Impact of Political Connections and Corruption

On the Banking Pool Structure of Firms in Emerging Markets.

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Abstract

This paper shows that the political connections and the corruption lead the structure of firm's banking pool. We advance the financial decision literature by stressing that the firms that have more political connections and firms that operate in the corrupted provinces are more likely to establish the main bank relationship with a government-owned bank. These firms tend to interact with a smaller number of banks and less diversified across bank ownership types. We further find that these powerful politically connected firms have a lower possibility of the main bank relationship with a government-owned bank and have a higher number of banks when they operate in the higher corrupted provinces. We formulate and test hypotheses on the financial decision of by using a unique hand-collected dataset of listed Vietnamese small and medium-sized enterprises in 2013. We address the endogeneity problems by using the fixed effects of the industry and region, including in the estimations a wide set of dependent variables and a valid instrument. The results from our robustness tests are consistent with findings of impacts of connection and corruption on the banking pool structure.

Keywords: Banking pool, corruption, main bank, politically connected firms.

JEL Classification: D72, D73, D82, G32, G34, P31 and P34

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1. Introduction

Political connections are believed to be a valuable resource for many firms in access to credit (Fisman, 2001; Khwaja and Mian, 2005; Malesky and Taussig, 2009. Such benefits are usually greater when the firm operates in a country with a significant level of corruption among its officials, the weak functioning banking systems, a highly interventionist government, or a nondemocratic government (Beck et al., 2006; Faccio 2006). Houston et al., (2011) argue that the government-owned banks induce more lending corruption. Recent papers consider the country level factors that might influence the occurrence of corruption in bank's lending decision (Houston et al., 2011).

A complementary literature highlights that banks are more prone to lending corruption when the controlling owner is the state (La Porta et a., 2002; Khwaja and Mian, 2005; Sapienza, 2004; Beck et al., 2005). This perceived importance of political connections and corruptions brings about the question of how firms make the strategic long-run policy on banking pool structure and, thus to reduce the information asymmetries and finally determine credit availability. In this line, research has lately been gaining momentum given the progress in recognition of the non-financial attributes for the credit risk assessment and the growing attention that political connection and corruption practices are receiving from business audience. To date, however, work in this area is far from conclusive, thereby needing additional research to understand how these practices relate to the external financing and borrowing behavior.

Despite a considerable number of research efforts attempting to elucidate the determinants of the optimal banking pool structure, evidence remains fragmented. The closeness of bank-firm relationships is mutually advantageous for both firms and banks (Boot, 2000). On the one hand, building a close bank-firm relationship appears to be a relevant strategy to maximize credit availability for firms. On the contrary, building close relationships with firms is also an appropriate strategy for banks by reducing the asymmetric information, providing more financial products, which in turn will increase the percentage of fees in their income statements. So, the bank-firm relationship is a win-win strategy, particularly in emerging countries, which is mostly characterized by market inefficiencies.

The paper seeks to ameliorate our understanding of the relationship between political connection and corruption and the structure of the firm's banking pool in three ways. First, we concentrate on the complete structure of banking pool. Our banking pool model composes three

essential pillars: i) the ownership type of the main bank, ii) the number of the banks, and iii) the diversification of the bank ownership types. Second, we include in our analysis the effect of the interrelation between political connection and corruption with the financial decision. Third, unlike previous research that has adopted an overreaching measure of the political connections, we focus on the subset of public political connection-driven measures at the firm level and the corruption at the province level. Our four key measures of political connection are: i) firm's legal status before privatization; ii) the share of the government at the firm; information about firm's manager: iii) was he is a former state officer or iv) was he a former manager of the state-owned enterprise. We measure the corruption of the province where the firm operates by the number of the corruption cases filed by the non-state entities per 100 companies at the provincial economic court. Our interpretation of the corruption variable is that a higher number of cases tried by the court means a greater level of corruption in each province rather than an increased efficiency of the provincial courts to deal with corruption.

The previous research raises the question of why some politically connected firms and firm operating in corrupted provinces establish their main bank relationship with a government-owned bank (GOB[1]). We posit that establishing the main bank relationship with a GOB may be an essential element in contracting bank loans. At one, the GOBs are the dominators the financial market (La Porta, 2002), therefore, firm's financing needs might be provided sufficiently by a GOB. Second, a relationship with the GOBs might minimize the asymmetric information problem because of the existing political connections between the borrowers and lenders, thus, reducing the cost of lending. Third, preferential access to credit is a strong incentive for politically connected firms to interact with a GOB (Faccio, 2006). On the contrary, if the managers of the firms aim to play the corruption games, building a banking relationship with a GOB is necessary. Because these GOBs serve as a mechanism to supply political patronage for the sake of bribes for office holders (Shleifer and Vishny, 1994). This corruption is efficient because of the pre-existing interpersonal relationships that foster moral obligation (Chen et al., 2002), and mutual trust between the two parties of bribes. We argue that firms operating in the corrupted provinces might prefer to use a GOB as their main bank because the corrupted institutional environment might shape loan's officer and borrowers' incentive to bribe (Weill, 2011; Zheng et al., 2013). Hence, we hypothesize that

[1] Hereafter, GOB will stand for GOB; FOB will stand for FOB; and POB will stand for POB

politically connected firms and firms operating in the corrupted environment are more likely to establish its main bank relationship with a GOB. The literature on the impacts of corruption and political connections on the bank financing indicates that political connections and corruption are positively interrelated because of the differences in the firm banking pool structure are partly determined by political connections and the level of corruption (Faccio, 2007; Weill, 2011, 2012). We, then, hypothesize that the strong politically connected firms that operate in the higher corruption province are more likely to set their main bank relationship with a GOB.

The main bank relationship with a GOB bank might affect the design of the remaining two pillars of the banking pool structure. First, these politically connected firms and firms operating in a corrupted environment might not interact with a larger number of banks. Firm's external financing demand might be served properly by a GOB. Importantly, dealing with a smaller number of banks could reduce the financial transaction costs and avoid the complicated coordination problem following a default (Bolton and Schafstein, 1996; Bris and Welch, 2005; Berger et al., 2005 and 2009). Second, these firms are less likely to diversify across the bank ownership types because of the difficulties for different ownership type banks to coordinate (Berger et al., 2009). Significantly, a main bank relationship with a GOB might provide a signal to the financial market about the probability of connections with political powers, not being transparent or the corruption lending practice that the FOBs or POBs might not want to participate. We, hence, develop two main hypotheses: the strong politically connected firms and firms operating in the corrupted provinces are less likely (i) to interact with a greater number of banks; (ii) to diversify across the bank ownership types. As our previous argument about the interrelation between the connections and corruption, we, then, hypothesize that the strong politically connected firms operating in the higher corruption provinces are more likely to interact with i) a smaller number of banks, and ii) less diversified across bank ownership types).

The impacts of political connections and corruption with the firm's banking pool structure are investigated in this paper using data from the Vietnamese small and medium-sized listed firms (SMEs). Vietnam is a perfect case study. First, the Vietnamese economic performance[2] over the past two decades challenges the comprehensive explanations of development (Qian, 2003; Xu,

[2] Since 1990, Vietnam stands out as one of the three fastest-growing economies in the world. The annual average GDP growth is greater than 6% in Vietnam, 8% in Lao PDR and 10% in China in the period from 2006 to 2015 (World Bank, 2015)

2011). Second, corruption is considered widespread and impacts on various sectors (Kovsted et al., 2004). In the banking sector, the high profiles of the state officials, bankers, and business people who are tried in court on charges of corruption alleged increase recently (Gainsborough, 2003; Thanh Nien News, 2014a). Third, the four largest commercial banks are GOBs (SBV, 2013) which suspected of being influenced by politicians. Vietnam is also in a transition period from centrally planned economy to market-based economy. In that respect, our paper has implications not only for understanding the nature of the bank pool structure of firms in emerging economies, but it also sheds light on the desirable transformations of the financial system.

Our firms match with the definition of SMEs regarding the employment and total turnover (Gibson and van der Vart, 2008). Even if the firms are listed, they still can be considered as "opaque" because the quality of information disclosure in the annual reports is still deficient in Vietnam (VIR, 2014). Notably, we manually collect accurate data on valuable information about the firm's bank pool structure from our survey at the enterprise level in 2013. Second, we extract handily the relevant information on political connections, firm and bank characteristics from various firm's audited reports. Our data are original as we measure political connections and corruption at the firm and province levels. At the provincial level, we extract a corruption dataset from the 2013 Provincial Competitiveness Index. The final data set covers 389 firm observations for the year of 2013.

We estimate three models that capture the impacts of political connections and corruption on the structure of banking pool. All tests performed consistently indicate that strong politically connected firms and firms operating in the higher corrupted province are more likely to have the main bank relationships with a GOB, interact with a smaller number of banks and less diversified across bank ownership types. Moreover, we find that those strong politically connected firms which operate in the higher corrupted province tend i) to have a non-GOB main bank; ii) interact with a greater number of banks. We address the endogeneity problems by using the fixed effects of the industry and region, including in the estimations a wide set of dependent variables and a valid instrument. Finally, we perform some robustness tests to reinforce the conclusions. One of our robustness tests confirms that the stronger politically connected firms tend to build their main bank relationship with a bank with the higher share of the government, to reduce the political distance, thus, to maximize the ability to access to banking finance.

This paper is relevant to several strands of the literature. In recent decades, numerous studies have investigated the relationship between political connections and corruptions and bank financing. The GOBs are widespread in underdeveloped countries (La Porta, 2002) are the main vehicle for funding (Gerschenkron, 1962; Myrdal, 1968). These GOBs lend to politically desirable projects through regulation and situation (Berger et al., 2005). Specifically, the GOBs might be responsible for serving firms that operate in some specific industries, provinces or rural areas. Preferential access to credit is a strong incentive for politically connected firms to interact with a GOB (Faccio, 2006). Detragiache et al., (2000) suggest that the size of the banking pool may be driven by companies' financial needs to protect themselves from premature withdraw of services from financially distressed banks. Another potential effect of the choice of the number of banks and the diversification across bank ownership types is the differences in monitoring (Carletti, 2004; Carletti et al., 2007). By reducing the number of the banking relationships, the firm can reveal its creditworthiness to other creditors to attract for financing. The possibility of the refinancing from the GOBs, especially in a corrupted environment, might be high because of the existence of political connections. Banks of different ownership types deploy different lending technologies and organizational structures in lending to SMEs (Beck et al., 2009).

As far as we are aware, our paper is the first study that examines the impact of the political connections at the firm level and corruption at the province level on the firm's comprehensive banking pool structure. Our study is therefore adding to the incipient finance banking relationship literature. Furthermore, our data from Vietnam allow us to overcome the exclusive focus on emerging market, but it also sheds light on the desirable transformations of the financial system. Most importantly, one limitation in all these studies is that they either focus on the influence of political connections or corruption on the financial decision. This means that to examine the effects of the political connections, we should consider the impact of the environment at the local level. In this way, our paper completes the existing literature on the political connections effects of the banking decision.

We arrange the remainder of the research as follows. Section 2 presents the context of study and includes a literature review on the banking pool structure in a context of corruption. Section 3 focuses on the data, variables, the methodology and hypotheses. Section 4 presents the results. Section 5 reports some robustness tests. Finally, we conclude in section 6.

2. Context of study.

The path-breaking article of Stein (2002) introduces the distinction between "hard" and "soft" information which is at the root of two banking models: transaction and relationship. Relationship banking refers to a business model which is characterized by credit decisions that rely mainly on "soft information." The closer the relationship between the company and its bank, the more "soft information" will flow towards the credit officers (Berger and Udell, 1995; Ongena and Smith, 2000; Le, 2013), and the more the bank's willingness to grant a loan to that firm everything is equal. Building a close banking relationship appears to be a relevant strategy to enhance access to finance for SMEs. First, SMEs are the prototype of firms in emerging countries. Second, SMEs produce mainly "soft information" and less "hard information" than others. Third, the financial reports provided by firms in emerging markets are not credible. Besides, building strong relationships with firms is also an appropriate strategy for banks. First, relationship banks will be better informed about their borrowers and the risk level of the investment projects. Second, the banks can provide more financial services, which in turn will increase the percentage of fees in their income statements. Then, bank-firm relationships are a win-win strategy, particularly in emerging markets, which are mostly characterized by market inefficiencies.

Recent research on the impacts of corruption and political connections has challenged this view. Lambsdorff (2005) argues that a country with a highly corrupted public sector has an extremely corrupted banking sector usually. The law and finance theory emphasizes the role of the legal institutions as a driver of credit supply (La Porta et al., 1998, Qian and Strahan, 2007; Laeven and Majnoni, 2008). Banks lend more when the legal and regulatory framework allows them to recover all or part of their debts quickly in case of default on debt (Ongena and Smith, 2000). There are two opposite views about the impact of corruption on lending. First, corruption diminishes the banks' willingness to lend by increasing the cost of the loan to the borrowers (La Porta et al., 1998; Beck et al., 2006) as the court decision is highly uncertain (Weill, 2011). Second, corruption affects the firm's ability to access to credit (Fungacova et al., 2015; Lobez and Vu, forthcoming). Barth et al. (2008) find that the Chinese corrupted state-owned enterprises (SOEs hereafter) have more power in the loan negotiations with the banks. Lizal and Kocenda (2001) add that Czech Republic banking sector provides loans for unreasonable projects, which were both charged with bribery.

Barth et al. (2008) suggest that a loan officer trades off the potential benefits of being involved in corruption lending against the costs of being caught and punished. A loan applicant

weights the benefits from better loan terms against the costs of bribes. The differences in the institutional environment could shape loan's officer and borrowers' incentive differently. Zheng et al. (2013) argue that the culture (way of thinking, feeling and acting) is one of the key factors which may lead to the corruption in SMEs financing. Culture influences individuals' attitude and perception toward ethical decision-making (Husted and Allen, 2008) and hence the extent to which bank officers will engage in unethical behaviors.

Political connections allow the firms to benefit from various government interventions (Imai, 2006) and preferential access to debt financing (Khwaja and Mian, 2005; Cull and Xu, 2005; Claessens et al., 2008). Recently, various scholars have argued that political connections may be a substitute for the official market institutions (Dixit, 2004; Leuz and Oberholzer-Gee, 2006) and banking relationships are the complement for political connections if the firms want to maximize access to credit (Lobez and Vu, forthcoming). At the bank level, political connections influence the bank lending behavior (Dinç, 2005), loan decision (Beck et al., 2004) and loan officer's interest (Haber et al., 2003). At the firm level, the firms with stronger connections with political powers usually obtain credit better than others (Goldman et al., 2009; Chaney et al., 2011; Khurana et al., 2012).

2.1. Political connections, corruption and GOBs as a main bank.

The GOBs are common in emerging markets. The classic "development view" argues that the GOBs can shape the firm's growth when the economic institutions are not sufficiently developed (La Porta et al., 2002). However, the manager of GOBs may exert low efforts or divert resources for personal benefits. The "agency view" claims that the GOBs will divert resources to areas where there is more political patronage to finance friends and supporters of politicians and maximize the political support. In the "political view," politicians use the GOBs to provide subsidies to supporters to get a return in the form of political contributions, and bribes (La Porta et al., 2002). The magnitude of this "bribe" phenomenon is much larger in more corrupted systems (Faccio, 2007). The information asymmetry between GOBs and outsiders makes it comparably easy to disguise political motivations for loans (Dinc, 2005).

Our hypothesis on the probability that the politically connected firms and firms operating in the high corruption provinces choose a GOB as their main bank relies on five motives. First, we assume that the GOBs can meet both "development" and "political" motives of politically connected firms. Second, because of the existing connection between the firms and banks, the

asymmetric information might be reduced, thus, minimizing the banking costs. Third, by banking with a GOB, politically connected firms have a preferential access to credit (Khwaja and Mian, 2005) and financial assistance when firms confront economic distress (Faccio et al., 2006) or when other banks may be unable to finance for some development projects. Fourth, we assume that if the CEOs of politically connected firms want to play the corruption game, so the main bank relationships with a GOB would be the best choice and must be achieved. The relationship with a GOB shapes the loan officer's incentive to corrupt, and the firm manager's incentive to bribe. The loan officer and the firm manager may exchange for "gifts" or "tips" as they may be connected by a network of relatives, friends and the connections with political powers (Rose-Acherman, 1999). The exchange of "gifts" or "tips" or say another way "bribe" is efficient as the pre-existing interpersonal relationships foster moral obligation (Chen et al., 2002). Such special relationship reduces the concerns of loan officer about the briber's threat of exposure and reduces the firm managers' concerns about the failure to deliver loan especially in a corrupted environment.

Finally, we argue that the level of corruption impact to the selection of the main bank relationship. First, the firms operating in the higher corrupted provinces, might prefer to use the GOBs because the differences in the institutional environment shape loan's officer and borrowers' incentive differently (Zheng et al., 2013). Second, there is a remarkable correlation between the likelihood of SMEs becoming engaged in corrupt practices and the low public confidence in the soundness of the legal system (Weill, 2011). Lastly, the banking relationships are a complement for political connections for firms that want to maximize credit availability in a corrupted environment (Lobez and Vu, forthcoming). We will go one step further and argue that the political connections and the level of corruption are interrelated (Faccio, 2007; Weill, 2011, 2012). We, then, hypothesize that the strong politically connected firms who operate in the higher corrupted provinces are more likely to set their main bank relationship with a GOB.

2.2. The impacts of political connections and corruption on the number of banks.

Why do politically connected firms and firms operate in the high corruption province interact with other banks while these firms have a main bank relationship with a GOB? What is the size of the banking pool if these companies have extended their banking pool? First, a new banking relationship may arise when the firm's main bank cannot provide all the needs for the firms (Guiso and Minetti, 2004; Elsas et al., 2004). Second, the firms seek a new banking relationship to avoid the "hold up" problem of single banking relationship (Sharpe, 1990; Boot,

2000). Third, firms may engage in a larger pool of banks because they want to protect themselves against the premature withdrawal of credit or other bank services due to the distress of their banking relationships (Bolton and Scharfstein, 1996; Bris and Welch, 2005).

The politically connected firms who prefer a main bank relationship with a GOB may also extend a new banking relationship because of fear of risks related to political connections or corruption. The common risks include the changes of leadership in the governing party, political networks, government central and local policies. The new leaders may not follow their antecedent's policies or make new policies per their personal or party beliefs. Studying political interference during pre-scheduled loan indicates that incumbent may manipulate macroeconomic and fiscal instruments to enhance their chances of being re-elected (Rogoff and Sibert, 1988; Rogoff, 1990). The GOBs may also change their lending policy toward the politically connected firms who are perceived as being of considerable risk when necessary (Bliss and Gul, 2012).

We understand from our previous argument that even with the choice of a GOB as the main bank, politically connected firms still interact with various banks. However, what is the optimal size of the banking pool structure? Detragiache et al. (2000) argue that the scale of the bank pool increases with the fragility of the banks and the opaqueness of firms. The choice of the number of relationships may also be driven by the costs and benefits of the bank monitoring (Carletti, 2004; Carletti et al., 2007). For SMEs in emerging markets, a higher number of banks means inefficient renegotiation (Bolton and Scharfstein, 1996), coordination problems (Bris and Welch, 2005), difficulty in claims collection after default, and high financing costs. Bris and Welch (2005) add that by banking with fewer creditors, the firms might signal their high quality in a context of information asymmetry. We argue that the need for a greater number of relationships may be redundant for the politically connected firm. By banking with GOBs, politically connected firms are more likely to get better access to finance (the effect might be higher through their connections or bribes to the loan officers). The fewer banks are a better position for firms which have better political connections and operate in corrupted provinces.

2.3. The impacts of political connections and corruption on the diversification of bank ownership types

Finally, to complete our understanding of the banking pool structure, we continue to look at the impacts of political connections and corruption on the diversification of bank ownership types. We argue that politically connected firms will diversify less across the bank ownership types

by two literatures. First, some authors indicate that the degree of bank ownership diversification depends on the different organizational structures and lending techniques of the banks (Beck et al., 2009). The GOBs, POBs, and FOBs are three essential organizational designs with different lending policies toward SMEs in emerging markets. The literature about the lending policies of FOBs in emerging markets provides two different views. Berger et al. (2004) and Clarke et al. (2006) confirm the positive effects of FOBs on credit supply and availability. FOBs local branches can provide a greater share of total credit financing in countries far distant from the headquarters (Mian, 2006). Such FOBs are less likely to rate "soft information," and to decentralize loan approval and risk management decisions. Our previous arguments indicate that politically connected firms and firms operate in the high corruption environment tend to have a main bank relationship with GOBs and fewer banks in their bank pool. We understand from the literature that FOBs and POBs are more oriented to serve transparent firms rather than opaque firms like strong politically connected firms (Mian, 2006). It might be difficult for different banks to coordinate because of the differences in organization and lending structures (Berger et al., 2009). Therefore, it may be unnecessarily for firms that have political connections and that operate in corrupted provinces to diversify across the different ownership types.

Second, according to the signaling model, the announcement or decision of establishing the main bank relationship with a GOB might convey a message to the financial markets. The signal might be interpreted differently by various receivers in an asymmetric information environment. In our case, we assume that the politically connected firms and firms in the corrupted province are more likely to choose a GOB as its main bank. It is understood from recent research that the GOBs are more likely to do business with the opaque firms (Micco et al., 2004) while the FOBs are more associated with a greater efficiency and transparency (Claessens et al., 2001). Therefore, other non-state-owned banks might hesitate to participate in the banking pool with the main bank is a GOB because of the fear of the quality of the firms. To sum up, the politically connected firms and firms operating in the prominent level of corruption province are less likely to diversify across the bank ownership types than others.

2.4. The Vietnamese context.

Political connections still informally exist between the financial sector and the SOEs or even the privatized firms (former SOEs) which are directly state-financed. Corruption is one of the greatest frustrations in the judicial system (Bertelsmann Foundation 2010, 2014 and 2016). Per the

Global Corruption Barometer (2013), 53% of respondents in Vietnam felt that justice system was corrupted or extremely corrupted. The Chief of the Vietnamese Government Inspectorate described the situation of Vietnam's legislature in those words: *"corruption in the public sector remains seriously, especially in finance and banking"* (Thanh Nien News, 2014b). He emphasized that corruption be such that *"firms involved tend to top-ranked positions and significant powers"* and "*have many relations and connections to create power blocks*" (Thanh Nien News, 2014b). Nguyen and van Dijk (2012) argue that corruption favors the public sectors by documenting significant differences in corruption across 24 provinces. Domestic investors cite that corruption in the judicial system is one of the main reasons preventing firms from using the courts to resolve business disputes (Malesky et al., 2014).

The Vietnamese credit institutions system consists of 47 commercial banks, one policy bank, one development bank, and 53 foreign bank branches by the end of 2013 (SBV, 2013). Most of the executive bankers are business partners, friends or executants of top-ranked politicians in Vietnam. The political ties with government agencies reduce the time and obstacles of bank lending in Vietnam (Hansen et al., 2004; Le et al., 2006, Nguyen et al., 2013). The four big corruption cases of Vietnam in the 1990s are obviously the evidence of the politician's involvement in the credit allocations (Gainsborough, 2003). The Vietnamese credit market is highly concentrated with four GOBs that cover by nearly 45 percent of the total market assets. GOBs and social policy banks account for 51.2 percent of the formal credit market of the entire financial system at the end of 2013 (SBV, 2013). The GOBs mainly serve the SOEs, the large corporations, and finance for the strategic government investments, and social projects (Berger et al., 2009). The POBs focus on lending to the SMEs and the retail financing sector primarily. FOBs provide credit mainly to foreign, medium and larger companies (Bonin and Wachtel, 2003; Mian, 2006).

The SMEs play an active and fundamental role in economic growth. More than 97% (GSO, 2013) of the Vietnamese enterprises were SMEs by the end of 2012. Despite accounting for nearly 40 percent of country's employment (GSO, 2013), SMEs access to bank financing is difficult (Tenev et al., 2003, Le and Wang, 2005; CIEM, 2014). The SMEs face with insufficient collateral, incomplete business plans, poor financial records or credit history and are short of cash flow to service a loan safely (CIEM, 2014). The SMEs' financing relies mainly on trade credit and interpersonal banking relationships (Le, 2013); it also depends on owner characteristics (Nguyen,

2013; Nguyen et al., 2013) and financial environment (Nguyen and Otake, 2014). The politically connected firms have preferential access to finance (Malesky and Taussig, 2009; Nguyen et al., 2012). Therefore, the research for improving the financial access to the SMEs are urgent and critical to the development of the economic.

3. Data and Variables

3.1.Data source

We match data for the year 2013 from Vietnamese listed firms, the banks with which they have relationships, and information on their local market. Our research targets nonfinancial firms that were in operation of December 2013 with an employment size of fewer than 500 employees or the owner's equity size of fewer than 500 billion Vietnamese Dong[3]. Our dataset combines five sources of data.

First, an important part of the banking pool structure data comes from our independent survey. We sent the survey questionnaire of the banking pool structure (Appendix 1) by email to all the listed firms (about 700 firms). We received the responses by emails of 425 firms. For other companies or firms with incomplete information, we arranged different approaching methods (by telephone, physical visits, checking with credit officer) to collect and verify the information. We extract the banking pool structure data from the answer of our independent survey and manually collect from the firm's audited financial statements, and annual corporate governance reports. We studied about nearly 2,000 reports with an average length of 45 pages. For those firms for which there was a difference in the identification of the main bank, we assumed that the main bank was the bank for which the firm publishes its bank account on its official website, or in its audited financial reports. We ensured that there was no cessation period in the relationship between a firm and its main bank from the first time the firm began to use the bank services.

Second, the firm's political connections data are hand-collected from above reports which were extracted from the official site of Vietnamese stock exchanges. We define two sources of political connection. First, the known connections such as the relationships with political powers. Our strategy is to investigate on the closeness of the firms and firms' CEOs with governing party (Faccio, 2006 and 2010; Fan et al., 2007; Boubakri et al., 2008; Ferguson and Voth, 2008; Goldman et al., 2009). Second, we assume that all firms have their unknown relationships or

[3] Equivalent of 19.01 million US Dollars (Exchange rate US Dollar/Viet Nam Dong: 21,036 [Average rates on the Inter-Bank Foreign Currency Market, by the end of December 2013—Source: SBV, 2013])

connections with political powers. The unknown connections include the same education background, friendship, the social networks or the long-standing relationships with the political parties which may be observable or unobservable (Bertrand et al., 2008; Cohen et al., 2008; Do et al., 2013).

We define two criteria of the known relationship of the firms with the government power: either the firm was the former state-owned enterprise prior listing or the government holds a share of a firm at the time of the research. Second, we collect the known relationships of the firms' CEO with government powers: either the manager was a former state officer, or a former SOE manager (Malesky and Taussig, 2009). We rank the level of impact of these five criteria: First, the State is still a shareholder. Second, the incumbent CEO was a former government officer. Third, the incumbent CEO was a former manager of a SOE prior his/her appointment. Fourth, the firm was a SOE prior privatization. We must admit that it is unable to identify all the political ties of the CEOs because there are still other types of political ties, such as family relationships, countryman-ship, friendships or former classmate relationships among bureaucrats and former officials/bureaucrats. So, we consider that all firms in the sample have unknown political connections with the political powers. Then, we define two type of firms by the median of the number of official political connections. The strong politically connected firm is a firm with the number of connections equals or higher than 3, and otherwise is weak politically connected firm.

The information about the company's CEO also comes from the company's prospectuses, corporate annual report, semi and annual board of director's reports. The prospectuses allow us to know about the company's founder and relevant information regarding the current CEOs. The most interesting thing in these sources is that they contain a detailed biography of the CEOs, including their financial technical and political career. Almost CEOs have experience working in the same industry before joining the company. Vietnamese companies provide a brief biographical sketch of their CEO, personal information listing previous positions in industry, military jobs, government and local or central Communist Party positions, and other positions if any.

Third, the corruption data and provincial characteristics arise from PCI 2013. Previous studies focus on the perception at the bank or firm's level on the obstacles of the corruption on lending. We use a number of corruption cases in the province where the firms' headquarters are located to characterize the level of corruption. We measure the corruption by using the following indicator: "Cases filed by non-state entities in Provincial Economic Courts per 100 companies"

from PCI 2013. PCI 2013 extracts these cases from the database of the provincial supreme courts. The higher the number of cases passing through the legal system, the greater the corruption in the province.

Fourth, information of main bank characteristics is originated from the Bankscope of Bureau van Dijk. Finally, we extract the relevant information from Vietnamese Security Committee websites and various firm's audited reports handily. The final data set covers 389 firm observations.

3.2. Statistics Description and Variables

We divide firms in the sample into ten industrial sectors and seven regions based on the province that firms have the main operation. We report the summary statistics of all variables in Table 1, Panel A. We present the univariant statistics of the key variables by industry, and section in the same table, Panel B, and C respectively.

3.2.1 Dependent variables

We construct three dependent variables to measure the structure of the banking pool. First, to verify the determinant of the likelihood of the main bank ownership type, we introduce dummy variable $Government\ Owned-Bank$ which equals 1 if the main bank of the firm is a GOB or otherwise zero. Our firms establish the banking relationships with GOB, POB, and FOB. More than 80 percent of the firms has a main bank relationship with a GOB.

Second, to measure the concentration of the banking pool structure by the number of the banks, we create the binary variable $Number\ of\ Banks$ which equals to the number of the banks that the firm interacts (including the loan and financial services). The number of banks varies from 1 to 11. The average number of banks is 1.625.

To conclude, we examine the concentration of banking pool structure by the diversification of bank ownership types, we introduce the dummy variable $Diversification$ which equals to 1 if the firm has at least two different bank ownership types or otherwise zero. 48 percent of the firms diversified across the bank ownership types.

3.2.2. Main explanatory variables

A critical issue to test our proposed hypotheses is the measurement of the level of the political connections of the firm. Our variable $Connected\ Firm$ is the dummy variable equals 1 if the number of connections of the firm and its CEO are higher than 3 or otherwise zero. The mean of the $Connected\ Firm$ is 2.152.

The second explanatory variable is the level of the corruption in the province where the firm operates. Our variable $Corruption$ equals to the number of the filed corruption cases of non-state entities per 100 companies at the provincial economic court in 2013. The average number of corruption cases is 2.282. The highest number of corruption case is 21.739.

3.2.3. Control variables

Firm characteristics; The average size of the ($Firm\ Size$), measured as the natural log of the total firm assets) is 17.393 million US Dollars. Firm age, measured as the natural log of the number of years since incorporation ($Firm\ Age$), ranges from 4 to 63 years with an average of 13.957 years. In Table 1, $Firm\ Size$ and $Firm\ Age$ are not reported in log metric for the sake of comparability.

We include two direct measures of access to an external financing source. We control for the indebtedness and firm's performance that are supposed to influence the decision and the choice of the banking pool from the supply side: $Firm\ Debt\ Ratio$. We include return on assets ($Firm\ Return\ Ratio$). A firm with higher return ratio may have better ability to pay back to the lenders. The average leverage ratio is 0.226, and $Firm\ Return\ Ratio$ is 0.061.

We introduce other control for the firm: $R\&D$ equals to firm's R&D expenditure (before tax) divided the firm's total assets. We assume that R&D helps explain whether firms have more than one banking relationship bank because the high-intensity research firms may be subject to more lending from different banks (Berger et al., 2007). The variable DRO (Firm Days Receivable Outstanding) is defined by 365 days times the ending accounts receivable divided by the cost of good sales. This variable explains the ability to give the trade credit for its suppliers of the firm.

Our third set of firm variables includes dummy that classifies type of firm. We distinguished between a firm with more import activities and a firm with more export activities which related to the choice of the banking pool of the firms. In general, firms trade with foreign partners may have to extend the banking relationship with different type banks, or they have more banking relationships

For corporate governance, $Firm\ Insider\ Stake$ is as share (in %) of the insider directors (We exclude the government share when the directors represent for a share of the government (at local or central level)). We also control for the firm's CEO characteristics by the group of CEO's power control: Dummy variable $CEO\ Founder$

We also include controls for the firm's business sector ($Industry$) to measure and compare the differential of the independent variable with the different in banking pool structure of the company by the various groups in all regressions. There are 10 industries: Construction, Consumer Goods, Food, and Beverage; Healthcare; Industrial Goods and Services; Natural Resources; Oil and Gas; Public Services; Technology; Travel and Entertainment.

We control for the province characteristics by introducing variable $Preferential$ which data is extracted from PIC 2013. This variable is measured by the percentage of the interviewers' acceptance on the survey question that "the provinces provide preferential treatment to large enterprise (both state-owned and non-state) which is an obstacle to firm's business operations" (PIC 2013). Finally, we control for the 7 regions that the company operates (Red River Delta; Northern Midland; Northern Central and Central; Eastern Southern; Mekong Delta River; Ha Noi and Ho Chi Minh City)

Main Bank Characteristics: Balance sheet information on banks is from Bankscope of Bureau van Dijk. We include the bank age ($Bank\ Age$), measured by log natural of the number of years of incorporation of the main bank. We also control for the bank financial ratio such as *Bank ROAA*, Bank return on average assets ratio; or $Bank\ Loan\ Ratio$. We introduce the variable $Length$ which is measured by the duration of the banking relationships between a firm and its main bank. We extract the information from our survey which has mentioned earlier.

4. Methodology

4. 1. Political connections, corruption and the choice of a GOB as a main bank

Our first model tests the effects of the political connections and corruption on the ownership type of a firm's main bank.

$$Government - Owned\ Bank = \alpha + \beta * Connected\ Firm + \lambda * Corruption + Control\ (Firm,\ Province\ characteristics) + \epsilon \quad (1.1)$$

Our dependent variable is a dummy which equals one if the main bank is the given ownership type and 0 otherwise. We assume that the effects of the $Connected\ Firm$ and $Corruption$ variables will be statistically significant and positive. The firm characteristics include measures of firm size, age, access to external finance, financial performance, firm's export and import activities, corporate finance, industry and local of the firm. This model allows us to test the hypothesis 1A as following:

Hypothesis 1A: The strong politically connected firms and firms operate in the high corrupted provinces are more likely to establish the main bank relationship with a GOB.

Then, we go one step further to study the joining effects of political connection in corrupted environment. Our intuition is the following: in a province with a prominent level of corruption, it is easier to establish the fraud lending relationships between lenders and borrowers. In that case; corruption is an incentive to develop and use the political connections. We develop the equation (1.2) with the cross product of $Connected\ Firm$ and $Corruption$. The model is the follows:

$$Government - Owned\ Bank = \alpha + \beta * Connected\ Firm + \lambda * Corruption + \delta * Connected\ Firm * Corruption + Control\ (Firm, Province\ characteristics) + \epsilon \quad (1.2)$$

We expect the positive relationship between political connections, corruption and its interaction. This model allows us to test the hypothesis Eq 1.2 as follows:

Hypothesis 1B: Ceteris paribus, the probability of the main bank relationship with a GOB for a politically connected firm is higher if this firms operates in corrupted provinces.

In this type of estimation, three potential endogeneity problems that should be addressed. First, the unobservable heterogeneity that is time invariant may be related to the choice of a GOB. For example, firm size, the firms that have connections with political powers, quality of a firm's management, a power of the firm manager are the drivers of the banking pool structure (ownership type of main bank; number of banks). Our fixed effect on the industry and region estimation eliminates this problem. Second, there is a potential problem of reverse causality given that the firm size may be a driver of the banking pool structure. Lastly, there may be a problem of omitted variables bias, and the error terms may include a non-time-invariant component that simultaneously explains a banking structure as well as its ethics. To address the afore endogeneity issues, we have included in the estimations a wide set of dependent variables (15 control variables). This model reduces the possible omitted variables bias problem that may generate spurious correlations.

Besides, the use of the $ivprobit$ fits probit model where one or more the regressors are endogenously determined approach allow tackling the other problems. This methodology allows addressing the second endogeneity concern by instrumenting the potential endogenous variables. It is very critical to use a valid instrument to alleviate potential endogeneity problems. We suspect that unobservable shocks affecting the choice of a GOB main bank and the size of the main bank that effecting the firms' decision to select a main bank. Therefore, we treat $R\&D$ as endogenous.

As an instrument, we used the size of firm *Firm Size.* We run the regression with standard errors adjusted for 10 clusters in Industry and 6 clusters in Region respectively. The Stata reminds us that the endogenous variable is $R\&D$ and other variables *(Connected Firm; Corruption; Firm Age, Firm Size, Firm Debt Ratio, Firm Return Ratio, CEO Founder, Preferential)* were used as instruments. We reject the null hypothesis of no endogeneity because the output of a Walt test of the exogeneity of the instrumented variables and the $t\ test$ statistics are significant. Therefore, it is sufficient information in the sample to reject the null, so a regular probit regression may not be appropriate.

4.2. Political connections, corruption and the determinants of the number of banks.

Our second model studies the actual number of banks in the banking pool of the firm ($Number\ of\ Banks$) from 1 up to 11. To examine the effect of political connections and corruption to the number of banks, we write our equation 2.1 and 2.2 as follows:

$$Number\ of\ Banks = \alpha + \beta * Connected\ Firm + \lambda * Corruption + Control\ (Firm, Bank, Province\ characteristics) + \epsilon \quad (2.1)$$

$$Number\ of\ Banks = \alpha + \beta * Connected\ Firm + \lambda * Corruption + \delta * Connected\ Firm * Corruption + Control\ (Firm, Bank, Province\ characteristics) + \epsilon \quad (2.2)$$

We expect the strong politically connected firms and firms locate in the high corruption provinces to be less likely to interact with many banks than others. Because these companies tend to have a GOB main bank and the GOB can fulfill the need of financing and because they want to minimize the duplicate costs.

Our control variables for firm and province characteristics are same as model (1.1) and (1.2). We expect that larger or more transparent firms to be more likely to interact with more number of banks because they may encounter fewer opacity problems or minimize duplicative banking costs. In contrast, we expect the small firms or firms with limited access to credit are more likely to have less number of banks. At the same time, we resume that firm with more export ($Export$) or import ($Import$) activities or firm giving more trade credit (DRO) to their clients tend to have the higher number of banks to cater their daily operation.

We add on the control variables for the main bank characteristics. We expect that firm with larger bank main bank by age ($Bank\ Age$) or by the loan ratio ($Bank\ Loan\ Ratio$), profitable bank $Bank\ ROAA$ or closed relationship with its main bank ($Length$) may be not need to form up many banking relationships.

We use equation (2.1) to test our core hypothesis 2A and 2B as following:

Hypothesis 2A: The strong politically connected firms and the firms operate in the high corrupted provinces are more likely to interact with a smaller number of banks

Hypothesis 2B: Ceteris paribus, the number of banks for a politically connected firm is lower if this firm operates in a corrupted environment.

Following Detragiache et al. (2000) and Berger et al., 2005, we perform two stages. In the first stage, we estimate a Heckman selection model for the firms that have at least two banks. We assume that firms $R\&D$ ratio helps explain whether the firm has more than one banking relationship because high-intensity research firms may be subject more to lending by single relationship bank, but beyond that will have no effect on the actual number of banks. On the other hand, $R\&D$ intensity may be associated with single banking if the information of the research such as patent leakages to firm's competitors are expected to be more likely with many banks (Yosha, 1995). Second, we estimate the number of the banking relationships).

In the second step, our study is different with Berger et al., 2005 that we study a *ivpoisson* model to solve the potential endogeneity problems as mentioned in the model (1.1) and (1.2). We suspect that the $R\&D$ ratio is correlated with unobserved factors that additively effects the numbers of banks. We treat $R\&D$ ratio as an endogenous regressor. The size of the firm ($Firm\ Size$) is an instrument. First, we model the number of banks using an exponential conditional mean model with additive errors and use generalized method of moments estimator (GMM) (*ivpoission gmm)* to estimate the parameters of the regression. To allow heteroskedasticity of the errors, we use robust standard errors. Second, we estimate the parameters of the regression with the control-function (CF) (*ivpoission cfunction).* The coefficients estimated in the $R\&D$ in CF estimator are like the estimates obtained by the GMM estimator. The estimated coefficient on the $R\&D$ control variable is significantly different from zero suggests that the $R\&D$ is endogenous. So, it is sufficient information in the sample to reject the null, so a regular poisson regression may not be appropriate.

4.3. Political connections and corruption and the determinants of diversification of bank ownership types

Our last model investigates the determinants of the probability to diversify across bank ownership type. Our dependent variable $Diversification$, is a dummy variable that equals one if the firm has at least two different bank ownership types and zero otherwise. We emphasize the diversified firm has at least two banks and not all are with banks the same ownership type (e.g. a

GOB and a POB), and an undiversified firm either has a single bank pool structure or has various banking relationships with the same ownership type (e.g., all GOBs). We estimate two separate quotations, constraining the political connection, corruption, interaction of these variables, firm and main bank control to remain the same as equation (2.1) and (2.2). We develop our model (3.1) and (3.2.) as below:

$$Diversification = \alpha + \beta * Connected\ Firm + \lambda * Corruption + Control\ (Firm, Bank, and\ Province\ characteristics) + \epsilon \quad (3.1)$$

$$Diversification = \alpha + \beta * Connected\ Firm + \lambda * Corruption + \delta * Connected\ Firm * Corruption + Control\ (Firm, Bank, and\ Province\ characteristics) + \epsilon \quad (3.2)$$

We assume that there will be less diversification of bank ownership types among firms when the firms have better political connections and operate in higher corrupted judicial provinces because of the difficulties in the coordination or negotiation between the different bank ownership types and to reducing the costs of lending by using many banks. In our equation (3.1) and (3.2), the firms and bank characteristics are the same in those models (2.1) and (2.2) for the number of banks. We use equation (3.1) and (3.2) to test the key hypotheses that consonant with those for the model (2.1) and (2.2). We also expect the same result of the control variables for the firm, bank and province characteristics are similar with our results in model (2.1) and (2.2)

Hypothesis 3A: The strong politically connected firms and firms which operate in the high corrupted provinces are less likely to diversify across bank ownership types.

Hypothesis 3B: Ceteris paribus, the probability for a politically connected firm to diversify across bank ownership types is lower if this firm operates in corrupted provinces.

As mentioned in the model (1.1) and (1.2), three potential endogeneity problems are addressed in this model. First, the unobservable heterogeneity that is time invariant may be related to the choice of banking with different type of bank ownerships. For example, firm size, type of firm, export or import, the firms that have connections with political powers, quality of a firm's management, power of the firm manager are the drivers of bank ownership diversification (may be more to work with one type of bank (GOB, POB or FOB)). Same as model (1.1) and (1.2), we solve these problems by using the fixed effect of $Industry$, $Region$ and control by 19 control variables. Besides, the use of the *ivprobit* fits probit model in which we treat $R\&D$ as endogenous, and *Firm Size* as an instrument. We run the regression with standard errors adjusted for 6 clusters in $Region$ respectively. The Stata reminds us that the endogenous variable is $R\&D$ and other

variables *(Connected Firm; Corruption; Firm Age, Firm Size Firm Debt Ratio, Firm Return Ratio, CEO Founder, Preferential, Bank Age, Bank ROAA, Bank Loan Ratio, Length)* were used as instruments. We reject the null hypothesis of no endogeneity because the output of a Walt test of the exogeneity of the instrumented variables and the $t\ test$ statistics are significant. Therefore, it is sufficient information in the sample to reject the null, so a regular probit regression may not be appropriate.

5. Results

5.1. Political connections and corruption on the choice of a GOB main bank

Table 3 show the probability of positive outcome from a *ivprobit* model for the impact of political connections and corruption on the selection of a GOB main bank. The result in column (1) to (4) are consistent with a hypothesis that the strongly politically connected firms and firms operate in the high corrupted province tend to choose a GOB main bank. Changing from $Connected\ Firm$ to not $Connected\ Firm$ raises the likelihood that firms establish a main bank relationship with a GOB by 7.42, 14.99 and 14.29 percentage points respectively. A one percentage increase in the number of corruption cases in the province where the firms operate enhances the probability that the firms in these provinces have a GOB main bank by 2.52 and 2.97 percentage points respectively. However, the result in column (4) shows the somewhat opposite result on the strong politically connected firms who operate in the high corruption provinces prefer to establish a POB main bank, not a GOB as our expectation. Our explanation for this result can be expressed in two ways. First, these firms may consider that in a high corruption environment, there may be difficult to refuse the proposal of collusion from the corrupted loan officers. Also, these firms might trade-off the benefits of the corruption and the costs of financing including high corruption cost. In general, there may be a substantial risk of being caught and punished as resulted from the corruption practice that discourages the main bank relationship with a GOB.

Both coefficients of $Firm\ Age$ are statistically significant. The older firm or more likely to establish a GOB main bank. The result might be because of the non-government owned banks have been allowed to operate in Vietnam, not for a long time. Therefore, they are forced to work with the younger firms or the firms that did not have already banking ties with GOBs. On the contrary, the firms with a higher controlling power of manager (*CEO Founder*) and insider director($Firm\ Insider\ Stakes$) are less likely to establish a main bank relationship with a GOB. The coefficients of the DRO are both significant and negative in all columns. The lower the

efficiency of receiving the short-term payments, the higher the probability this firm has the main bank relationship with a GOB. We also find that for a firm that has more export activities, the probability of a GOB main bank is lower than a POB. Finally, firms operating in the province with a higher preferential rate for the state-owned enterprises are less likely to establish the main bank relationship with a GOB. A one point increase in the $Preferential$ reduces the likelihood of the GOB by 56.15 percentage point, holding all other variables at a fixed value. These firms operating in the province with bias policy for the state-owned enterprises might rely on the POBs as these banks might not be affected by the decision of local government body or might not be controlled by the government lending policy.

4.2. Political connections, corruption and the determinants of the number of banks

Table 4 shows the results of tests for the impacts of political connections, corruption with the number of banks. We report the conditional marginal effects – *linear prediction; predict ()* results of Heckman selection model in column (1) and (2) for those with have more than two banks. We report estimated coefficients transformed to incident-rate ratio a *ivpoisson cfunction* model for the actual number of banks in column (3) and (4). We also perform the *ivpossion gmm* test who's the findings are consistent with the result from *ivpoisosn cfunction*, that we do not report in this table.

We run the model with both explanatory variables – $Connected\ Firm$, $Corruption$ and the interaction $Connected\ Firm\#Corruption$. The finding of strong statistical significance for the $Connected\ Firm$ and $Corruption$ variables. First, among multiple banks' firms: The likelihood that $Connected\ Firm$ establishes a less number of banks is 69.32 percentage points higher than that observed for the non-connected firms (column (1)). The likelihood that firms operating in corrupted provinces establish a higher number of banks is 95.42 and 96.06 (column (1) and (2)) percentage points lower than that observed for the firms operating in less corrupted provinces. Second, for all firms in the sample, the likelihood that holding other regressors and error constant, the expected number of banks of strong politically connected firms is close to 75 percent of weak politically connected firms. Similarly, the expected number of banks of firms operating in corrupted provinces is close to 93 and 92 percent of those in less corrupted provinces. Our findings are consistent with our hypothesis 2A that after conditioning on the other variables, the strongly politically connected firms and firm operating in corrupted provinces are less likely to establish a higher number of banks.

In column (4), we find that the expected number of banks of connected firms operating in the corrupted province is close to 8 percent higher than the others. Our finding is not consistent with our hypothesis 2B. At least two arguments can be made to explain this finding. First, if an amount of loan financing of firms is unable to obtain from the main banks, these companies may have more need for more number of banks for additional credits. Second, the politically connected firms have preferential access to credit, and this preferential access will be enhanced in corrupted environment. The managers whose wish to divert to themselves a part of future firm's cash flow from investment projects may extend the more banking relationships to maximize their private benefits.

Our findings for the firm characteristics show majority consistency with previous research. Not surprisingly, larger firms, firms with higher leverage ratio are more likely to form the banking pool structure with a greater number of banks. Conversely, among multiple banking firms, the firms with higher performance are less likely to interact with a larger number of banks. These firms may be more transparent and able to borrow from its main bank. It is unnecessary to have more banks to reduce the duplicative banking costs. We also find that firm with more import activities and longer time of payment receivable tend to interact with a less number of banks than others. This choice may be due to firms' greater ability to get internally finance some of their operations or investment projects. For companies with more import activities, the requirements for extending the number of the banks may be not requested because the trading practice of prepaid payment term.

Firms with a long-term relationship with the main bank, firms with the profitable main bank, higher efficiency of using assets, and higher loan ratio to assets are more likely to interact with a smaller number of banks. Our finding is consistent with Berger et al., (2005). We can explain the results in two ways. First, banking relationship enhances the credit availability (Petersen and Rajan, 1994). Second, if the main bank is more oriented in lending activities, profitable enough and able to provide the financial services or lending for the firms, the firm will not need to obtain other banking relationship. However, at some stages, if the firms develop too fast and the bank could not meet firm's requirement, or bank may not be interested in some investment projects so that the firm may look for a new banking relationship.

The findings confirm the negative effect of the preferential treatment to the state-entities in the province where the firm operates which is consistent with our findings for the choice of the

main bank relationship with a GOB. Companies in these provinces are less likely to interact with many banks because of the needs or reducing the banking costs.

4.3. Political connection, corruption and the determinants of the diversification of bank ownership types.

Table 5 presents the empirical results for the likelihood that firms diversify across bank ownership type. We report marginal effects from *ivprobit* estimation for the impact of political connections and corruption with the diversification of bank ownership types. Consistent with the findings on the number of banks, we find that $Connected\ Firm$ and firms operating in high corrupted provinces ($Corruption$) are less likely to diversify across bank ownerships types. The likelihood of diversifications of strong politically connected firms is 10.45 percentage points lower than the weak politically connected firms. The probability of diversification of firms operating in corrupted provinces is between 2.06 and 2.23 percentage points lower than firms operating in less corrupted provinces. Our findings are consistent with our hypothesis 3A. The findings are also consistent with our finding in the previous model for the influence of political connection on the number of the banks in the banking pool structure of the firm. However, we could not confirm for the hypothesis 3B on the likelihood of diversification of connected companies in the corrupted provinces.

In term of firm characteristics, the findings are generally like those for the previous estimation in equation (2.1) and (2.2). Firms with higher levels of debt are found to be more likely to diversify across bank ownership types, perhaps due to a greater ability to internally finance their operations or to quickly establish a new relationship if their existing banking relationships cannot afford their lending requirements (Berger et al., 2005). Firms with longer days' payable account receivable are less likely to interact with more number of banks to avoid the banking cost.

For the main bank characteristics, the results show in the way of consistency. The effects of the bank return on average assets ratio are negative and significant in all our regressions. Firms having a main bank relationship with a profitable bank are less likely to diversify across the bank ownership types.

5. Robustness tests

5.1. Alternative measurement of dependent variable

We assume that there is a political distance between a firm and a bank if a firm wants to play a corruption game and that this distance depends on the bank type. The more a firm is closer

with political powers, the more it is better to benefit from the game of corruption. We construct our intuition by applying the literature on physical distance. First, Petersen and Rajan (2002) have identified two deep channels for physical distance to affect the credit-market transaction. The first channel by which the physical distance impacts the bank lending is the reduction of the information quality (between the creditors and its borrowers) (Hauswald and Marquez, 2006). The second channel by which the distance might affect the loan transactions consists of incurred transportations costs. The loan transaction costs include time and efforts spent by enterprises to interact with credit officers. Similarly, the bank might incur transportation costs in assessing loan applicants or in monitoring loans (Sussman and Zeira, 1995), which affect credit terms. Second, we are persuaded by the Power Distance cultural dimension of Geert Hofstede that the culture is an important context for a better understanding of people's behavior about corruption within countries.

We, therefore, extend this research by examining the impacts of political connections and corruption on the political distance between a firm and its main bank. We create variable $Political\ Distance$ for measure the strength of the closeness of a firm with the political forces. $Political\ Distance$ equals to 1 if the state has the shares at the bank or otherwise zero. We assume that the $Connected\ Firm$ and firm operating in the corrupted province are more likely to close with the bank that has a share of the government. There are five banks with the share of the state at the central level and four banks with the share of the state at the local level (e.g. state-owned enterprise or the local municipal committee, and local communist party) in our sample. Our equations can be written as follows:

$$Political\ Distance = \alpha + \beta * Connected\ Firm + \lambda * Corruption + Control\ (Firm, Province\ characteristics) + \epsilon \quad (4.1)$$

$$Political\ Distance = \alpha + \beta * Connected\ Firm + \lambda * Corruption + +\delta * Connected\ Firm * Corruption + Control\ (Firm, Province\ characteristics) + \epsilon \quad (4.2)$$

The control variables of firm and local characteristics are same as in our equation (1.1) and (1.2). Table 6 reports the results of conducting *ivprobit* estimation on impact of the share of the state of the main bank regarding the influence of $Connected\ Firm$ and $Corruption$, the interaction between previous variables as well as different controls defined in column (2). Importantly, our findings prove that the strongly politically connected firms are more likely to reduce the political distance by establishing the main bank relationship with a bank with a share of state. The results of the coefficients of the interaction of $Connected\ Firm\ \#\ Corruption$ are not

significant. We explain our findings in two ways. Less connected firms or firms which operate in the province of higher levels of corruptions may encounter the difficulties in access to credit with the GOBs because of the local preferential treatments or privileges policies. These firms might be more transparent and able to finance from other banks which are not controlled by the local or central government's systems. Our results are consistent with our finding in the equation (1.1) and (1.2). This significant finding reinforces the robustness our finding and hypothesis 1A.

5.2. Alternative measurement of main independent variable

We use other variables to measure the level of political connections with a selection of a GOB main bank. We measure the firms' official links with political powers by four variables: $CEO\ Government\ Officer$, $Former\ SOE\ Manager$, $Former\ SOE$ and $Firm\ State\ Stakes$. Dummy variable $CEO\ Government\ Officer$ would equal one if the firm CEO was a former government officer or otherwise zero in column (1). Dummy variable $Former\ SOE\ Manager$ would equal one if the CEO was a former manager of SOE or otherwise zero in column (2). Dummy variable $Former\ SOE$ would equal one if the firm was a former SOE or otherwise zero in column (3). Numerical variable $Firm\ Government\ Stakes$ is the government share in the firm in column (4). Table 7 shows our most important findings for the influence of political connections are consistent with our previous results. Firms that was a former state-owned enterprise, a higher share of the government and with the CEO was a former of the SOE Manager have a higher possibility of the main bank relationships with a GOB than the possibility of banking with a POB. We also find that firm in the corrupted provinces are more likely to establish a GOB main bank. The results of other firm characteristics are consistent with those shown in the equation (1.1) and (1.2).

6. Conclusions

We formulate and test hypotheses about the influences of political connections and corruption on a banking pool structure. Our unique handed-collected dataset is from Vietnam. The economy of Vietnam is well represented for financial market imperfections, the importance of political connections, and impact of corruption in bank lending that is prevalent in many emerging markets.

We first address the effects of the political connections and corruptions on the choice of the main bank relationship with a GOB. Second, we analyze how the decision on the number of banks affects by the previous effect. Finally, we test the choice of the diversification across of bank ownership types. We take advantage of the preferential treatments of political connections on the

ability to access to credit of the firm and the positive influence of the political connections and corruption on the credit availability.

The novel of our paper is two folds. First, the analysis of the effects of the connections of the firms with political powers and the influence of the corruption environments with the financial decision regarding the banking pool selection. Second, the extension of the framework of the politically connected firms on the banking pool structure by including the interaction with the corruption environment.

The empirical results found are almost consistent with our contentions. More specially, we have shown that a strong influence of political connections and corruption on the determinant of the banking pool structure. First, the strong politically connected firms and firms operating in high corrupted provinces are more likely to establish a GOB main bank. These firm tend to establish a concentrated banking pool (smaller number of banks; less diversification across the bank ownership types). Second, the strong politically connected firms which operate in the corrupted provinces have a lower possibility of the main bank GOB. Third, these firms are more likely to interact with a greater number of banks when they operate in corrupted provinces. Other findings provide additional evidence on the importance of firm, bank and the local characteristics to the determinants of the banking pool structure.

We deal with the endogeneity problems by using the fixed effects of the industry and region, including in the estimations a wide set of dependent variables. This model reduces the possible omitted variables bias problem that may generate spurious correlations. The use of the $ivprobit, ivpoisson\ and\ heckman\ selection$ fits model allows tackling the other problems allows addressing the second endogeneity concern by instrumenting the potential endogenous variables. Finally, we perform several of robustness checks that consistently show the positive association between the political connections, corruption and the probability of the main banking relationship with a GOB.

This study moves forward the research on the interface between the political connections, corruption and a financial decision by showing that firm's related connections to the political powers and the corruption environment affect to the determinants of the banking pool structure. The consequence is the reduction in the cost of borrowing funds and the asymmetric information between firms and the banks. Remarkably, this policy of a concentrated banking pool spreads to strong politically connected firms and for those firms in the higher level of judicial corruption

cannot be sustained a long time because of it as a negative effect on both firms and main bank's performance.

In qualifying our conclusions, we recognize some weaknesses in our study. While our single country and at firm level sample has several strengths, it also has two key weaknesses. First, the study circumscribes to the year of 2013 and for Vietnam are interesting because of the market of Vietnam after the financial crisis of 2008 and the stable period of the politic in Vietnam. However, it may be worth examining the effect of the 2008 financial downturn in socially responsible investment and the influence of the government, or political connections intervention to the bank-firm. Second, although we believed that the political connections affect the choice of the banking pool structure by banking with GOB and concentrated banking pool, especially for the firm who want to corrupt or play the corruption games, it is not free from criticism. Not all the GOBs might be a corrupted bank and on the other hand, not all the political connected firms are biased to the corruption behavior. An exploration of these issues will be the subject of our future research.

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Appendix 1: Questionnaire on the survey on the banking relationship of the firm

We sent the survey questionnaire of the banking pool structure (Appendix 1 by email to all the listed firms (about 700 firms). We received the responses by emails of 425 firms. For other companies or the firm that the information we received were not sufficient, we arranged the different approaching methods (by telephone, physical visits, checking with credit officer) to collect and verify the information. For those firms for which there was a difference in the identification of the main bank, we assumed that the main bank was a bank for which the firm publishes its bank account on its official website, or in its audited financial reports. Questionnaire sent to 695 Vietnam SMEs firms from the middle of 2013. We received the response of 428 firms. The information requested concerns the situation of the firm at the end of the year 2013. The questionnaire is not anonymous; the Value-Added Tax number of the firm was mentioned in it to allow an exploitation of the data coming from the annual financial statements.

Your banks

(1.1) With how many banks are your firm in relation? (Name of the banks)

(1.2) Which one is your main bank (name it)?

(1.3) How long has your firm been working with your main bank?

Appendix 2 Variable Definition

Dependent variables	
Government Owned-Bank	Dummy variable equals to 1 if the main bank is a GOB and 0 otherwise.
Number of Banks	Numerical variable equals to the number of the banks in the firm's bank pool
Diversification	Dummy variable equal to 1 if the firm has relationships with at least two different bank ownership types and 0 otherwise
Main explanatory variables	
Connected Firm	Dummy variable, equal 1 if firm has at least three connections with political powers or otherwise zero. Number of firm's connections with political powers that includes i) The firm was a state-owned enterprise prior privatization; ii) The government still is incumbent shareholder by the end of 2013; iii) The CEO was a former manager of SOE prior appointment to an incumbent position; iv) The CEO was a former government officer prior appointment to an incumbent position. The higher number of political connections, the more likely the higher politically connected firm. Annual corporate report, financial report, bio of the directors
Corruption	"Cases filed by non-state entities in Provincial Economic Courts per 100 companies" from PCI 2013. Describe the number of corruption cases filed by non-state entities in provincial economics courts at the provincial level. The higher number of cases, the more likely the higher level of corruption at the province level. PCI 2013, extract from provincial economic court
Control variables	
Firm Size	Numerical variable equals to the log of firm's total assets in a million US Dollars.
Firm Age	Numerical variable equals to the log of firm age in years by 2013.
Firm Debt Ratio	Numerical variable equals to the total debt to total assets of the firm.
Firm Return Ratio	Numerical variable equals to the profit before interest and tax to total assets of the firm.
Firm Insider Stake	Describe the percentage of stake of the inside directors
R&D	Numerical variable equals to the R&D expenditure to total assets of the firm
DRO	Numerical variable equals to the (Accounts Receivable / Revenue) x Number of Days In Year (Number of Days in Year is 365 days)
Import	Dummy variable equals to 1 if firm pays the impor tax and 0 otherwise.
Export	Dummy variable equals to 1 if firm pays the impor tax and 0 otherwise.
CEO Founder	Dummy variable equals to 1 if firm's CEO is a founder and 0 otherwise.
Length	Numerical variable equals to the duration in year of the firm with its main bank
Bank Size	Numerical variable equals to the log of total assets in million US Dollar of firm's main bank.
Bank Age	Numerical variable equals to the log of age in years of the firm's main bank.
Bank ROAA	Numerical variable equals to the ratio of the profit before interest and tax on average assets (ROAA) of the firm's main bank.
Bank Loan Ratio	Numerical variable equals to the ratio of the total loan on total assets of the firm's main bank.
Industry	Dummy variable equals to (1 to 10) - (Construction, Consumer Goods, Food, and Beverage; Healthcare; Industrial Goods and Services; Natural Resources; Oil and Gas; Public Services; Technology; Travel and Entertainment respectively).
Preferential	Numerical variable equal to the preferential treatment to big companies (both state-owned and non-state) is an obstacle to firm's business operations (% Agree)
Region	Dummy variable equals to (1 to 7) - (Red River Delta; Northern Midland; Northern Central and Central; Eastern Southern; Mekong Delta River; Ha Noi and Ho Chi Minh City respectively)

Table 1 Variables

	Obs.	Mean	S.D.	Min	Max	Skewness	Kurtosis
Panel A							
Government Owned-Bank	389	0.828	0.378	0	1	-1.736	4.014
Number of Banks	389	2.347	1.625	1	11	2.149	8.923
Diversification	389	0.481	0.500	0	1	0.077	1.006
Connected Firm	389	2.152	1.079	0	4	-0.501	2.548
Corruption	389	2.282	3.366	0.	21.739	3.578	19.063
Firm Size	389	17.393	18.335	0.821	159.558	2.956	16.562
Firm Age	389	20.892	13.957	4	63	0.936	3.003
Firm Debt Ratio	389	0.486	0.226	0.002	1.027	-0.151	2.174
Firm Return Ratio	389	0.049	0.061	0.000	0.393	2.016	7.985
Firm Insider Stake	389	17.340	17.975	0	81.030	1.100	3.572
R&D	389	0.083	0.180	0	1.866	5.330	40.401
DRO	389	127.578	261.281	0	4196.683	10.716	156.305
Import	389	0.057	0.231	0	1	3.840	15.742
Export	389	0.018	0.133	0	1	7.252	53.590
CEO Founder	389	0.077	0.267	0	1	3.170	11.050
Length	389	14.512	7.430	2	43	0.704	3.571
Bank Size	389	9.686	0.879	6.548	10.406	-1.540	4.384
Bank Age	389	3.289	0.587	1.609	4.025	-0.012	1.584
Bank ROAA	389	0.717	0.381	0.020	1.620	-0.054	-0.054
Bank Loan Ratio	389	61.960	11.945	24.900	75.660	-1.285	4.319
Preferential	389	0.384	0.072	0.180	0.530	-0.387	2.857
Industry	389	3.977	2.418	1	10	0.258	2.186
Region	389	4.864	2.031	1	7	-0.615	2.038
	Obs.		Ind.=1	Ind.=2	Ind.=3	Ind.=4	Ind.=5
Panel B1 - Distribution of the mean by sector							
Government Owned-Bank	389		0.829	0.842	0.857	0.900	0.820
Number of Banks	389		2.495	2.158	2.286	2.100	2.414
Diversification	389		0.524	0.368	0.381	0.500	0.489
	Obs.		Ind.=6	Ind.=7	Ind.=8	Ind.=9	Ind.=10
Panel B2 - Distribution of the mean by sector							
Government Owned-Bank	389		0.839	0.588	1.000	0.846	0.750
Number of Banks	389		1.968	2.765	1.765	2.769	1.250
Diversification	389		0.516	0.529	0.471	0.462	0.250
	Reg.=1	Reg.=2	Reg.=3	Reg.=4	Reg.=5	Reg.=6	Reg.=7
Panel C - Distribution of the mean by region							
Government Owned-Bank	0.881	0.929	0.951	0.872	0.842	0.764	0.769
Number of Banks	2.119	2.071	1.803	2.308	2.842	2.764	2.279
Diversification	0.452	0.429	0.361	0.513	0.474	0.600	0.433

This tables presents the descriptive statistics (mean, standard deviations, minimum and maximum), skewness and Kurtosis of the variables that are used in the analysis (Panel A). The distribution of the mean by the industrial sector from 1 to 10 (Construction, Consumer Goods, Food, and Beverage; Healthcare; Industrial Goods and Services; Natural Resources; Oil and Gas; Public Services; Technology; Travel and Entertainment respectively). and by region from 1 to 7 (Red River Delta; Northern Midland; Northern Central and Central; Eastern Southern; Mekong Delta River; Ha Noi and Ho Chi Minh City respectively) are presented in Panel B1, B2 and Panel C respectively. The sample is the result of crossing five sources of database: The authors' independent survey in 2013-2014 for the information of the bank pool structure of the firms. The corruption data province level are extracted from PCI 2013. The level of connections of the firms with political powers are generated from biography of the CEOs and firm's financial report. Other firm's characteristics and local controls are from the Vietnamese Security Committee websites. Our sample after crossing the afore mentioned sources is a single year data composed of 389 firms for the period of 2013. The final number of observations for which we have information and all variables of specifications in the text is 389 firm-year. The definition of the variables is given in Appendix 2. For the sake of comparability, some variables are not presented in a log metric.

Table 2: Correlation

This table reports the correlation of the variables in the sample

	SOCB	Number	Diversification	Connected	Corruption	FSize	FAge	DebtRatio	FReturnRatio	CEOFounder	R&D
SOCB	1										
Number	-0.0913	1									
Diversification	-0.0925	0.5521	1								
Connected	0.1663	-0.0884	-0.0544	1							
Corruption	0.119	-0.0986	-0.0472	-0.0467	1						
FSize	-0.0879	0.2667	0.1914	-0.0105	-0.1036	1					
FAge	0.2058	-0.0895	-0.004	0.3381	-0.0219	0.0196	1				
DebtRatio	0.0176	0.2279	0.1079	0.0798	0.0013	0.425	0.1256	1			
ReturnRatio	0.0603	-0.1651	-0.1191	0.072	0.0533	-0.0332	0.1052	-0.395	1		
CEOFounder	-0.1999	0.0451	-0.0081	-0.0978	-0.0403	-0.0104	-0.0766	-0.045	-0.0546	1	
R&D	0.0645	-0.1144	-0.0971	-0.0138	0.2007	0.0417	-0.0627	-0.1671	0.1096	-0.0459	1
DRO	-0.1416	0.0277	-0.0335	-0.1106	-0.0356	-0.0104	-0.1736	-0.0086	-0.1945	-0.0175	0.2436
Import	-0.0062	-0.1004	-0.0797	0.0099	-0.0067	0.0253	0.0001	-0.0242	0.0739	-0.0291	0.0573
Export	-0.0407	0.0902	0.0633	-0.0016	-0.0345	-0.0445	0.107	-0.045	0.0871	-0.0391	-0.0075
FIShare	-0.1298	0.0608	0.0273	0.1223	-0.0143	0.1094	0.0868	0.0725	0.0043	0.1312	-0.0716
BSize	0.5649	-0.2048	-0.1935	0.1113	0.1174	-0.0568	0.1808	-0.0345	0.0612	-0.0929	0.0859
BAge	0.2922	-0.0433	-0.0797	-0.0043	0.0458	0.1133	-0.0092	0.0613	0.061	-0.0342	0.085
Bank ROAA	-0.019	-0.1081	-0.1035	0.09	-0.0118	-0.0133	0.0889	-0.0597	0.0575	-0.0581	-0.0023
BLoanRatio	0.3541	-0.2184	-0.1607	0.0415	0.1085	-0.0147	0.1484	-0.0079	0.102	-0.0593	0.0565
Preferential	-0.1339	-0.0437	-0.0391	0.0024	-0.2968	-0.0527	-0.1346	0.0241	-0.1318	-0.0468	-0.047
Industry	-0.01	-0.0412	-0.01	0.0041	-0.1167	-0.1067	-0.0219	-0.2018	0.1651	0.0147	0.0135
Region	-0.1649	0.1167	0.0596	-0.0562	-0.3213	0.1423	-0.051	0.0355	-0.1071	0.0147	-0.0463

	DRO	Import	Export	FIShare	BSize	BAge	Bank ROAA	BLoanRatio	Preferential	Industry	Region
DRO	1										
Import	0.0164	1									
Export	-0.0508	0.0506	1								
FIShare	-0.032	-0.02	-0.0546	1							
BSize	-0.0866	-0.0196	-0.0165	-0.0726	1						
BAge	-0.0301	0.0284	-0.0682	0.0044	0.4067	1					
Bank ROAA	-0.1187	0.0092	0.0006	-0.0203	-0.0206	-0.1984	1				
BLoanRatio	-0.0828	-0.0018	0.0395	-0.0616	0.6996	0.2648	-0.135	1			
Preferential	0.1353	-0.0425	-0.0486	-0.0394	-0.0746	-0.0054	-0.0149	-0.1033	1		
Industry	-0.0401	0.0991	0.0173	-0.0088	-0.1149	-0.0055	0.0131	-0.1276	0.0259	1	
Region	0.1087	-0.0714	-0.0386	0.0287	-0.1108	-0.0348	0.0229	-0.0822	0.466	-0.019	1

Table 3. The impact of the political connections and corruption on a main bank relationship with a government-owned bank - predict

Model 1 – *ivprobit*	(1)	(2)	(3)	(5)
VARIABLES	y1	y1	y1	y1
Connected Firm	0.0804	0.0742	0.1499	0.1429
	[1.52]	[2.05]**	[2.35]**	[3.10]***
Corruption	0.0251	0.0204	0.0297	0.0243
	[1.87]*	[1.33]	[1.93]*	[1.42]
Connected Firm #Corruption			-0.0320	-0.0318
			[-1.49]	[-2.25]**
Firm Age	0.0754	0.0816	0.0668	0.0727
	[2.21]**	[2.41]**	[1.88]*	[2.15]**
Firm Debt Ratio	-0.1309	-0.1172	-0.1159	-0.0986
	[-1.40]	[-0.93]	[-1.36]	[-0.79]
Firm Return Ratio	0.2475	0.2377	0.2386	0.2251
	[0.57]	[0.98]	[0.58]	[0.86]
CEO Founder	-0.2041	-0.2067	-0.2009	-0.2033
	[-2.35]**	[-4.44]***	[-2.43]**	[-4.37]***
Firm Insider Stake	-0.0032	-0.0031	-0.0032	-0.0032
	[-4.16]***	[-4.99]***	[-4.55]***	[-4.68]***
DRO	0.0001	0.0001	0.0001	0.0000
	[0.70]	[0.40]	[0.55]	[0.30]
Import	-0.0027	-0.0205	-0.0118	-0.0320
	[-0.02]	[-0.25]	[-0.11]	[-0.36]
Export	-0.2283	-0.2410	-0.2349	-0.2469
	[-2.10]**	[-1.41]	[-2.12]**	[-1.43]
Preferential	-0.4682	-0.2445	-0.5615	-0.3249
	[-1.35]	[-0.70]	[-2.10]**	[-0.89]
Industry	Yes	Cluster	Yes	Cluster
Region	Cluster	Yes	Cluster	Yes
Observations	389	389	389	389
Fitness test	42.79 (0.0000)	177.70(0.0000)	114.92 (0.0000)	693.05(0.0000)
Wald chi(2)	410.80	179.36	283.57	323.80
Wald test	9.22(0.0024)	4.01(0.0451)	5.99(0.0144)	2.92(0.0874)

This table reports the results of conducting *ivprobit* estimation on impact of political connection and corruption on a main bank relation with a GOB. In column (1) and (3), we report the results of vce (cluster *Region*). In (2) and (4), we report the results of vce (cluster *Industry*). We use the *R&D* as an instrumented variable for the *Government-Owned Bank.* We present the regression results as the probability of positive outcome (*predict, pr)* after our regression. The dependent variable *Government-Owned Bank* is the dummy variable which equals to 1 if the main bank is the government owned-bank or otherwise 0. *Connected Firm* is dummy variable which equals 1 if the number of the connections with political powers of the firm and its CEO is higher than 3 or otherwise zero. *Corruption* is the number of the filed corruption cases of the non-state entities per 100 companies in the province where the firm operates in 2013 (PCI 2013). In column (3) and (4), we include the interaction of *Connected Firm# Corruption*. The specification includes firm's industrial sector and region dummy. All variables are defined in the Appendix 2. Z-Statistics are in parentheses. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

Table 4. The impact of the political connections and corruption on the determinants of the number of banks

Model 2	Heckman selection	Heckman selection	Ivpoisson cffunction	Ivpoisson cffunction
VARIABLES	R&D	R&D	Number	Number
Connected Firm	0.6932	0.8017	0.8777	0.7494
	[-3.97]***	[-1.16]	[-1.22]	[-1.99]**
Corruption	0.9542	0.9606	0.9252	0.9180
	[-2.23]**	[-2.70]***	[-1.84]*	[-1.88]*
Connected Firm #Corruption		0.9450		1.0781
		[-0.76]		[1.85]*
Firm Size	1.3029	1.3148	0.9715	0.9767
	[2.40]**	[2.72]***	[-0.28]	[-0.24]
Firm Age	0.9627	0.9341	0.9715	0.9767
	[-0.40]	[-0.90]	[-0.28]	[-0.24]
Firm Debt Ratio	2.8745	2.9186	3.1374	3.0715
	[2.86]***	[2.86]***	[3.43]***	[3.49]***
Firm Return Ratio	0.0617	0.0584	0.3021	0.2974
	[-2.19]**	[-2.29]**	[-1.46]	[-1.52]
CEO Founder	0.9807	0.9938	1.1120	1.0786
	[-0.06]	[-0.02]	[0.74]	[0.52]
Firm Insider Stake	1.0011	1.0007	1.0023	1.0027
	[0.20]	[0.10]	[1.00]	[1.14]
DRO			0.9991	0.9992
			[-1.85]*	[-1.89]*
Import			0.6927	0.7044
			[-1.74]*	[-1.71]*
Export			1.3451	1.3973
			[1.09]	[1.24]
Bank Age	1.0642	1.0604	0.9139	0.9270
	[0.85]	[0.79]	[-0.85]	[-0.75]
Bank ROAA	0.0000	0.0000	0.0000	0.0000
	[-1.53]	[-1.51]	[-2.27]**	[-2.27]**
Bank Loan Ratio	0.2867	0.2830	0.3087	0.3276
	[-2.45]**	[-2.53]**	[-3.05]***	[-2.91]***
Length	0.9775	0.9791	0.9139	0.9270
	[-3.90]***	[-3.75]***	[-0.85]	[-0.75]
Preferential	0.0862	0.0697	1.2189	0.9273
	[-1.84]*	[-2.22]**	[0.18]	[-0.07]
Industry	Yes	Yes	Yes	Yes
Region	Cluster	Cluster	Yes	Yes
Observations	389	389	389	389
Log pseudolikelihood	-690.6214	-690.3146		
rho	-.2610897	-.2624208		
sigma	1.483216	1.481835		
lambda	-.3872524	-.3888643		
Wald test of indep. eqns. chi2(1)	19.13(0.0000)	21.74(0.0000)	212.08(0.0000)	221.60(0.0000)

This table reports the results of marginal effects of conducting *Heckman selection model (ML)* estimation on impact of political connection and corruption on the number of banks. In column (1) and (2), *R&D* is the instrumented variable. In column (1) and (2), *Multiple* is the instrumented variable. *Multiple* equals 1 if firm has at least two banking relationships or otherwise zero. The dependent variable *Number of Banks* equals to number of banks in the banking pool structure. We estimate the impact of *Connected Firm* and *Corruption* and the interaction of these variables with *Number of Banks*. *Connected firm* is dummy variable which equals 1 if the number of the connections with political powers of the firm and its CEO is higher than 3 or otherwise zero. *Corruption* is the number of the filed corruption cases of the non-state entities per 100 companies in the province where the firm operates in 2013 (PCI 2013). In column (2) and (4), we include the interaction of *Connected Firm# Corruption*. The specification includes firm's industrial sector and region dummy. All variables are defined in the Appendix 2. Z-Statistics are in parentheses. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

Table 5. The impact of the political connections and corruption on a diversified banking pool structure

Model 3 - *ivprobit*	(1)	(2)
VARIABLES	y1	y1
Connected Firm	-0.0536	-0.1045
	[-1.22]	[-1.72]*
Corruption	-0.0206	-0.0223
	[-2.86]***	[-2.98]***
Connected Firm #Corruption		0.0208
		[1.24]
Firm Age	0.0107	0.0189
	[0.26]	[0.44]
Firm Debt Ratio	0.2749	0.2733
	[2.51]**	[2.48]**
Firm Return Ratio	-0.6227	-0.6616
	[-1.53]	[-1.60]
CEO Founder	-0.0098	-0.0166
	[-0.13]	[-0.21]
Firm Insider Stake	0.0008	0.0009
	[0.73]	[0.80]
DRO	-0.0004	-0.0004
	[-4.01]***	[-4.05]***
Import	-0.1124	-0.1121
	[-1.45]	[-1.41]
Export	0.1498	0.1605
	[0.76]	[0.80]
Bank Age	-0.0718	-0.0711
	[-1.78]*	[-1.74]*
Bank ROAA	-11.2907	-11.9032
	[-1.74]*	[-1.80]*
Bank Loan Ratio	-0.4363	-0.4421
	[-1.84]*	[-1.84]*
Length	0.0007	0.0002
	[0.18]	[0.06]
Preferential	-0.4396	-0.4036
	[-1.22]	[-1.11]
Industry	Yes	Yes
Region	Yes	Yes
Observations	389	389
Wald chi2(26)	164.49	158.94
F test	378.83(0.0000)	389.75(0.0000)
Log likelihood	-77.464188	-76.491797
rho	-.8610737	-.8531288
sigma	.1590204	.1586446
Wald test of exogeneity	11.47 (0.0007)	11.40 (0.0007)
Instrumented:	R&D	R&D

This table reports the results of conducting *ivprobit* estimation on impact of political connection and corruption on the diversification of the banking pool. We report the results of vce (cluster *Region).* We use the *R&D* as an instrument for the *Diversification.* We present the regression results as the probability of positive outcome (predict, pr) after our regression. The dependent variable *Diversification* is the dummy variable which equals 1 if the firm has at least two ty different ownerships or otherwise zero. *Connected Firm* is dummy variable which equals 1 if the number of the connections with political powers of the firm and its CEO is higher than 3 or otherwise zero. *Corruption* is the number of the filed corruption cases of the non-state entities per 100 companies in the province where the firm operates in 2013 (PCI 2013). In column (2), we include the interaction of *Connected Firm# Corruption*. The specification includes firm's industrial sector and region dummy. All variables are defined in the Appendix 2. Z-Statistics are in parentheses. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

Table 6. Robustness Test – Political Distance

Model 4	(1)	(2)
VARIABLES	y1	y1
Connected Firm	1.5282	1.8961
	[2.10]**	[2.43]**
Corruption	1.0592	1.0646
	[2.19]**	[2.34]**
Connected Firm #Corruption		0.9193
		[-1.34]
Firm/Region characteristics	Yes	Yes
Industry	Yes	Yes
Region	Yes	Yes
Observations	389	389
Wald chi2(26)	73.82	74.54
Log likelihood	45.272326	46.482584
rho	.7386672	.7311912
sigma	.1590204	.1586446
Wald test of exogeneity	3.64 (0.0565)	3.66 (0.0556)
F test	161.54 (0.0000)	389.75(0.0000)
Instrumented:	R&D	R&D

This table reports the results of conducting *ivprobit* estimation on impact of political and corruption on the *Bank Political Distance*. We report the results of vce (cluster *Region).* We use the *R&D* as an instrumented variable for the *Bank Political Distance.* We present the regression results as the probability of positive outcome *(predict, pr)* after our regression. The dependent variable *Bank Political Distance* is the dummy variable which equals 1 if the main bank has the share of the State or otherwise zero. *Connected Firm* is dummy variable which equals 1 if the number of the connections with political powers of the firm and its CEO is higher than 3 or otherwise zero. *Corruption* is the number of the filed corruption cases of the non-state entities per 100 companies in the province where the firm operates in 2013 (PCI 2013). In column (2), we include the interaction of *Connected Firm# Corruption*. The specification includes firm's industrial sector and region dummy. All variables are defined in the Appendix 2. Z-Statistics are in parentheses. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

Table 7. Robustness Test – Alternative measurement of the main independent variable – *Connected firm*

	(1)	(2)	(3)	(4)
VARIABLES	y1	y1	y1	y1
CEO Government Officer	-0.0207			
	[-0.30]			
Former SOE Manager		0.1943		
		[3.58]***		
Former SOE			0.2663	
			[3.60]***	
Firm State Stakes				0.2385
				[2.60]***
Corruption	0.0270	0.0237	0.0190	0.0253
	[1.78]*	[1.66]*	[1.39]	[1.71]*
Industry	Yes	Yes	Yes	Yes
Region	Cluster	Cluster	Cluster	Cluster
Observations	389	389	389	389
F test	262.64(0.0000)	262.13(0.0000)	226.34(0.0000)	233.59(0.0000)
Wald test	8.38(0.0038)	8.35(0.0035)	9.66(0.0019)	7.52(0.0051)

This table reports the results of conducting *ivprobit* estimation on impact of political connection and corruption on the diversification of the banking pool by different measures of the political connections. We report the results of vce (cluster *Region)* We use the *R&D* as an instrumented variable for the *Government-Owned Bank.* We present the regression results as the probability of positive outcome (predict, pr) after our regression. The dependent variable *Government-Owned Bank* is the dummy variable which equals to 1 if the main bank is the government owned-bank or otherwise 0. *CEO Government Officer* is dummy variable, equals 1 if firm's incumbent CEO were a former government officer before appointment (column 1). *Former SOE Manager* is dummy variable, equals 1 if firm's incumbent CEO were a former manager of SOE before appointment (column 2). Former SOE is dummy variable, equals 1 if firm's firm were a former SOE before listing in the stock exchange (column 3). *Firm State Stakes* is dummy variable, equals 1 if state owns shares of the firm at the time of studying (column 4). *Corruption* is the number of the filed corruption cases of the non-state entities per 100 companies in the province where the firm operates in 2013 (PCI 2013). The specification includes firm's industrial sector and region dummy. All variables are defined in the Appendix 2. Z-Statistics are in parentheses. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.