable and sufficient information to their bond investors.

In the third essay, we investigate how implicit government guarantees influence bond specific risks for publicly traded corporate bonds in China. We hypothesize that because quasi-municipal corporate bonds (known as "Chengtou" bonds) are issued by local government financing vehicles (LGFVs), they are perceived to carry an implicit government guarantee that can effectively mitigate the perceived risk of these bonds. LGFVs are corporations that have limited liabilities, with local government and state-owned entities being the sole or dominant shareholders. By measuring corporate bond risk in terms of the trading yield spread, we find strong empirical evidence that corporate bonds with implicit government guarantees are significantly less risky than bonds issued

by privately-owned enterprises (POEs). Moreover, our analysis shows that the implicit government guarantee is most effective in reducing risk for bonds with the highest likelihood of default. In addition, we demonstrate that the risk of Chinese corporate bonds is affected by local business and economic conditions. In Northeast China, a region with significantly poorer financial conditions and lower economic development than the rest of the country, bond issuers tend to compensate bond investors with higher bond yields, implying that bond issuers in Northeast China are perceived as significantly riskier. However, the implicit support from the governments in Northeast China is still effective in lowering bond yield spreads. Furthermore, we verify whether the effectiveness of implicit government guarantees carried by LGFV bonds varies across different administrative levels of local government. Our results demonstrate that the expected government support is most valuable for bonds issued in the lowest administrative level cities because such issuers have the highest expectation of financial distress. Conversely, for issuers in Chinese municipalities (the highest administrative level) with the lowest likelihood of bond defaults, the value of expected government bail-outs turns out to be the lowest.

A further goal of this study is to examine the effect of three exogenous shocks (the issuance of Documents 43, 88, and 50 by China's central authorities) on corporate bond yield spreads. Our difference-in-differences analysis reveals that Document 43 does not appear to alter investors' beliefs regarding the implicit government guarantee embedded in quasi-municipal corporate bonds. In fact, after the issuance of Document 43, investors consider Chengtou bonds to be even safer. Since Document 43 did not achieve the Chinese authorities' goals, two more documents (Documents 88 and 50) were subsequently developed to rein in LGFVs' debt financing activities. We find that after the issuance of each of these Documents, the influence of the implicit government guarantee is reduced and the gap in bond yield spreads between Chengtou and POE bonds significantly decreases. In summary, the recent policies aiming to void government guarantees on corporate debts imply that China's corporate bond markets are moving toward market-oriented practices and, as a result, bond risks can be expected to be priced more accurately with respect to market forces.

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Figures

Figure 1: Bank Loan Volume of POEs before and after Cross-border M&A Transactions

This figure shows the mean bank loan volume (in million Chinese Yuan) POEs receive before and after the completion of a cross-border merger or acquisition (CBMA), based on 203 observations for which bank loan data are available in CSMAR's Bank Loan Research Database.

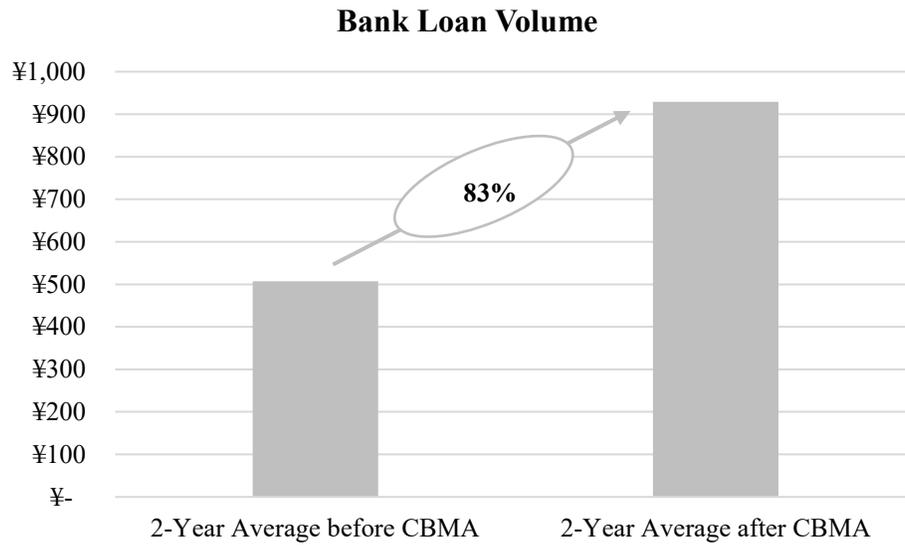


Figure 2: Debt Financing Activities by POEs

This figure displays the number of bond issues and bank loans obtained by Chinese POEs per year between January 2007 and June 2016. Security issuance and bank loan data is based on information provided by the CSMAR database.

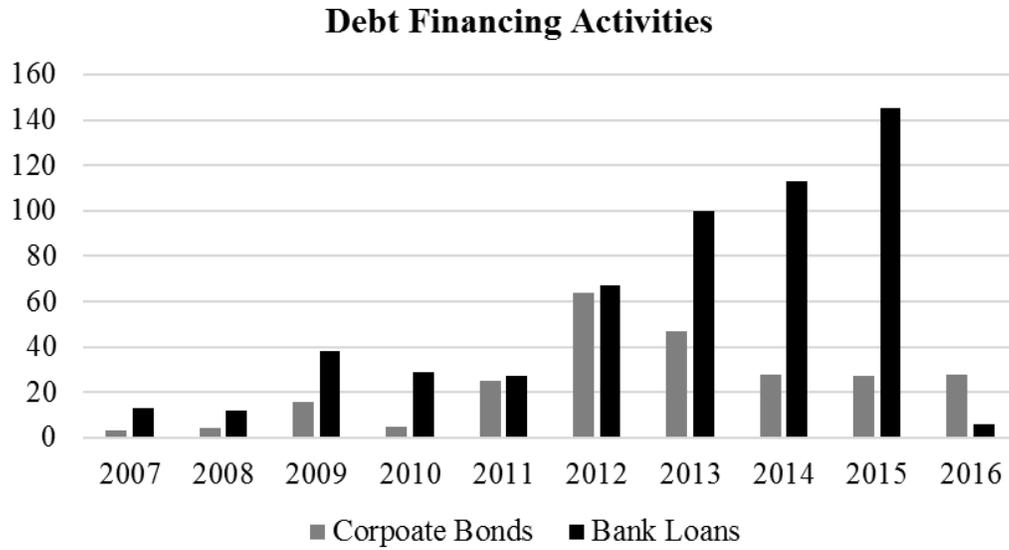


Figure 3: The Yield Spread of Chengtou Bonds

This figure shows the dynamic behavior of the yield spreads of all Chengtou bonds in our sample from 2010 to 2017, classified according to the credit rating of the bond issuer. Yield spreads (unit: bp = basis points) are calculated as the difference between Chengtou bond yields and maturity-matched treasury bond yields.

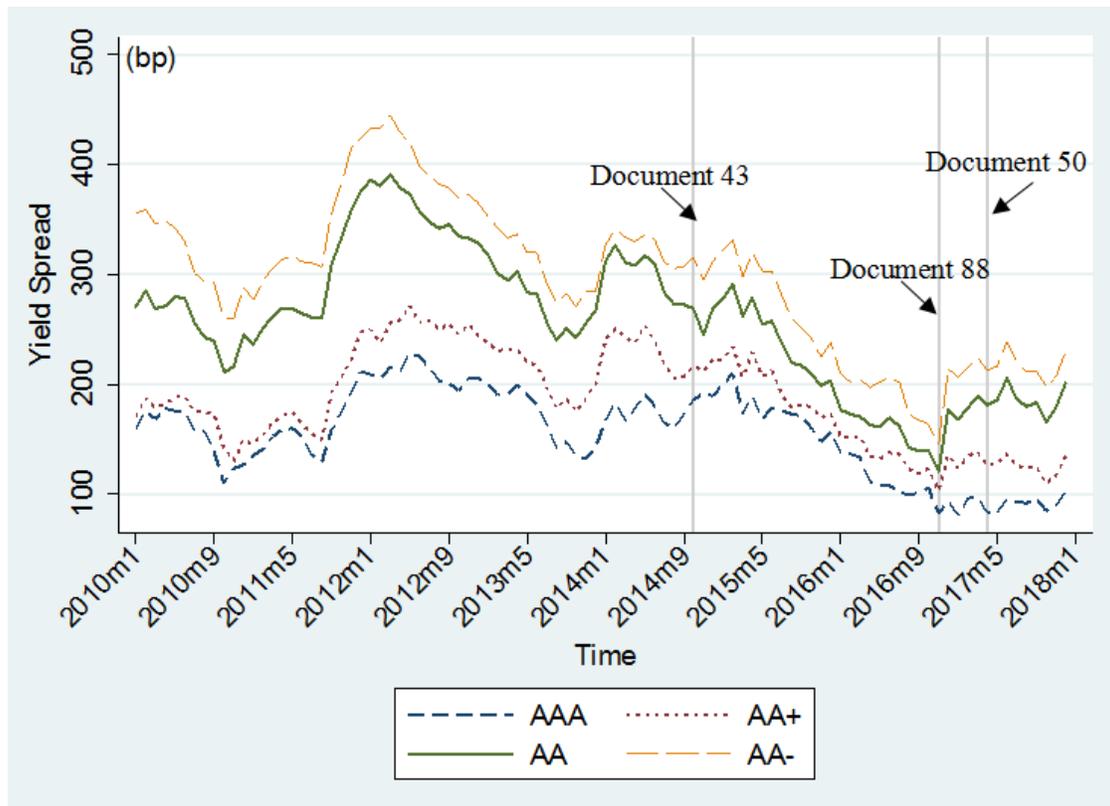


Figure 4: The Yield Spread of POE Bonds

This figure shows the dynamic behavior of the yield spreads of all POE bonds in our sample from 2010 to 2017, classified according to the credit rating of the bond issuer. Yield spreads are calculated as the difference in yields between POE bonds and maturity-matched treasury bonds.

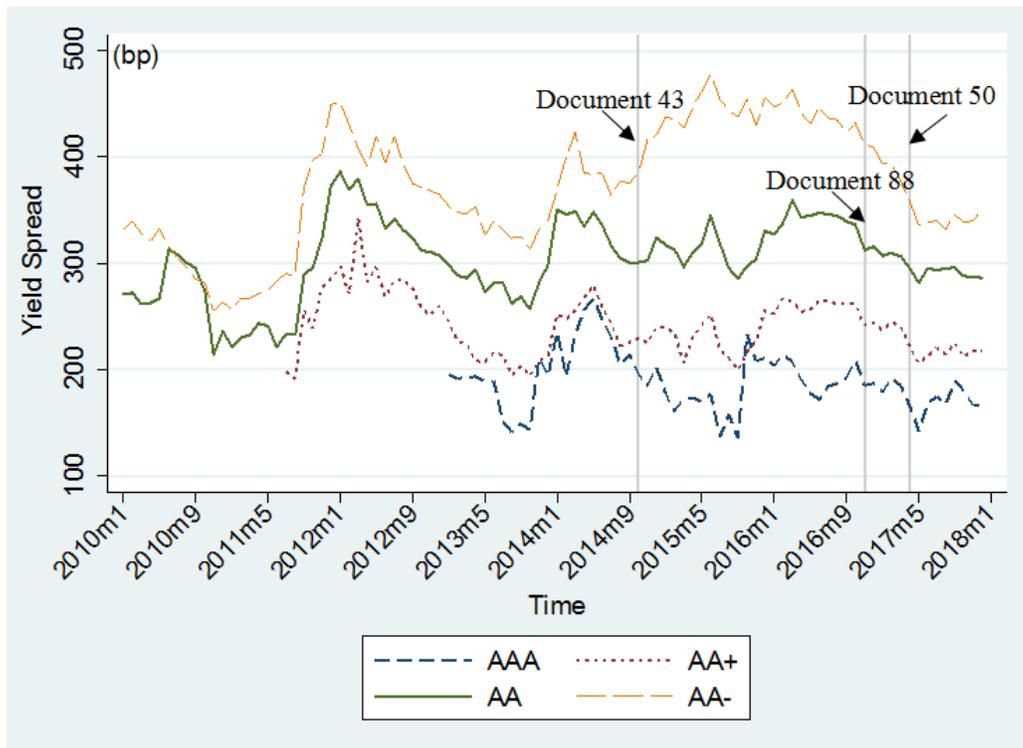


Figure 5: Differences in the Yield Spread between Chengtou and POE Bonds

This figure shows the dynamic behavior of the difference in yield spreads between Chengtou and POE bonds from 2010 to 2017, classified according to the credit rating of the bond issuer.



Tables

Table 1: Variable Definitions

Panel A: Independent Variables

Variable	Definition	Source
CBMA	Dummy variable that equals 1 when a POE is an acquiring POE and 0 otherwise. Specifically, the dummy variable equals 1 if a given POE conducts a cross-border M&A in a given year, and 0 otherwise.	CSMAR: China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database
Connection	Dummy variable that equals 1 if the chairman or CEO is currently working or has worked in a central or local government department, the military, the People's Congress (PC), the People's Court and Procuratorate, or the Chinese People's Political Consultative Conference (CPPCC), and 0 otherwise.	http://www.stockstar.com/
PC Index	Political connection measure that equals 3 if the politically connected chairman or CEO is the head of a government department or the head or a standing member of the PC or CPPCC, 2 if (s)he is a member of the PC or CPPCC, 1 if (s)he is an officer of a local government department or a military officer, and 0 otherwise.	http://www.stockstar.com/
LBH Connection	Percentage of ownership for the largest politically-connected blockholder in a POE, if said ownership is at least 10%. The blockholder is considered to be politically connected if (s)he is currently working (or has worked) in a central or local government department, the military, the People's Congress (PC), the People's Court and Procuratorate, or the Chinese People's Political Consultative Conference (CPPCC). The blockholder is also considered politically connected if it is a state entity. In addition, this blockholder cannot be the chairman/CEO at the same time. Otherwise, the variable is 0.	http://www.stockstar.com/ CSMAR: China Listed Firms' Corporate Governance Research Database
Multi BH Connections	Dummy variable that equals 1 if more than one blockholder is politically connected and 0 otherwise. In addition, these blockholders cannot be the chairman/CEO at the same time.	http://www.stockstar.com/ CSMAR: China Listed Firms' Corporate Governance Research Database
ROA	Net income over the value of total assets.	CSMAR: China Stock Market Financial Statements Database
ROE	Net income over the book value of total shareholders' equity.	CSMAR: China Stock Market Financial Statements Database
Leverage	Book value of total liabilities over the book value of total assets.	CSMAR: China Stock Market Financial Statements Database
Firm Size	Logarithm of the book value of total assets.	CSMAR: China Stock Market Financial Statements Database
Tobin's q	Sum of the market value of equity and the book value of debt over the sum of the book value of equity and the book value of debt.	CSMAR: China Stock Market Financial Statements Database
Tangibility	Net fixed assets over the value of total assets.	CSMAR: China Stock Market Financial Statements Database

(continued)

Variable	Definition	Source
CAAR	Cumulative Average Abnormal Return calculated using a one-factor market model (the return on the value-weighted Shanghai and Shenzhen Composite Index) over the event window (-1, 1)	CSMAR: China Stock Market Trading Database
CAR	Cumulative Abnormal Return calculated using a one-factor market model (the return on the value-weighted Shanghai and Shenzhen Composite Index) over the event window (-1, 1)	CSMAR: China Stock Market Trading Database
Hofstede	Bilateral difference in the sum of Hofstede's six-dimensional national culture index between China and the country in which the target firm is located.	Hofstede (1980) https://geert-hofstede.com/
Culture Distance	CEPII's distances measure: Bilateral distances weighted by the share of the city's population in the overall country's population between the biggest city of China and the biggest city of the country in which the target firm is located	Mayer and Zignago (2011) http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=6
Multi Acquirer	Dummy variable that equals 1 if an acquiring POE completes more than one cross-border M&A, and 0 otherwise.	CSMAR: China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database
Deal Size	Logarithm of the appraised value of the target firm.	CSMAR: China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database
Public Target	Dummy variable that equals 1 if the target firm is a public listed company, and 0 otherwise.	CSMAR: China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database
All Cash Deal	Dummy variable that equals 1 if the cross-border M&A is paid with cash only, and 0 otherwise.	CSMAR: China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database
All Stock Deal	Dummy variable that equals 1 if the cross-border M&A is paid with stock only, and 0 otherwise.	CSMAR: China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database
Common Law	Dummy variable that equals 1 if the target firm is located in a country that applies common law, and 0 otherwise.	CSMAR: China Listed Firms' Merger & Acquisition, Asset Restructuring Research Database

Panel B: The Corporate Governance Index

The Corporate Governance Index is constructed as in Schweizer, Walker, and Zhang (2016) and reflects the sum of the nine governance mechanisms described below.

$\text{Gov Index}_{i,t} = \sum_{j=1}^9 \text{Governance Mechanism}_j$		
Governance Mechanism	Definition	Measurement and Supporting Literature
Chairman age	Age of the company's chairman	Equals 1 if the age of the chairman of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Waelchli and Zeller, 2013; Jiang and Kim, 2015). ⁴¹
Chairman tenure	Number of years the company's chairman has been in office	Equals 1 if the tenure of the chairman of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Berger, Ofek, and Yermack, 1997; Jiang and Kim, 2015).
Board size	Number of directors on the board of directors	Equals 1 if the board size of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Yermack, 1996; Conyon and Peck, 1998; Core, Holthausen, and Larcker, 1999).
Board independence	Number of independent directors on the board of directors	Equals 1 if the number of independent directors on the board of firm i in fiscal year t is greater than the mean value of the sample in fiscal year t , and 0 otherwise (Agrawal and Knoeber, 1996; Kim, Kitsabunnarat-Chatjuthamard, and Nofsinger, 2007).
Board meeting	Number of annual meetings of the board of directors	Equals 1 if the number of annual meetings of the board of directors of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Vafeas, 1999; Yi, Yu, and Jiang, 2011).
Supervisory board size	Number of supervisors on the supervisory board	Equals 1 if the number of supervisors on the supervisory board of firm i in fiscal year t is greater than the mean value of the sample in fiscal year t , and 0 otherwise (Firth et al., 2007; Ding et al., 2010; Jia et al., 2009).
Ownership concentration	Percentage of shares held by the company's largest shareholder	Equals 1 if the percentage of shares held by the company's largest shareholder of firm i in fiscal year t is greater than the mean value of the sample in fiscal year t , and 0 otherwise (Stiglitz, 1985; Rediker and Seth, 1995; Voulgaris, Stathopoulos, and Walker, 2010; Huang et al., 2011).
Foreign auditor	Hiring of a foreign auditor	Equals 1 if firm i hires a foreign auditor in fiscal year t , and 0 otherwise (Gao and Kling, 2008; Peng, Wei, and Yang, 2011).
State shares	State shares account for at least 5% of the firm's total shares	Equals 0 if the state holds more than 5% of the shares in firm i in fiscal year t , and 1 otherwise (Bloom et al., 2012; Jiang, Huang, and Kim, 2013).

⁴¹ As Jiang and Kim (2015, pp 209) point out, using chairman age and tenure for constructing the corporate governance index for Chinese companies is appropriate because "the actual person who is actively in charge of the business is not the CEO. It is the board chairperson who actively controls and runs the firm. In China, this is common knowledge. However, based on the academic literature, it seems that many scholars are unaware of this."

Table 2: Overview of Cross-border M&A Transactions by Chinese POEs

Panel A of this table reports the number of Chinese POEs completing a cross-border M&A transaction for the first time by year, along with percentages, between 2007 and 2016. Chinese POE data are retrieved from the CSMAR database. Panel B shows the distribution of the number of completed cross-border M&A transactions for acquiring POEs.

Panel A:

Year	Number of Acquiring POEs	Percentage (%)
2007	12	4.17
2008	12	4.17
2009	13	4.51
2010	22	7.64
2011	32	11.11
2012	42	14.58
2013	32	11.11
2014	28	9.72
2015	62	21.53
2016	33	11.46
Total	288	100.00

Panel B:

Number of Completed Cross-border M&A Deals	Number of POEs	Percentage (%)
1	219	76.04
2	52	18.06
3	10	3.47
4	5	1.74
5	1	0.35
7	1	0.35
Total	288	100.00

Table 3: Locations of the Targets Acquired by POEs

Distribution of target countries for Chinese POEs operating as acquiring POEs between 2007 and 2016.

Country of Acquired Target(s)	Number
Argentina	2
Australia	25
Belgium	1
Brunei	2
Bulgaria	1
Cambodia	1
Canada	14
Cyprus	1
Czech	1
Denmark	4
France	7
Germany	45
India	1
Indonesia	4
Israel	1
Italy	14
Japan	39
Kazakhstan	4
Liechtenstein	1
Luxembourg	3
Malaysia	9
Mongolia	1
Netherlands	13
New Zealand	1
North Korea	1
Norway	1
Pakistan	1
Poland	1
Portugal	2
Singapore	30
South Africa	1
South Korea	24
Spain	2
Sweden	3
Switzerland	6
Thailand	1
United Kingdom	22
United States	92
Uruguay	2
Vietnam	1
Total	385

Table 4: Summary Statistics for all POEs

This table reports summary statistics (mean, median, standard deviation, 25% and 75% quantiles, and the number of firm-year observations, N) for all sample variables for non-acquiring POEs (Panel A) and acquiring POEs (Panel B) between 2007 and 2016. All variable definitions are as in Panel A of Table 1. Panel C reports the pairwise differences in means (*t*-test) and medians (Wilcoxon test) of the variables between acquiring and non-acquiring POEs. Related *p*-values are shown to the right in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Mean	Median	Std. Dev.	25%	75%	N
Panel A: Non-acquiring POEs						
Connection	0.291	0.000	0.454	0.000	1.000	7,975
PC Index	0.633	0.000	1.050	0.000	1.000	7,975
LBH Connection	0.025	0.000	0.092	0.000	0.000	7,975
Multi BH Connections	0.012	0.000	0.109	0.000	0.000	7,975
Gov Index	3.337	3.000	1.213	3.000	4.000	7,975
ROA	0.044	0.043	0.052	0.017	0.072	7,975
Leverage	0.392	0.379	0.207	0.221	0.547	7,975
Firm Size	21.345	21.235	0.915	20.679	21.911	7,975
Tobin's q	2.941	2.383	1.729	1.693	3.697	7,975
Tangibility	0.204	0.179	0.142	0.094	0.290	7,975
Panel B: Acquiring POEs						
Connection	0.405	0.000	0.492	0.000	1.000	385
PC Index	0.901	0.000	1.164	0.000	2.000	385
LBH Connection	0.017	0.000	0.083	0.000	0.000	385
Multi BH Connections	0.003	0.000	0.051	0.000	0.000	385
Gov Index	3.397	3.000	1.182	3.000	4.000	385
ROA	0.056	0.051	0.055	0.026	0.081	385
Leverage	0.390	0.399	0.206	0.215	0.540	385
Firm Size	21.770	21.629	1.065	21.045	22.415	385
Tobin's q	2.879	2.284	2.360	1.616	3.251	385
Tangibility	0.208	0.182	0.142	0.094	0.306	385
Panel C: Differences						
	Differences in Means		Differences in Medians			
Connection	-0.1114***	(0.000)	0.000***	(0.000)		
PC Index	-0.268***	(0.000)	0.000***	(0.000)		
LBH Connection	0.009*	(0.064)	0.000***	(0.006)		
Multi BH Connections	0.009*	(0.091)	0.000*	(0.091)		
Gov Index	-0.060	(0.343)	0.000	(0.239)		
ROA	-0.011***	(0.000)	-0.008***	(0.000)		
Leverage	0.003	(0.816)	-0.020	(0.902)		
Firm Size	-0.425***	(0.000)	-0.394***	(0.000)		
Tobin's q	0.062	(0.498)	0.099**	(0.024)		
Tangibility	-0.004	(0.570)	-0.003	(0.552)		

Table 5: Correlation Matrices

This table reports the correlation coefficients between our sample variables for all POEs (Panel A) and for our subset of acquiring POEs (Panel B) between 2007 and 2016. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) CBMA	1.000										
(2) Connection	0.052***	1.000									
(3) PC Index	0.053***	0.938***	1.000								
(4) LBH Connection	-0.020	-0.056***	-0.073***	1.000							
(5) Multi BH Connections	-0.018	0.018	-0.006	0.317***	1.000						
(6) Gov Index	0.010	-0.066***	-0.059***	-0.022*	0.003	1.000					
(7) ROA	0.046***	0.042***	0.060***	-0.058***	-0.006	0.001	1.000				
(8) Leverage	-0.003	0.058***	0.038***	0.155***	0.060***	-0.035**	-0.355***	1.000			
(9) Firm Size	0.096***	0.154***	0.145***	0.038***	0.033**	-0.046***	0.058***	0.396***	1.000		
(10) Tobin's q	-0.007	-0.076***	-0.066***	-0.051***	-0.031**	0.063***	0.250***	-0.299***	-0.335***	1.000	
(11) Tangibility	0.006	0.030**	0.007	0.103***	0.021	-0.068***	-0.171***	0.110***	-0.039***	-0.125***	1.000

Panel B:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) CAR	1.00																
(2) Connection	-0.13	1.00															
(3) PC Index	-0.13	0.94***	1.00														
(4) Gov Index	-0.02	0.02	0.08	1.00													
(5) Hofstede	0.01	-0.08	-0.10	0.04	1.000												
(6) Culture Distance	-0.02	0.07	0.14*	0.01	-0.48***	1.00											
(7) Multi Acquirer	0.03	0.09	0.00	-0.15*	0.10	-0.11	1.00										
(8) Deal Size	0.09	0.03	0.06	0.08	-0.06	0.03	0.06	1.00									
(9) Public Target	-0.080	0.14*	0.11	-0.00	-0.07	-0.02	0.04	0.03	1.00								
(10) All Cash Deal	0.12	-0.12	-0.09	-0.05	0.06	0.03	-0.08	-0.07	0.01	1.00							
(11) All Stock Deal	-0.06	0.08	0.06	0.04	-0.09	-0.07	0.14*	0.09	-0.01	-0.71***	1.00						
(12) Common Law	-0.07	-0.13	-0.10	0.07	-0.43***	0.50***	-0.07	0.00	0.05	-0.00	-0.07	1.00					
(13) ROA	0.08	-0.12	-0.08	-0.09	-0.11	0.10	-0.03	-0.05	-0.00	0.05	-0.02	-0.03	1.00				
(14) Leverage	0.00	0.19**	0.14*	-0.05	0.07	-0.08	0.17*	0.13	-0.04	-0.10	0.02	-0.07	-0.36***	1.00			
(15) Firm Size	0.03	0.23***	0.20**	-0.04	0.00	-0.01	0.25***	0.23***	0.09	-0.02	0.08	-0.07	-0.18*	0.54***	1.00		
(16) Tobin's q	0.04	-0.09	-0.03	0.05	-0.08	0.10	-0.07	-0.13	0.03	0.07	-0.05	0.07	0.41***	-0.39***	-0.29***	1.00	
(17) Tangibility	-0.11	-0.05	-0.03	-0.05	0.07	0.03	0.07	-0.05	0.04	0.04	-0.01	-0.04	-0.00	0.19**	0.02	-0.10	1.00

Table 6: The Effect of Political Influence on Becoming Acquisitive

Results of a panel logit regression analysis for Chinese acquiring and non-acquiring POEs between 2007 and 2016. Chinese acquiring POEs are defined as those with at least one cross-border M&A transaction within the sample period. The dependent variable is a dummy variable that equals 1 if the POE completes a cross-border M&A deal in a given year, and 0 otherwise. See equation (1) for details. Column (1) reports the results using *Connection* as a proxy for political connections; column (2) uses the *PC Index* as a measure for political connections. We report coefficient estimates with *p*-values in parentheses below. *Industry* and *Year Fixed Effects* are included in both regressions. In the last two rows, we report the maximum and mean variance inflation factors (VIF). ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)
Connection	1.474*** (0.000)	
PC Index		0.557*** (0.008)
Gov Index	0.029 (0.624)	0.027 (0.651)
Firm Characteristics	Yes	Yes
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	9,946	9,946
Max VIF	1.46	1.46
Mean VIF	1.22	1.22

Table 7: Propensity Score Matching

This table reports the results of a propensity score matching (PSM) routine for acquiring and non-acquiring Chinese POEs from 2007 to 2016. We match firms using a nearest neighbor propensity score matching algorithm and an array of firm-specific characteristics (*ROA*, *Leverage*, *Firm Size*, *Tobin's q*, *Tangibility*) in the year the POE completes its cross-border deal. Panel A reports the univariate balanced test results for pairs of treatment and control firms after matching. Panel B reports parameter estimates for the probit model used in estimating the propensity scores of the treated and control groups (where the treatment is a cross-border acquisition). We match firms in the year before completing a cross-border M&A deal with non-acquiring POEs. The “Pre-Match” column contains the parameter estimates of the probit model estimated using the sample prior to matching. These estimates are then used to generate the propensity scores for matching acquiring and non-acquiring POEs. The “Post-Match” column contains the parameter estimates of the probit model estimated using the subsample of matched treatment-control pairs after matching. We match firms using a one-to-one nearest neighbor propensity score matching, without replacement. Definitions for all variables are provided in Panel A of Table 1. *Industry* and *Year Fixed Effects* are included in both regressions in Panel B. We report coefficient estimates with *p*-values in parentheses below. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A	Control	Treatment	Diff.	p-value
ROA	0.059	0.056	0.003	0.407
Leverage	0.393	0.390	0.003	0.839
Firm Size	21.799	21.770	0.029	0.697
Tobin's q	3.028	2.879	0.149	0.332
Tangibility	0.205	0.208	-0.003	0.790

Panel B	Pre-Match	Post-Match
ROA	0.783 (0.170)	-0.545 (0.592)
Leverage	-0.356** (0.030)	-0.027 (0.929)
Firm Size	0.303*** (0.000)	-0.022 (0.711)
Tobin's q	0.033* (0.059)	-0.022 (0.417)
Tangibility	0.234 (0.244)	-0.025 (0.947)
Constant	-8.125*** (0.000)	0.583 (0.649)
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	8,360	770
Pseudo R ²	0.047	0.007
P-value of χ^2	<0.001	1.000

Table 8: The Effect of Political Influence on Becoming Acquisitive—A Cross-sectional Analysis

This table reports the results of a post-matching logit regression analysis for Chinese acquiring and non-acquiring POEs between 2007 and 2016. Acquiring POEs are defined as those with at least one cross-border M&A transaction within the sample period. Non-acquiring companies are the one-to-one nearest neighbors as defined in Table 6. The dependent variable is a dummy variable that equals 1 if the POE completes a cross-border M&A deal in a given year, and 0 otherwise. See equation (1) for details. Columns (1) and (2) report the post-matching results using all cross-border deals; columns (3) and (4) report the post-matching results considering only the first cross-border deals for each acquiring POE. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using the clustered standard errors at the firm level for Columns (1) and (2). *p*-values are based on robust standard errors for columns (3) and (4). *Industry* and *Year Fixed Effects* are included in all regressions. In the last two rows, we report the maximum and mean variance inflation factors (VIF). ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Connection	0.472** (0.016)		0.432** (0.021)	
PC Index		0.185** (0.026)		0.188** (0.018)
Gov Index	0.125* (0.067)	0.121* (0.075)	0.144** (0.048)	0.142* (0.051)
Constant	0.946 (0.696)	0.942 (0.698)	-0.508 (0.840)	-0.457 (0.855)
Firm Characteristics	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	770	770	576	576
Pseudo R ²	0.018	0.017	0.032	0.032
Max VIF	1.61	1.61	1.56	1.56
Mean VIF	1.27	1.27	1.24	1.24

Table 9: Propensity Score Matching—A Quasi Experiment

This table reports the result of propensity score matching (PSM) for Chinese acquiring and non-acquiring POEs from 2007 to 2016. We match firms using a nearest neighbor propensity score matching algorithm and an array of firm-specific characteristics (*ROA*, *Leverage*, *Firm Size*, *Tobin's q*, *Tangibility*) plus the *PC Index* in the year before the acquiring POE completes its first cross-border merger. Panel A reports the univariate balanced test results for pairs of treatment and control firms after matching. Panel B reports parameter estimates for the probit model used in estimating the propensity scores of the treated and control groups (where the treatment is a cross-border M&A). We match firms in the year before completing a cross-border M&A transaction with non-acquiring POEs. The “Pre-Match” column contains the parameter estimates of the probit model estimated using the sample prior to matching. These estimates are then used to generate the propensity scores for matching acquiring and non-acquiring POEs. The “Post-Match” column contains the parameter estimates of the probit model estimated using the subsample of matched treatment-control pairs after matching. We match firms using a one-to-one nearest neighbor propensity score matching, without replacement. Definitions for all variables are provided in Panel A of Table 1. *Industry* and *Year Fixed Effects* are included in both regressions in Panel B. We report coefficient estimates with *p*-values in parentheses below. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A	Control	Treatment	Diff.	p-value
PC Index	0.889	0.872	0.017	0.860
ROA	0.057	0.058	-0.001	0.858
Leverage	0.374	0.374	0.000	0.983
Firm Size	21.601	21.601	0.000	0.995
Tobin's q	2.791	2.958	-0.167	0.346
Tangibility	0.210	0.205	0.005	0.674

Panel B	Pre-Match	Post-Match
PC Index	0.067*** (0.006)	0.003 (0.943)
ROA	1.087* (0.086)	-0.104 (0.929)
Leverage	-0.338* (0.062)	0.082 (0.822)
Firm Size	0.197*** (0.000)	-0.009 (0.907)
Tobin's q	0.028 (0.137)	0.012 (0.711)
Tangibility	0.167 (0.449)	-0.017 (0.970)
Constant	-5.895*** (0.000)	0.081 (0.574)
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	8,141	576
Pseudo R ²	0.035	0.020
P-value of χ^2	<0.001	0.967

Table 10: The Effect of Political Influence on Becoming Acquisitive—A Quasi Experiment

This table reports the results of a logit regression analysis for acquiring and non-acquiring Chinese POEs between 2007 and 2016 after a top management turnover. The dependent variable is a dummy variable that equals 1 if the POE completes a cross-border M&A transaction three years after the top management turnover, and 0 otherwise. Chinese non-acquiring companies are the one-to-one nearest neighbors from Table 8. See equation (3) for details. We report coefficient estimates and p -values that are calculated using robust standard errors. *Industry* and *Year Fixed Effects* are included in both regressions. In the last two rows, we report the maximum and mean variance inflation factors (VIF). ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)
Political Turnover	1.059** (0.029)
Connection	-0.111 (0.552)
Gov Index	0.082 (0.265)
Constant	-0.731 (0.778)
Firm Characteristics	Yes
Industry Fixed Effects	Yes
Year Fixed Effects	Yes
Observations	576
Pseudo R ²	0.030
Max VIF	1.54
Mean VIF	1.23

Table 11: Announcement Returns of Cross-border M&A Announcements by Chinese POEs

Panel A of this table reports the cumulative average abnormal returns (CAARs) around the announcement date of a cross-border M&A transaction by a Chinese POE for the event windows (-1, 1), (0, 1), (-2, 2), and (-3, 3). The CAARs are calculated using a one-factor market model (employing the value-weighted Shanghai and Shenzhen Composite Index as the market factor). The estimation period spans from 240 to 21 days before the announcement date (see, Du and Boateng, 2015). *t*-statistics and *p*-values are calculated using robust standard errors. Panel B shows the average difference in the cumulative abnormal returns for the event window (-1, 1) between politically connected and non-connected POEs. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A

Event Window	CAARs	t-statistic	p-value
(-1, 1)	0.012***	3.760	0.000
(0, 1)	0.010***	3.560	0.000
(-2, 2)	0.016***	4.150	0.000
(-3, 3)	0.019***	3.780	0.000
Observations	226		

Panel B

All Cross-border M&A	Difference in Means	
Connected – Non-Connected	-0.016**	(0.014)
Observations	226	
First Cross-border M&A Only	Difference in Means	
Connected – Non-Connected	-0.019**	(0.012)
Observations	176	

Table 12: Announcement Returns Around Cross-border M&A

This table reports the results for OLS regressions of market reactions (i.e. the stock price returns of acquiring Chinese POEs) in response to cross-border M&A announcements (see equation (4)). The dependent variable is the CAR (Cumulative Abnormal Return) calculated using a one-factor market model (employing the value-weighted Shanghai and Shenzhen Composite Index as the market factor) over the event window (-1, 1). Specification (1) includes *Connection* and all control variables and specification (2) includes *PC Index* and all control variables; both models are for all cross-border M&A announcements. Specifications (1)' and (2)' are based on subsamples of the data and include only the CAR of the first cross-border M&A announcement for each POE. Therefore, the variable *Multi Acquirer* is not included in the model. The variable *All Stock Deal* is also not included, because there was no cross-border M&A transaction that was financed only with stocks within the subsample for first cross-border M&A announcement for each POE. All variables are defined in Table 1. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using clustered standard errors at the firm level. *Industry* and *Year Fixed Effects* are included in all regressions. In the last two rows, we report the maximum and mean variance inflation factors (VIF). ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(1)'	(2)'
Connection	-0.016** (0.017)		-0.016* (0.054)	
PC Index		-0.007** (0.029)		-0.007** (0.045)
Gov Index	-0.000 (0.892)	-0.000 (0.973)	-0.003 (0.335)	-0.003 (0.352)
Culture Distance	0.000 (0.608)	0.000 (0.534)	0.000 (0.607)	0.000 (0.547)
Hofstede	-0.000 (0.871)	-0.000 (0.893)	0.001 (0.272)	0.001 (0.271)
Multi Acquirer	0.006 (0.443)	0.006 (0.496)	-	-
Deal Size	0.001 (0.727)	0.001 (0.663)	0.001 (0.655)	0.001 (0.596)
Public Target	-0.014 (0.230)	-0.016 (0.145)	-0.003 (0.817)	-0.004 (0.741)
All Cash Deal	0.042*** (0.006)	0.046*** (0.002)	0.032* (0.076)	0.036** (0.036)
All Stock Deal	-0.013 (0.548)	-0.012 (0.582)	-	-
Common Law	-0.014 (0.118)	-0.014 (0.126)	-0.014 (0.167)	-0.014 (0.171)
Constant	0.078 (0.388)	0.069 (0.439)	0.125 (0.228)	0.119 (0.242)
Firm Characteristics	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	226	226	176	176
R ²	0.183	0.182	0.222	0.226
Max VIF	2.14	2.14	2.14	2.01
Mean VIF	1.45	1.45	1.45	1.36

Table 13: The Financial Performance of POEs after Cross-border M&A Transactions

This table shows the effect of political connections on financial performance (as measured by *ROE*) and demonstrates how this relationship is affected by a cross-border M&A within the three years after deal completion. The dependent variable is the return on equity (*ROE*) of Chinese POEs. See equation (5) for details. We report coefficient estimates with *p*-values in parentheses below. *Industry* and *Year Fixed Effects* are included in the regression. In the last two rows, we report the maximum and mean variance inflation factors (VIF). ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)
Connection	0.054*** (0.000)
Post CBMA	0.075** (0.031)
Post CBMA × Connection	-0.198*** (0.000)
Gov Index	-0.005 (0.340)
Multi Acquirer	0.164*** (0.005)
Constant	-1.381*** (0.000)
Firm Characteristics	Yes
Industry Fixed Effects	Yes
Year Fixed Effects	Yes
Observations	9,946
R ²	0.069
Max VIF	1.68
Mean VIF	1.30

Table 14: Variable Definitions
Panel A: Independent Variables

Variables	Definition	Source
Connection	Dummy variable that equals 1 if the chairman or CEO is currently working (or has worked) in a central or local government department, the military, the People's Congress (PC), the People's Court and Procuratorate, or the Chinese People's Political Consultative Conference (CPPCC), and 0 otherwise.	http://www.stockstar.com/
PC Index	Political connection measure that equals 3 if the politically-connected chairman or CEO is the head of a central or local government department or the head or the standing member of the PC or CPPCC; 2 if (s)he is a member of the PC or CPPCC; 1 if (s)he is an officer of a local government department or a military officer; and 0 otherwise.	http://www.stockstar.com/
LBH Connection	Percentage of ownership for the largest politically-connected blockholder in a POE, if said ownership is at least 10%. The blockholder is considered to be politically connected if (s)he is currently working (or has worked) in a central or local government department, the military, the People's Congress (PC), the People's Court and Procuratorate, or the Chinese People's Political Consultative Conference (CPPCC). The blockholder is also considered politically connected if it is a state entity. In addition, this blockholder cannot be the chairman/CEO at the same time. Otherwise, the variable is 0.	http://www.stockstar.com/ CSMAR: China Listed Firms' Corporate Governance Research Database
Multi BH Connections	Dummy variable that equals 1 if more than one blockholder is politically connected, and 0 otherwise. In addition, these blockholders cannot be the chairman/CEO at the same time.	http://www.stockstar.com/ CSMAR: China Listed Firms' Corporate Governance Research Database
ROA	Net income over total assets.	CSMAR: China Stock Market Financial Statements Database
Leverage	Book value of total liabilities over the book value of total assets.	CSMAR: China Stock Market Financial Statements Database
Firm size	Natural logarithm of the book value of total assets.	CSMAR: China Stock Market Financial Statements Database
Tax	Income taxes paid over the book value of total assets.	CSMAR: China Stock Market Financial Statements Database
Tobin's q	Sum of the market value of equity and the book value of debt over the sum of the book value of equity and the book value of debt.	CSMAR: China Stock Market Financial Statements Database
Tangibility	Net fixed assets over total assets.	CSMAR: China Stock Market Financial Statements Database

(continued)

Risk free	Interest rate of a one-year lump sum deposit, which is commonly accepted to be a proxy for the risk-free rate.	CSMAR: China Bond Market Research Database
Altman Z	Weighted average of four financial ratios: asset liability, return on total assets, working capital, and retained earnings.	Zhang et al. (2007)
Coupon	Periodic interest payment that the bondholder receives from the issuer during the time between when the bond is issued and when it matures.	CSMAR: China Bond Market Research Database
Volume	Bond issuing volume (in CNY millions).	CSMAR: China Bond Market Research Database
PD	Probability of default of a corporate bond. Calculated by converting the credit rating of a corporate bond based on Standard & Poor's corporate bond default table.	CSMAR: China Bond Market Research Database and http://www.spratings.com/
Maturity	Time from the bond issuing date to the date when the principal and interest of a bond are paid off, using years as a unit.	CSMAR: China Bond Market Research Database
CAAR	Cumulative average abnormal return calculated using a one-factor market model (with the value-weighted Shanghai and Shenzhen Composite Index as the market factor) over the event window (0, 1).	CSMAR: China Stock Market Trading Database
CAR	Cumulative abnormal return calculated using a one-factor market model (with the value-weighted Shanghai and Shenzhen Composite Index as the market factor) over the event window (0, 1).	CSMAR: China Stock Market Trading Database
Multi Issuer	Dummy variable that equals 1 if a POE issues more than one corporate bond, and 0 otherwise.	CSMAR: China Bond Market Research Database

(continued)

Panel B: The Corporate Governance Index

The Corporate Governance Index is constructed as in Schweizer, Walker, and Zhang (2016) and reflects the sum of the nine governance mechanisms described below.

$\text{Gov Index}_{i,t} = \sum_{j=1}^9 \text{Governance Mechanism}_j$		
Governance Mechanism	Definition	Measurement and Supporting Literature
Chairman age	Age of the company's chairman	Equals 1 if the age of the chairman of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Waelchli and Zeller, 2013; Jiang and Kim, 2015). ⁴²
Chairman tenure	Number of years the company's chairman has been in office	Equals 1 if the tenure of the chairman of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Berger, Ofek, and Yermack, 1997; Jiang and Kim, 2015).
Board size	Number of directors on the board of directors	Equals 1 if the board size of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Yermack, 1996; Conyon and Peck, 1998; Core, Holthausen, and Larcker, 1999).
Board independence	Number of independent directors on the board of directors	Equals 1 if the number of independent directors on the board of firm i in fiscal year t is greater than the mean value of the sample in fiscal year t , and 0 otherwise (Agrawal and Knoeber, 1996; Kim, Kitsabunnarat-Chatjuthamard, and Nofsinger, 2007).
Board meeting	Number of annual meetings of the board of directors	Equals 1 if the number of annual meetings of the board of directors of firm i in fiscal year t is less than the mean value of the sample in fiscal year t , and 0 otherwise (Vafeas, 1999; Yi, Yu, and Jiang, 2011).
Supervisory board size	Number of supervisors on the supervisory board	Equals 1 if the number of supervisors on the supervisory board of firm i in fiscal year t is greater than the mean value of the sample in fiscal year t , and 0 otherwise (Firth et al., 2007; Ding et al., 2010; Jia et al., 2009).
Ownership concentration	Percentage of shares held by the company's largest shareholder	Equals 1 if the percentage of shares held by the company's largest shareholder of firm i in fiscal year t is greater than the mean value of the sample in fiscal year t , and 0 otherwise (Stiglitz, 1985; Rediker and Seth, 1995; Voulgaris, Stathopoulos, and Walker, 2010; Huang et al., 2011).
Foreign auditor	Hiring of a foreign auditor	Equals 1 if firm i hires a foreign auditor in fiscal year t , and 0 otherwise (Gao and Kling, 2008; Peng, Wei, and Yang, 2011).
State shares	State shares account for at least 5% of the firm's total shares	Equals 0 if the state holds more than 5% of the shares in firm i in fiscal year t , and 1 otherwise (Bloom et al., 2012; Jiang, Huang, and Kim, 2013).

⁴² As Jiang and Kim (2015, pp 209) point out, using chairman age and tenure for constructing the corporate governance index for Chinese companies is appropriate because "the actual person who is actively in charge of the business is not the CEO. It is the board chairperson who actively controls and runs the firm. In China, this is common knowledge. However, based on the academic literature, it seems that many scholars are unaware of this."

Table 15: Corporate Borrowing Activities

This table reports the annual number of corporate bond issues (Panel A) and bank loans (Panel B) by Chinese POEs between January 2007 and June 2016, together with distributional percentages. Security issue data for bonds and bank loans come from the CSMAR database.

Issue Year	Number of Issues	Percentage
Panel A: Bond Issues		
2007	3	1.22%
2008	4	1.63%
2009	16	6.50%
2010	5	2.03%
2011	25	10.16%
2012	64	26.02%
2013	47	19.11%
2014	28	11.38%
2015	26	10.57%
2016 (Jan. – Jun.)	28	11.38%
Total	246	100.00%
Panel B: Bank Loans		
2007	14	2.29%
2008	17	2.78%
2009	47	7.69%
2010	34	5.56%
2011	36	5.89%
2012	78	12.77%
2013	103	16.86%
2014	123	20.13%
2015	152	24.88%
2016 (Jan. – Jun.)	7	1.15%
Total	611	100.00%

Table 16: Summary Statistics for POEs with and without Corporate Bond Issues

This table reports the summary statistics (i.e., the mean, median, standard deviation, 25% and 75% quantile, and the number of data points) for all sample variables. We differentiate between firm-year observations (N) without (Panel A) and with (Panel B) a corporate bond issue. Panels D and E provide summary statistics for firm-year observations without and with political connections. Our sample period ranges from January 2007 to June 2016. Variable definitions are provided in Panel A of Table 1. Panel C reports the pairwise differences in means (*t*-test) and medians (Wilcoxon test) of the variables between subgroups with and without corporate bond issues. Panel F reports the pairwise differences in means (*t*-test) and medians (Wilcoxon test) of the variables between subgroups with and without political connections. Related *p*-values are shown to the right in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Mean	Median	Std. Dev.	25%	75%	N
Panel A: POEs without Bonds						
Connection	0.243	0.000	0.429	0.000	0.000	8,195
PC Index	0.530	0.000	0.992	0.000	0.000	8,195
Gov Index	3.954	4.000	1.175	3.000	5.000	8,195
ROA	0.042	0.042	0.055	0.015	0.070	8,195
Leverage	0.376	0.354	0.213	0.198	0.531	8,195
Firm size	21.249	21.165	0.861	20.634	21.794	8,195
Tax	0.009	0.007	0.013	0.002	0.014	8,195
Tobin's q	3.025	2.443	1.854	1.735	3.743	8,195
Tangibility	0.207	0.180	0.149	0.095	0.290	8,195
Panel B: POEs with Bonds						
Connection	0.504	1.000	0.501	0.000	1.000	246
PC Index	1.126	1.000	1.200	0.000	2.000	246
Gov Index	3.744	4.000	1.247	3.000	5.000	246
ROA	0.053	0.049	0.035	0.028	0.073	246
Leverage	0.466	0.466	0.176	0.333	0.590	246
Firm size	22.365	22.202	1.053	21.635	22.877	246
Tax	0.008	0.006	0.013	0.001	0.014	246
Tobin's q	2.174	1.724	1.162	1.333	2.660	246
Tangibility	0.201	0.162	0.146	0.095	0.286	246
Panel C: Equality Tests						
	Differences in Means		Differences in Medians			
Connection	-0.261***	(0.000)	-1.000***	(0.000)		
PC Index	-0.596***	(0.000)	-1.000***	(0.000)		
Gov Index	0.210***	(0.006)	0.000***	(0.000)		
ROA	-0.012***	(0.001)	-0.007***	(0.000)		
Leverage	-0.090***	(0.000)	-0.112***	(0.000)		
Firm size	-1.115***	(0.000)	-1.037***	(0.000)		
Tax	0.001	(0.272)	0.001	(0.570)		
Tobin's q	0.851***	(0.000)	0.719***	(0.000)		
Tangibility	0.006	(0.540)	0.018	(0.566)		

	Mean	Median	Std. Dev.	25%	75%	N
Panel D: Connection=0						
Gov Index	3.032	3.000	1.169	2.000	4.000	7,048
ROA	0.042	0.043	0.069	0.016	0.071	7,048
Leverage	0.389	0.374	0.230	0.209	0.544	7,048
Firm size	21.329	21.229	0.947	20.654	21.903	7,048
Tax	0.010	0.007	0.015	0.002	0.015	7,048
Tobin's q	3.007	2.410	1.887	1.709	3.722	7,048
Tangibility	0.204	0.176	0.150	0.088	0.290	7,048
Panel E: Connection=1						
Gov Index	2.958	3.000	1.222	2.000	4.000	2,831
ROA	0.047	0.046	0.054	0.019	0.074	2,831
Leverage	0.415	0.412	0.209	0.255	0.570	2,831
Firm size	21.600	21.475	1.029	20.855	22.299	2,831
Tax	0.008	0.006	0.013	0.002	0.013	2,831
Tobin's q	2.761	2.196	2.852	1.566	3.283	2,831
Tangibility	0.218	0.192	0.148	0.108	0.304	2,831
Panel F: Equality Tests						
	Differences in Means		Differences in Medians			
Gov Index	0.074***	(0.005)	0.000***	(0.006)		
ROA	-0.005***	(0.002)	-0.003***	(0.001)		
Leverage	-0.026***	(0.000)	-0.038***	(0.000)		
Firm size	-0.271***	(0.000)	-0.246***	(0.000)		
Tax	0.001***	(0.000)	0.001***	(0.000)		
Tobin's q	0.246***	(0.000)	0.214***	(0.000)		
Tangibility	-0.013***	(0.000)	-0.016***	(0.000)		

Table 17: Correlation Matrix

This table reports the correlation matrix for the main sample. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Bond	1									
(2) Connection	0.101***	1								
(3) PC Index	0.100***	0.941***	1							
(4) Gov Index	-0.030**	-0.013	0.002	1						
(5) ROA	0.035**	0.026*	0.045***	0.067***	1					
(6) Leverage	0.072***	0.025*	0.01	-0.058***	-0.390***	1				
(7) Firm size	0.211***	0.087***	0.081***	-0.083***	0.050***	0.361***	1			
(8) Tax	-0.012	-0.043***	-0.040***	-0.016	0.161***	0.088***	-0.018	1		
(9) Tobin's q	-0.078***	-0.063***	-0.057***	-0.01	0.238***	-0.291***	-0.318***	0.167***	1	
(10) Tangibility	-0.007	0.041***	0.024*	-0.003	-0.187***	0.142***	-0.015	-0.221***	-0.132***	1

Table 18: Propensity Score Matching

This table reports the results for our propensity score matching routine for Chinese POEs with and without corporate bond issues between January 2007 and June 2016. We match firms using a nearest neighbor PSM algorithm on an array of firm-specific characteristics. Panel A reports the univariate balanced test results for pairs of treatment and control firms after matching. Panel B reports parameter estimates from the probit model used in estimating the propensity scores for the treatment and control groups (the treatment is corporate bond issuance). The dependent variable in the probit model is a corporate bond issuance dummy. The “Pre-Match” column contains the parameter estimates of the probit model estimated using the sample prior to matching. These estimates are then used to generate the propensity scores for matching POEs with and without corporate bond issuance. The “Post-Match” column contains the parameter estimates of the probit model estimated using the subsample of matched treatment-control pairs (we match firms using one-to-one nearest neighbor PSM every year, without replacement). Definitions for all variables are provided in Panel A of Table 1. Industry and year fixed effects are included. Coefficient estimates are reported and p -values are displayed in parentheses below. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A	Control	Treatment	Diff.	P-value
ROA	0.053	0.053	-0.000	0.926
Leverage	0.450	0.466	-0.016	0.384
Firm size	22.233	22.364	-0.131	0.127
Tax	0.006	0.008	-0.002	0.140
Tobin’s q	2.160	2.174	-0.014	0.903
Tangibility	0.201	0.201	-0.000	0.974

Panel B	Pre-Match	Post-Match
ROA	2.292** (0.016)	0.552 (0.790)
Leverage	-0.039 (0.863)	0.143 (0.745)
Firm size	0.667*** (0.000)	0.058 (0.488)
Tax	-1.888 (0.485)	6.377 (0.201)
Tobin’s q	-0.003 (0.933)	-0.014 (0.843)
Tangibility	0.139 (0.584)	0.174 (0.706)
Constant	-16.719*** (0.000)	-1.128 (0.543)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	8,441	492
Pseudo R ²	0.209	0.017
P-value of χ^2	<0.001	0.983

Table 19: Determining the Effect of Political Influence on Bond Issuance

Panel A of this table reports the results of a logit regression analysis for Chinese POEs with and without corporate bond issues between January 2007 and June 2016. The dependent variable is a dummy variable that equals 1 for bond-issuing firms in the issuing year, and 0 otherwise. Columns (1) and (2) report the results of a post-matching cross-sectional analysis using the variables *Connection* and *PC Index*, respectively, and columns (1') and (2') report the fixed effects panel logit analysis using the entire sample. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Panel B reports results after addressing the potential endogeneity and selection bias that may be associated with political connections. Columns (1) and (2) report the results of the second stage estimation from a two-stage probit instrumental variable (IV) estimation to address the potential endogeneity of political connections. The instrumental variable for political connections in the first stage estimation is the natural logarithm of one plus the geo-distance between a POE's headquarter and the provincial capital city where the POE is located. The dependent variable is a dummy variable that equals 1 for bond-issuing firms in the issuing year, and 0 otherwise. Column (1) reports the results for the post-matching sample and Column (2) reports the results for the entire panel. Column (3) reports the results for a regression model that controls for the selection biases using the Heckman selection model for the entire pre-match sample. The inverse Mills ratio is included in the estimation. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A	(1)	(2)	(1')	(2')
	post-match	post-match	panel	panel
Connection	0.722*** (0.000)		0.654*** (0.000)	
PC Index		0.299*** (0.000)		0.253*** (0.000)
Gov Index	-0.138* (0.086)	-0.143* (0.076)	-0.170*** (0.003)	-0.172** (0.002)
Constant	-2.737 (0.366)	-2.403 (0.433)		
Firm Characteristics	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Maximum VIF	2.00	2.00	1.53	1.53
Mean VIF	1.41	1.41	1.21	1.21
Observations	492	492	9,879	9,879
Pseudo R ²	0.044	0.043		

Panel B	(1)	(2)	(3)
	IV-post-match	IV-panel	Heckman
Connection	0.955*** (0.003)	0.612*** (0.007)	0.652*** (0.000)
Gov Index	-0.040 (0.448)	-0.072*** (0.005)	-0.158*** (0.003)
Inverse Mills Ratio			-21.858** (0.024)
Constant	-2.855* (0.071)	-11.508*** (0.000)	55.409 (0.119)
Firm Characteristics	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Maximum VIF	2.03	7.77	1.81
Mean VIF	1.42	2.53	1.36
Observations	492	9,879	9,879
Stock-Yogo Test	61.28***	748.39***	
Durbin-Wu-Hausman Test	3.07*	3.60*	

Table 20: Propensity Score Matching (Endogeneity Check)

This table reports the results for our propensity score matching routine for Chinese POEs with and without corporate bond issues between January 2007 and June 2016. The bond-issuing firms fulfil the criterion of a political turnover. We match firms using a nearest neighbor PSM algorithm on the key variable *PC Index* and an array of firm-specific characteristics. Panel A reports the univariate balanced test results for pairs of treatment and control firms after matching. Panel B reports parameter estimates for the probit model used in estimating the propensity scores of the treatment and control groups (the treatment is bond issuance). The dependent variable in the probit model is the bond issuance dummy. The “Pre-Match” column contains the parameter estimates of the probit model estimated using the sample prior to matching. These estimates are then used to generate the propensity scores for matching POEs with and without corporate bond issues. The “Post-Match” column contains the parameter estimates of the probit model estimated using the subsample of matched treatment-control pairs (we match firms using a one-to-one nearest neighbor PSM every year, without replacement). Definitions for all variables are provided in Panel A of Table 1. Industry and year fixed effects are included in both models in Panel A. We report coefficient estimates with *p*-values in parentheses below. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A	Control	Treatment	Diff.	P-value
PC Index	1.134	1.130	0.004	0.970
ROA	0.054	0.053	0.001	0.819
Leverage	0.460	0.466	-0.006	0.748
Firm size	22.308	22.365	-0.057	0.513
Tax	0.007	0.008	-0.001	0.248
Tobin’s q	2.072	2.174	0.010	0.327
Tangibility	0.209	0.201	0.008	0.575

Panel B	Pre-Match	Post-Match
PC Index	0.184*** (0.000)	-0.001 (0.975)
ROA	2.223*** (0.006)	-1.785 (0.321)
Leverage	0.001*** (0.998)	-0.084 (0.852)
Firm size	0.648*** (0.000)	0.065 (0.438)
Tax	-1.362 (0.644)	4.948 (0.342)
Tobin’s q	-0.000 (0.992)	0.083 (0.212)
Tangibility	0.157 (0.610)	-0.038 (0.937)
Constant	-16.612*** (0.000)	-1.525 (0.399)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	8,441	492
Pseudo R ²	0.228	0.006
P-value of χ^2	<0.001	0.870

Table 21: Determining the Effect of Political Influence on Bond Issuance (Endogeneity Check)

This table reports the results of a post-matching logit regression analysis for Chinese POEs with and without corporate bond issues between January 2007 and June 2016. The dependent variable is a dummy variable that equals 1 if the firm issues a corporate bond during the fiscal year, and 0 otherwise (see Equation (2) for details). We report coefficient estimates with p -values in parentheses below. p -values are calculated using standard errors clustered at firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)
Political Turnover	0.520*
	(0.077)
Connection	-0.046
	(0.834)
Gov Index	-0.264***
	(0.001)
Constant	-4.218
	(0.274)
Firm Characteristics	Yes
Industry FE	Yes
Year FE	Yes
Maximum VIF	2.03
Mean VIF	1.42
Observations	492
Pseudo R ²	0.042

Table 22: Corporate Governance and Bond Issuance

This table reports the results of an ordered logit regression analysis for Chinese POEs with and without corporate bond issues between January 2007 and June 2016. The dependent variable is an ordinal index variable (Gov Index) that measures the overall quality of a POE's corporate governance. Columns (1) and (2) report the results of a post-matching cross-sectional analysis using the variables *Connection* and *PC Index*, respectively, and columns (3) and (4) report the results for a panel ordered logit analysis using the entire sample. Column (5) and (6) reports the empirical analysis of corporate governance for bond issuing POEs only. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Bond	-0.327** (0.047)	-0.330** (0.046)	-0.261** (0.014)	-0.259** (0.014)		
Connection	-0.555*** (0.001)		-0.825*** (0.000)		-0.537** (0.025)	
PC Index		-0.214*** (0.003)		-0.289*** (0.000)		-0.211** (0.031)
Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Maximum VIF	2.02	2.02	1.80	1.70	2.46	2.47
Mean VIF	1.36	1.35	1.33	1.31	1.51	1.51
Observations	492	492	9,879	9,879	246	246
Pseudo R ²	0.021	0.020			0.032	0.031

Table 23: Multinomial Logit Regression Analysis for the Choice of Debt Instrument

This table reports the results of a multinomial logit regression analysis for the debt-financing choice of Chinese POEs between January 2007 and June 2016. The dependent variable is a dummy variable that equals 2 if the firm has a corporate bond issue, 1 if the firm takes out a bank loan, and 0 if the firm does not engage in any type of debt financing. Industry and year fixed effects are included in both models. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using clustered standard errors at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	No Issue vs Bond (1)	Loan vs Bond (2)	No Issue vs Bond (3)	Loan vs Bond (4)	No Issue vs Bond (5)	Loan vs Bond (6)
Connection	0.685*** (0.000)	0.991*** (0.000)			1.048*** (0.000)	1.121** (0.000)
PC Index			0.273*** (0.000)	0.382*** (0.000)		
Gov Index	-0.213*** (0.001)	-0.144** (0.048)	-0.214*** (0.001)	-0.145** (0.046)	-0.210*** (0.001)	-0.142* (0.074)
Altman Z	-1.589*** (0.000)	-0.554*** (0.000)	-1.577*** (0.000)	-0.540*** (0.000)	-1.549*** (0.000)	-0.550*** (0.000)
Altman Z × Connection					-0.360* (0.051)	-0.050 (0.819)
Constant	-25.562*** (0.000)	-18.920*** (0.000)	-25.546*** (0.000)	-18.907*** (0.000)	-25.978*** (0.000)	-19.314*** (0.000)
Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Maximum VIF	3.52	3.52	3.52	3.52	3.53	3.53
Mean VIF	1.70	1.70	1.70	1.70	2.04	2.04
Observations	9,456	9,456	9,456	9,456	9,456	9,456
Pseudo R ²	0.149	0.149	0.148	0.148	0.150	0.150

Table 24: Financing Cost Analysis

This table reports the results of a two-stage regression analysis designed to predict a firm's coupon rate. The sample size reduces to 218 observations because of missing information about the coupon rate of 28 corporate bonds. Column (1) shows the results of a tobit regression analysis of the determinants of a corporate bond's coupon rate. Column (2) reports the results of the second stage estimation of a two-stage tobit instrumental variable (IV) estimation to address the potential endogeneity of political connections. The instrument variable for political connections in the first stage estimation is the natural logarithm of one plus the geo-distance between a POE's headquarter and the provincial capital city where the POE is located. Industry and year fixed effects are included in both stages. We report coefficient estimates with p -values in parentheses below. p -values are calculated using standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) tobit	(2) IV-tobit
Connection	-0.781** (0.013)	-0.877*** (0.004)
Gov Index	0.093* (0.081)	0.045 (0.379)
Risk free	40.711** (0.01)	87.406*** (0.000)
PD _{predicted}	379.546*** (0.001)	251.045*** (0.000)
Volume	-0.015 (0.177)	-0.381*** (0.002)
Maturity	-0.007 (0.917)	-0.376 (0.275)
Constant	-20.941** (0.037)	-12.952* (0.052)
Firm Characteristics	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Maximum VIF	5.25	4.02
Mean VIF	2.08	1.76
Observations	218	218
Stock-Yogo Test		33.57***
Durbin-Wu-Hausman Test		0.42

Table 25: Announcement Returns around Corporate Bond Issuance Announcements

This table reports the average difference in the cumulative average abnormal returns (CAARs) around the announcement date of a bond issue by a Chinese POE for the event window (0, 1). The CAARs are calculated using a one factor market model (with the equal-weighted and value-weighted Shanghai and Shenzhen Composite Index as the market factor), a Fama-French three factor model, and a Fama-French five factor model, respectively. The estimation period spans from 300 to 46 days before the announcement date (see Dutordoir, Strong, and Ziegen, 2014). *T*-statistics and *p*-values are calculated using robust standard errors. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Connected – Non-Connected	Differences in Means	
Equal-Weighted	0.011**	(0.035)
Value-Weighted	0.012**	(0.033)
Fama-French 3 Factor	0.011**	(0.044)
Fama-French 5 Factor	0.010*	(0.058)
Observations	161	

Table 26: Explaining the Announcement Returns around Corporate Bond Issuance

This table reports the results of an OLS regression analysis in which we regress the stock price returns of bond-issuing POEs in response to their bond issue announcements against a series of explanatory factors (see Equation (4)). The dependent variable is each firm's cumulative abnormal return (CAR). In Columns (1) to (2), CARs are calculated using a one factor market model (with the equal-weighted (EW) and the value-weighted (VW) Shanghai and Shenzhen Composite Index as the market factor); In Column (3), we employ a Fama-French three factor model (FF3); and in Column (4), we use a Fama-French five factor model (FF5), each over the event window (0, 1). Column (5)-(8) reports the results of the second stage estimation of a two-stage least squares (2SLS) instrumental variable estimation to address the potential endogeneity of political connections. The instrumental variable for political connections in the first stage estimation is the natural logarithm of one plus the geo-distance between a POE's headquarter and the provincial capital city where the POE is located. Definitions for all variables are provided in Panel A of Table 1. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) EW	(2) VW	(3) FF3	(4) FF5	(5) IV-EW	(6) IV-VW	(7) IV-FF3	(8) IV-FF5
Connection	0.013** (0.020)	0.012** (0.031)	0.012** (0.029)	0.012** (0.037)	0.037*** (0.010)	0.040*** (0.006)	0.040*** (0.007)	0.042*** (0.005)
Gov Index	-0.001 (0.811)	-0.001 (0.594)	-0.000 (0.889)	-0.001 (0.827)	-0.000 (0.871)	-0.001 (0.599)	-0.000 (0.963)	-0.000 (0.903)
Multi Issuer	-0.012 (0.244)	-0.012 (0.269)	-0.015 (0.184)	-0.017 (0.134)	-0.011 (0.274)	-0.010 (0.328)	-0.013 (0.215)	-0.015 (0.161)
PD	0.456 (0.475)	1.110 (0.106)	0.603 (0.357)	0.536 (0.397)	0.081 (0.904)	0.669 (0.338)	0.175 (0.800)	0.074 (0.914)
Volume	0.000 (0.610)	-0.000 (0.903)	0.000 (0.515)	0.000 (0.436)	0.000 (0.390)	0.000 (0.860)	0.001 (0.288)	0.001 (0.215)
Maturity	-0.001 (0.713)	-0.001 (0.844)	0.000 (0.986)	0.000 (0.905)	-0.001 (0.731)	-0.001 (0.855)	0.000 (0.970)	0.000 (0.890)
Coupon	0.006 (0.132)	0.005 (0.143)	0.005 (0.221)	0.003 (0.353)	0.004 (0.237)	0.003 (0.354)	0.003 (0.417)	0.001 (0.685)
Constant	0.030 (0.849)	-0.062 (0.699)	0.049 (0.758)	0.059 (0.696)	0.069 (0.657)	-0.017 (0.914)	0.093 (0.558)	0.107 (0.491)
Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Max VIF	4.18	4.18	4.18	4.18	4.21	4.21	4.21	4.21
Mean VIF	1.76	1.76	1.76	1.76	1.84	1.84	1.84	1.84
Observations	161	161	161	161	161	161	161	161
Adjusted R ²	0.059	0.056	0.035	0.020	0.057	0.080	0.118	0.155
Stock-Yogo Test					25.72***	25.72***	25.72***	25.72***
Durbin-Wu-Hausman Test					2.81*	3.61*	3.55*	4.17**

Table 27: Variable Definitions and Units

Variable	Definition	Unit
Spread	Monthly trading yield spread between a “Chengtou” (POE) bond and its maturity-matched treasury bond	Basis points
Implicit	Dummy variable that equals 1 if the bond is a “Chengtou” bond and 0 if the bond is a POE bond	N/A
ROA	Net income over total assets	%
LEV	Book value of total liabilities over the book value of total assets	%
Firm size	The value of total assets	Billion Yuan (CNY)
Issue size	Bond issuing volume	Billion Yuan (CNY)
Maturity	Remaining time to maturity, using one year as one unit	Year
Liquidity	The difference between the highest and lowest monthly price	Yuan (CNY)
Rating	Bond issuer’s credit rating without credit enhancement, which is rated on a four-point scale of AAA, AA+, AA, and AA-. We assign 4, 3, 2, and 1 to the four ratings, respectively.	N/A
Northeast	Dummy variable that equals 1 if the bond issuer is located in a province that belongs to the Northeast region of China and 0 if the bond issuer is located in another province	N/A
Level	Indicator variable that ranges from 1 to 4 according to the local government’s administrative level (prefecture-level, city-level, sub-provincial-level, provincial-level)	N/A
Explicit	Dummy variable that equals 1 if the bond prospectus specifies an explicit guarantor and 0 otherwise	N/A
GDP growth	Year-over-year GDP growth rate in a given quarter, using the same quarter in the last year as the base	%
Risk free rate	Yearly rate of return of the one-year treasury bill of China	%
Yield curve slope	The difference in the yearly rate of return between ten-year and two-year treasury bonds	%
M2 growth	Monthly growth rate in the money supply (M2)	%

Table 28: Summary Statistics for LGFVs (Chengtou Bond Issuers) and POEs

This table provides summary statistics (i.e., the mean, median, standard deviation, 25% and 75% quantile) for all sample variables, where N is the number of firm-month observations. We differentiate between corporate bonds issued by LGFVs (Panel A) and by POEs (Panel B). Our sample period ranges from January 2010 to December 2017. Variable definitions are provided in Table 1. Panel C provides summary statistics for a series of macroeconomic control variables. Panel D reports the pairwise differences in means (*t*-test) and medians (Wilcoxon test) of the variables between the two subgroups (LGFVs and POEs). Related *p*-values are shown to the right in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Mean	Median	Std. Dev.	25%	75%	N
Panel A: Chengtou Bonds						
Spread	220.41	216.87	102.35	147.19	289.25	115,320
ROA	2.25	1.87	1.69	1.20	2.88	114,950
LEV	50.30	50.89	14.72	39.65	61.12	114,926
Firm size	26.61	15.81	39.19	9.73	27.08	108,494
Issue size	1.23	1.00	0.66	0.80	1.50	115,320
Maturity	4.75	4.80	2.04	3.41	6.06	115,320
Liquidity	1.33	0.26	3.20	0.00	1.64	115,320
Rating	2.03	2.00	0.75	2.00	2.00	115,320
Northeast	0.06	0.00	0.24	0.00	0.00	115,320
Explicit	0.41	0.00	0.49	0.00	1.00	115,320
Panel B: POE Bonds						
Spread	287.57	283.54	122.03	197.33	377.28	23,920
ROA	6.36	5.38	4.81	3.64	8.05	23,544
LEV	60.12	61.79	15.32	49.32	70.52	23,544
Firm size	19.78	9.25	31.18	4.66	20.78	23,286
Issue size	1.13	0.80	1.20	0.50	1.20	23,920
Maturity	3.30	3.36	1.52	2.18	4.39	23,920
Liquidity	1.16	0.45	1.90	0.00	1.55	23,920
Rating	2.12	2.00	0.69	2.00	2.00	23,920
Northeast	0.03	0.00	0.18	0.00	0.00	23,920
Explicit	0.30	0.00	0.46	0.00	1.00	23,920
Panel C: Macroeconomic Variables						
GDP growth	7.21	6.90	0.79	6.80	7.40	139,240
Risk free rate	2.90	2.86	0.60	2.31	3.45	139,240
Yield curve slope	0.43	0.40	0.26	0.25	0.52	139,240
M2 growth	12.07	11.80	2.18	10.60	13.40	139,240
Panel D: Equality Tests						
	Difference in Means		Difference in Medians			
Spread	-67.20***	(0.000)	-66.60***	(0.000)		
ROA	-4.11***	(0.000)	-3.51***	(0.000)		
LEV	-9.82**	(0.000)	-10.09***	(0.000)		
Firm size	6.83***	(0.000)	6.56***	(0.000)		
Issue size	0.10***	(0.000)	0.20***	(0.000)		
Maturity	1.45***	(0.000)	1.44***	(0.000)		
Liquidity	0.17***	(0.000)	-0.19***	(0.000)		
Rating	-0.09***	(0.000)	0.00***	(0.000)		
Northeast	0.02***	(0.000)	0.00***	(0.000)		
Explicit	0.11***	(0.000)	0.00***	(0.000)		

Table 29: Univariate Analysis of Yield Spreads

This table reports the results of a univariate analysis of both Chengtou and POE bonds based on specific characteristics. Panel A classifies Chengtou and POE bonds based on the bond issuer's credit rating. Panel B classifies bonds based on the bond issuer's location: Northeast China versus other regions. We report the pairwise differences in means (*t*-test) and medians (Wilcoxon test) of the yield spreads between Chengtou and POE bonds within each classification. Related *p*-values are shown to the right in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A: Classification by Bond Issuer Credit Rating

	Chengtou			POE			Difference in means	Difference in medians
	Issues	Mean	Median	Issues	Mean	Median		
AAA	203	127.53	120.65	41	181.91	159.50	-54.38*** (0.000)	-38.85*** (0.000)
AA+	374	169.82	164.76	196	230.55	215.79	-60.73*** (0.000)	-51.03*** (0.000)
AA	1,657	221.50	218.98	559	295.38	290.48	-73.87*** (0.000)	-71.50*** (0.000)
AA-	466	273.84	276.75	94	357.87	368.07	-84.03*** (0.000)	-91.32*** (0.000)
Total	2,700	220.41	216.87	890	287.57	283.54	-67.17*** (0.000)	-66.67*** (0.000)

Panel B: Classification by Bond Issuer Location

	Northeast			Other Provinces			Difference in means	Difference in medians
	Issues	Mean	Median	Issues	Mean	Median		
Chengtou	149	261.00	261.64	2,551	217.86	214.28	43.15*** (0.000)	47.36*** (0.000)
POE	33	310.84	345.56	857	286.75	282.45	24.09*** (0.000)	63.11*** (0.000)
Total	182	266.32	265.67	3,408	229.95	224.24	36.38*** (0.000)	41.43*** (0.000)

Table 30: Correlation Matrix

This table reports the Pearson correlation coefficients for all variable pairs, computed using the entire sample. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Spread	1														
(2) Implicit	-0.23***	1													
(3) ROA	0.09***	-0.52***	1												
(4) LEV	-0.10***	-0.24***	-0.01***	1											
(5) Firm size	-0.19***	0.07***	-0.10***	0.22***	1										
(6) Issue size	-0.15***	0.05***	-0.09***	0.15***	0.54***	1									
(7) Maturity	0.12***	0.270***	-0.09***	-0.17***	0.08***	0.11***	1								
(8) Liquidity	0.06***	0.02***	-0.02***	-0.05***	-0.03***	0.01***	0.00	1							
(9) Rating	-0.34***	-0.05***	0.04***	0.31***	0.49***	0.43***	0.14***	-0.05***	1						
(10) Northeast	0.08***	0.04***	-0.05***	-0.15***	0.02***	0.02***	-0.00	0.01***	-0.06***	1					
(11) GDP growth	0.28***	0.08***	0.05***	-0.02***	-0.06***	0.05***	0.28***	0.03***	-0.10***	-0.00	1				
(12) Risk free rate	0.09***	-0.02***	0.02***	-0.01***	0.00	-0.01***	-0.02***	-0.02***	-0.01***	-0.00	0.13***	1			
(13) Yield curve slope	0.16***	0.07***	-0.01*	-0.04***	-0.04***	0.02***	0.17***	0.02***	-0.06***	0.00	0.32***	-0.64***	1		
(14) M2 growth	0.24***	0.10***	0.03***	-0.08***	-0.07***	0.04***	0.30***	0.04***	-0.11***	0.00	0.68***	-0.25***	0.49***	1	
(15) Explicit	0.12***	0.09***	-0.04***	-0.13***	-0.13***	-0.12***	-0.03***	-0.00	-0.44***	0.01***	0.20***	0.00	0.09***	0.16***	1

Table 31: The Effect of Implicit Government Guarantees on Bond Yield Spreads

This table reports the results of a panel regression (random effects) analysis of the yield spreads of publicly traded corporate bonds between 2010 and 2017. The dependent variable is the monthly trading yield spread between corporate bonds and their maturity-matched treasury bonds. Implicit government guarantee is measured by a dummy variable that equals 1 if the bond is a Chengtou bond and 0 if the bond is a POE bond. Columns (1) and (2) report the results obtained by using the entire sample. Columns (3) to (6) report results for subsamples with credit ratings of AAA, AA+, AA, and AA-, respectively. Year fixed-effects are included in all specifications. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using clustered standard errors at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Full Sample	(2) Full Sample	(3) AAA	(4) AA+	(5) AA	(6) AA-
Implicit	-163.58*** (0.00)	-190.35*** (0.00)	-75.39*** (0.00)	-127.38*** (0.00)	-169.25*** (0.00)	-166.85*** (0.00)
Rating	-53.40*** (0.000)	-64.18*** (0.000)				
Implicit x Rating		12.33** (0.046)				
ROA	-5.45*** (0.000)	-5.45*** (0.000)	-1.46 (0.482)	-5.03*** (0.000)	-6.36*** (0.000)	-2.54 (0.102)
LEV	0.12 (0.265)	0.11 (0.293)	1.38*** (0.001)	0.20 (0.358)	0.42*** (0.002)	-0.62** (0.032)
Ln (Firm size)	-2.81 (0.214)	-2.47 (0.275)	8.85 (0.146)	10.16** (0.014)	0.98 (0.749)	-15.44** (0.028)
Issue size	-5.00** (0.045)	-4.06 (0.109)	6.20* (0.056)	-3.27 (0.407)	-19.34*** (0.000)	-7.15 (0.609)
Maturity	11.65*** (0.000)	11.63*** (0.000)	9.92*** (0.000)	2.03 (0.151)	10.44*** (0.000)	24.66*** (0.000)
Liquidity	2.61*** (0.000)	2.61*** (0.000)	1.69 (0.155)	1.27** (0.021)	2.09*** (0.000)	4.53*** (0.000)
GDP growth	47.04*** (0.000)	47.02*** (0.000)	14.20 (0.418)	20.00*** (0.006)	53.13*** (0.000)	52.05*** (0.000)
Risk free rate	-1.21 (0.772)	-1.24 (0.768)	-1.44 (0.921)	-7.88 (0.250)	4.68 (0.363)	-13.10 (0.280)
Yield curve slope	18.54*** (0.006)	18.50*** (0.006)	0.04 (0.999)	13.76 (0.224)	32.36*** (0.000)	-17.40 (0.386)
M2 growth	-5.60*** (0.000)	-5.61*** (0.000)	3.91 (0.239)	-2.19 (0.168)	-5.27*** (0.000)	-9.58*** (0.001)
Explicit	-21.93*** (0.000)	-22.14*** (0.000)	-9.27 (0.715)	-12.18 (0.224)	-25.16*** (0.000)	-26.16* (0.069)
Constant	71.53	93.89*	-297.30	99.54	-101.60	68.01

	(0.177)	(0.083)	(0.143)	(0.244)	(0.143)	(0.616)
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	134,526	134,526	7,147	19,238	81,669	26,472
R ²	0.27	0.27	0.28	0.26	0.19	0.17
p-value of χ^2 test	0.000	0.000	0.000	0.000	0.000	0.000

Table 32: The Effect of Geography (Regions) on Bond Yield Spreads

This table reports the results of a panel regression (random effects) analysis of the yield spreads of publicly traded corporate bonds between 2010 and 2017. The dependent variable is the monthly trading yield spread between corporate bonds and maturity-matched treasury bonds. Implicit government guarantee is measured by a dummy variable that equals 1 if the bond is a Chengtong bond and 0 if the bond is a POE bond. Northeast is a dummy variable that equals 1 if a bond issuer is located in Northeast China and 0 otherwise. Year fixed-effects are included in all specifications. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using clustered standard errors at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Full Sample	(2) Full Sample
Implicit	-191.95*** (0.000)	-192.12*** (0.000)
Rating	-64.22*** (0.000)	-64.01*** (0.000)
Northeast	33.80*** (0.000)	21.68 (0.268)
Northeast × Implicit		14.41 (0.500)
Implicit x Rating	13.19** (0.033)	13.03** (0.035)
ROA	-5.40*** (0.000)	-5.39*** (0.000)
LEV	0.17 (0.118)	0.17 (0.114)
Ln (Firm size)	-3.07 (0.175)	-3.11 (0.170)
Issue size	-4.22* (0.094)	-4.17* (0.098)
Maturity	11.70*** (0.000)	11.71*** (0.000)
Liquidity	2.61*** (0.000)	2.61*** (0.000)
GDP growth	46.97*** (0.000)	46.97*** (0.000)
Risk free rate	-1.23 (0.768)	-1.23 (0.768)
Yield curve slope	18.48*** (0.006)	18.48*** (0.006)
M2 growth	-5.62*** (0.000)	-5.62*** (0.000)
Explicit	-21.57***	-21.47***

	(0.000)	(0.000)
Constant	90.30*	90.07*
	(0.095)	(0.096)
Year fixed-effects	Yes	Yes
Observations	134,526	134,526
R2	0.27	0.27
p-value of χ^2 test	0.000	0.000

Table 33: The Effect of Policy Changes on Bond Yield Spreads

This table reports the results of a difference-in-difference (DID) regression analysis of the yield spreads between 2010 and 2017. For each model specification (1, 2, and 3), we only include observations for the five months before the issuance of the document under investigation and the five months thereafter. The dependent variable is the monthly trading yield spread between publicly traded corporate bonds and their maturity-matched treasury bonds. Implicit government guarantee is measured by a dummy variable that equals 1 if the bond is a Chengtou bond and 0 if the bond is a POE bond. Year fixed-effects are included in all specifications. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using clustered standard errors at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Document 43	(2) Document 88	(3) Document 50
Implicit	-123.78*** (0.002)	-335.54*** (0.000)	-280.80*** (0.000)
Rating	-71.05*** (0.000)	-69.14** (0.032)	-72.76** (0.033)
Northeast	-28.62 (0.683)	1.00 (0.992)	43.36 (0.668)
Implicit × Rating	42.99** (0.031)	41.79 (0.195)	42.62 (0.214)
Implicit × Northeast	40.48 (0.576)	-0.41 (0.997)	-210.37* (0.061)
Post ₄₃	-128.71*** (0.000)		
Post ₈₈		-70.75*** (0.000)	
Post ₅₀			-43.51*** (0.000)
Implicit × Post ₄₃	-19.68*** (0.001)		
Implicit × Post ₈₈		17.34** (0.036)	
Implicit × Post ₅₀			21.71*** (0.002)
ROA	-2.24** (0.023)	-0.26 (0.848)	-0.44 (0.742)
LEV	-0.04 (0.866)	0.58 (0.196)	0.80* (0.077)
Ln (Firm size)	-12.06** (0.036)	-23.98** (0.019)	-26.81** (0.011)
Issue size	0.23 (0.976)	-15.04 (0.239)	-1.32 (0.923)
Maturity	-2.94 (0.202)	26.31*** (0.000)	37.79*** (0.000)
Liquidity	-1.18** (0.034)	4.02*** (0.000)	3.13*** (0.000)
GDP growth	-412.98*** (0.000)	-36.44 (0.839)	-44.77 (0.728)
Risk free rate	39.00*** (0.002)	115.08** (0.017)	80.77** (0.038)

Yield curve slope	2.59 (0.881)	23.22 (0.744)	48.99 (0.311)
M2 growth	3.51* (0.059)	-4.60 (0.329)	-1.02 (0.832)
Explicit	-1.92 (0.837)	-73.36*** (0.001)	-67.32*** (0.004)
Constant	3491.89*** (0.000)	511.71 (0.642)	448.15 (0.548)
Year fixed-effects	Yes	Yes	Yes
Observations	15,589	30,150	31,644
R ²	0.07	0.05	0.05
p-value of χ^2 test	0.000	0.000	0.000

Table 34: The Local Government’s Administrative Level and Bond Yield Spreads

This table reports the results of a panel regression (random effects) analysis of the yield spreads of publicly traded corporate bonds between 2010 and 2017. The dependent variable is the monthly trading yield spread between corporate bonds and their maturity-matched treasury bonds. Implicit government guarantee is measured by a dummy variable that equals 1 if the bond is a Chengtong bond and 0 if the bond is a POE bond. Level is an indicator variable measuring the local government’s administrative level. Year fixed-effects are included in all specifications. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using clustered standard errors at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)
	Full Sample	Full Sample
Implicit	-200.7*** (0.000)	-236.0*** (0.000)
Rating	-63.78*** (0.000)	-62.79*** (0.000)
Level	-13.95*** (0.000)	-24.97*** (0.000)
Implicit × Rating	16.03*** (0.010)	13.40** (0.032)
Implicit × Level		16.06*** (0.004)
ROA	-5.417*** (0.000)	-5.428*** (0.000)
LEV	0.179* (0.100)	0.150 (0.168)
Ln (Firm size)	-2.403 (0.287)	-2.575 (0.254)
Issue size	-3.216 (0.203)	-2.928 (0.246)
Maturity	11.40*** (0.000)	11.48*** (0.000)
Liquidity	2.598*** (0.000)	2.597*** (0.000)
GDP growth	47.14*** (0.000)	47.12*** (0.000)
Risk free rate	-1.248 (0.766)	-1.230 (0.769)
Yield curve slope	18.57*** (0.006)	18.58*** (0.006)
M2 growth	-5.591*** (0.000)	-5.601*** (0.000)

Explicit	-21.92*** (0.000)	-22.22*** (0.000)
Constant	124.9** (0.022)	152.9*** (0.006)
Year fixed-effects	Yes	Yes
Observations	134,526	134,526
R ²	0.27	0.28
p-value of χ^2 test	0.000	0.000

Table 35: The Effect of Policy Changes on Bond Yield Spreads (with Administrative Level)

This table reports the results of a difference-in-differences (DID) regression analysis of yield spreads around three policy changes (the so-called Documents 43, 88, and 50) between 2010 and 2017. For each model specification (1, 2, and 3), we only include observations for the five months before the issuance of the document under investigation and the five months thereafter. The dependent variable is the monthly trading yield spread between publicly traded corporate bonds and their maturity-matched treasury bonds. Implicit government guarantee is measured by a dummy variable that equals 1 if the bond is a Chengtou bond and 0 if the bond is a POE bond. Year fixed-effects are included in all specifications. We report coefficient estimates with *p*-values in parentheses below. *p*-values are calculated using clustered standard errors at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Document 43	(2) Document 88	(3) Document 50
Implicit	-140.0** (0.013)	-475.5*** (0.000)	-315.1*** (0.002)
Rating	-70.63*** (0.000)	-64.66** (0.045)	-71.56** (0.037)
Northeast	-29.05 (0.679)	2.627 (0.979)	43.68 (0.666)
Level	-2.344 (0.885)	-67.72*** (0.004)	-35.78 (0.145)
Implicit × Rating	40.81** (0.043)	40.11 (0.222)	51.09 (0.144)
Implicit × Northeast	40.77 (0.573)	-1.868 (0.986)	-209.9* (0.061)
Implicit × Level	8.430 (0.633)	54.43* (0.057)	3.239 (0.915)
Post ₄₃	-128.8*** (0.000)		
Post ₈₈		-70.60*** (0.000)	
Post ₅₀			-43.31*** (0.000)
Implicit × Post ₄₃	-19.61*** (0.001)		
Implicit × Post ₈₈		17.26** (0.037)	
Implicit × Post ₅₀			21.64*** (0.002)
ROA	-2.238** (0.023)	-0.185 (0.891)	-0.420 (0.755)
LEV	-0.0830 (0.737)	0.597 (0.182)	0.858* (0.059)
Ln (Firm size)	-12.11** (0.036)	-24.13** (0.018)	-26.89** (0.010)
Issue size	0.00935 (0.999)	-11.97 (0.351)	1.099 (0.936)
Maturity	-2.921 (0.206)	26.41*** (0.000)	37.40*** (0.000)
Liquidity	-1.179** (0.034)	4.012*** (0.000)	3.127*** (0.000)
GDP growth	-413.0*** (0.000)	-35.66 (0.842)	-46.30 (0.719)

Risk free rate	39.00 ^{***} (0.002)	114.9 ^{**} (0.018)	80.75 ^{**} (0.038)
Yield curve slope	2.574 (0.881)	22.97 (0.747)	48.94 (0.312)
M2 growth	3.508 [*] (0.059)	-4.594 (0.329)	-0.930 (0.846)
Explicit	-2.041 (0.826)	-74.51 ^{***} (0.001)	-67.11 ^{***} (0.004)
Constant	3500.1 ^{***} (0.000)	667.6 (0.545)	543.2 (0.468)
Year fixed-effects	Yes	Yes	Yes
Observations	15,589	30,150	31,644
R ²	0.07	0.06	0.04
p-value of χ^2 test	0.000	0.000	0.000