Informal Financing via University Alumni: the Substitution of Political Connections

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Abstract:

Utilizing an event that suddenly breaks political connections of a firm, this paper documents the substitution effects of social connections in facilitating firm financing. A year after the issuance of Regulation No. 18 in 2014, which prohibits Chinese government officials from taking part-time positions, close to a thousand of independent directors resigned. We find such event has negative impacts on a firm's obtaining bank loans. But more importantly, we find university alumni connections of the firm's CEO or chairman play a strong role in mitigating such negative effects, facilitating a firm obtaining both bank loans and informal finance, which include both other payables and equity finance. The effects of alumni connections on bank loans are more pronounced for SOEs, for large firms and firms with already high leverages. The effects on informal finance are larger for firms that have more connections to its upstream or downstream firms, and for small firms or private firms that are not favoured by Chinese banks. As the effects of alumni connections are found to be much smaller in normal periods, our result indicate different orders that firms set on using different connections in obtaining external finance.

Key Words: political connection, university alumni, social networks, informal finance

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1. Introduction

In many cases, connections help firms get finance such as bank loans or trade credits, by facilitating information exchanges or strengthening the firm's credits. Different connections can help assess different types of finance. For example, if a firm is well connected to the CFO of its upstream firms, it may get more finance in terms of account payable; or connections to external private investors may bring about more equity finance. It is well known that firms follow certain orders in using different types of finance. Consequently, they may also have an order when using different connections. In this paper, we try to identify the matches between some types of finance with some connections, and the order that firms follow when using different connections.

We utilize the recent Chinese anti-corruption campaign as a good natural experiment to identify the orders of our interests. On October 19, 2013, the Organization Department of the CPC Central Committee issued a new regulation known as Regulation No.18, which prohibits government officials, both current and former ones resigned or retired within three years, from taking part-time positions in firms and getting any kind of payment from firms. The enforcement of this regulation is strong, and is believed to be "more severe, far-reaching and persistent than any other" (Economist, 2014). From October 19, 2013 to the end of 2014, 960 politically-connected independent directors resigned from the listed companies.

The issuance of this restrictive and unforeseeable regulation is an exogenous shock to the political connections of these list firms. And it has significant impacts on firms' finance. We find that compared to firms without politically-connected independent directors resigning, firms with at least one politically-connected independent directors leaving have 1.0% lower bank loan to total asset ratio in the subsequent quarter. But more interestingly, we also find that the decline in bank loan recovers in three to four quarters after the issuance of Regulation

No. 18, suggesting that there are alternative financing channels for corporations to make up the loss brought by the break of political connections.

It is found that social connections (i.e. via university alumni) can provide the affiliated company easy access to greater pool of resources and catalyse the information flow, as documented by studies on sell-side analyst (Cohen, 2010), bank loan (Engelberg et al., 2012) and M&A (El-Khatib et al., 2015). These studies motivate us to make a conjecture that university alumni connection might play a substitutive role after the break of political connections. Following Cohen et al. (2008)[4], we construct educational ties and view two companies as connected if one CEO or chairman of one company is graduated from the same university as the other one. Our results indicate that university alumni connections do not have first order effects on firm's formal finance from banks, but can strongly reduce the negative impacts from the break of political ties. On average, if a firm connects to 10 other listed firms, which is the median number of alumni connections conditioned on having alumni connections, the negative effects from the broken political connections on bank loans is almost fully compensated.

More importantly, we find even stronger effects played by alumni connections on acquiring informal finance. In particular, its effects on increasing net other payable, in which a major part is inter-corporation lendings between connected partners, are quantitatively larger than its effects on bank loans. Furthermore, we find alumni attract significant amount of equity finance to compensate for the losses in bank loans brought about by the break of political connections.

These baseline results indicate an order that Chinese firms follow when acquiring different types of finance, and more importantly, an order that these firms follow when using different types of connections. In China, as in most countries, informal finance such as other

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[4] Cohen, Frazzini and Malloy (2008) examine the common education background between fund managers and corporate board members and find such relationship enhance information flow into asset prices.

payables and equity finance are more costly than bank loans. So, a firm would set a priority on acquiring bank finance. China's banking system is featured with being dominated by large and stated-owned banks, which are strongly affected by all kinds of political tasks and by politicians. Thus, Chinese listed firms hire government officials as their independent directors who can facilitate their accessing bank finance. Meanwhile, these firms do not use their alumni connections to get finance, as these connections mainly facilitate informal finance which is more costly. However, when the political connection is broken by the Regulation 18, these firms see a sudden drop in bank loans. To keep their operations from being affected by the reduction in bank finance, they utilize their alumni connections, a part of which help them make up some bank loans, which may not be as efficient as political connections. And the other part of their alumni connections helps them get more costly informal finance.

We then explore to what extend our baseline results various across heterogeneous alumni connections and heterogeneous firms. First, we estimate a firm's connections to its upstream firms and downstream firms, from which a firm could potentially get more trade credits. The average number of connections to upstream and downstream are both less than 1. But their estimated effects on informal finance are indeed stronger than other connections, indicating that these connections are more valuable than others at such a time.

Second, we repeat our baseline regressions in subsamples divided by various firm characteristics. In general, we find that university alumni play a larger role in acquiring bank loans for SOEs, for large firms and firms with already high leverages. These firms are actually favoured by China's banks. So for these firms, alumni connections more or less replace the former political connections, and help firm access this less costly finance. On the other hand, for firms that have disadvantages in China's formal finance system, alumni connections play a larger role in acquiring informal finance. They include firms with no state ownership, small firms, firms with low leverage, and firms located in provinces with less

developed legal system and contract enforcement. Different firms utilize different connections for different finance.

This paper contributes to a fast growing literature on social networks, especially those studying how connections facilitate corporate finance. For example, Engelberg et al. (2012) find that director-based personal connections between banks and firms facilitate information exchanges in bank-firm loan relationship. We actually provide evidence suggesting similar stories happen in China, i.e., government officials being hired as independent directors can facilitate bank loans. What is new in this paper is that, we examine how social connections quickly make up for the losses of political connections, and especially find that social connections mitigate the negative impacts by bringing in more informal finance.

The remainder of this paper proceeds as follows. Section 2 describes our data and variables. Empirical results are put in Section 3 and we conclude in Section 4.

2. Institutional Background

2.1 Xi's Anti-corruption Campaign

Corruption is an age-old phenomenon in China. While anti-corruption efforts have always been on the agenda of the government, their effectiveness seems to be quite limited. Almost immediately after taking office at the conclusion of the Party's 18th National Congress, President Xi Jinping announced a policy document titled the Eight-Point Policy banning bureaucrats and employees of state-owned-firms of extravagant house and luxury goods purchases and state-funded banquets on December 4, 2012. Concrete actions for investigation and punishment arrive in the middle of 2013. The Central Commission for Discipline Inspection (CCDI), the highest internal control institution within the party system, mainly execute the anti-corruption campaign. Starting from May 17, 2013, as lead by Wang Qishan, CCDI launched several rounds of discipline inspections at different levels of the governments and CPC. During this first round of inspections, CCDI send central inspection

teams to five provinces, including Chongqing, Guizhou, Jiangxi, Inner-Mongolia, and Hubei. Followed by this first sweep, the CCDI conducted another three rounds of inspections, covering all of remaining provinces and many state-owned enterprises during the period of 2013- 2014.

President Xi's anti-corruption campaign has been considered the most far-reaching and lasting than any previous attempts (Economist 2014). Similar anti-corruption efforts have focused on isolated cases in which the target was one official and close associates, for example, the well-publicized prosecution of Bo Xilai and his wife (Qian and Wen, 2015; Liu, Shu and Wei, 2016). But Xi's inspections are characterized by a larger scope of investigations and a strong willingness to prosecute high-ranking politicians. According to the most recent statistics, in the first half year of 2018, CCDI accepted around 1683, 000 public tip-offs, placed 302, 000 cases on file, and approximately 240, 000 government officials have been disciplined. Moreover, the Xi's inspections broke the unspoken rule regarding "Politburo Standing Committee criminal immunity" and touched the politicians at top level, for example, the former Politburo Standing Committee Member Zhou Yongkang.

A growing body of the literature on the anti-corruption campaign has focused more on its economic consequences. The initial announcement, no matter the explicit instruction as Eight-point Regulation or the actual inspections conducted by CCDI, has been well studied. Lin, Morck, Yeung and Zhao (2017) find that the announcement of Eight-point Regulation leads to the sharp raises in stock prices, suggesting that reduced expected corruption adds value to the firms overall. Ding, Fang, Lin and Shi (2018) use the inspection by CCDI as the announcement event and find that the stock market responded positively. They also find that the impact is heteogeneous: the CARs are significantly lower for firms that produce luxury goods, larger firms, state-owned firms or firms with established political connections. There are also studies that examine the real effect of the anti-corruption campaign. Qian and Wen

(2015) examine the effect of the recent anti-corruption on imports of luxury goods. They find a substantial reduction in imports of luxury goods, typically used as gifts to government officials, after Xi's anti-corruption campaign. Giannetti, Liao, You and Yu (2018) find that in industries with ex ante high corruption, firms become more profitable and productive after the Xi's anti-corruption campaign, suggesting that the interventions aiming to curb corruption benefit can lead to a more efficient allocation of resources. All these studies consider Xi's anti-corruption campaign as an unexpected shock to firms' strategies and performance. Such exogenous shock can therefore provide a much cleaner setting to establish the causal link from political connection to firm credit. We use the launch of File.18 Regulation, a notable incident in Xi's anti-corruption campaign, as the exogenous shock that increases the cost of corruption and decreases the incentive of firm to obtain political favours.

2.2 File 18 Regulation and Political Connected Directors

In order to get easy access to various resources, it is a common phenomenon that firms in China attempt to establish political connections with the government by hiring current or retired government officials as directors. As well documented in previous literature, the established connection between the listed companies and the government can bring various preferential treatments (Faccio, 2006; Li, Meng, Wang and Zhou, 2008). However, it can also lead to corruption of government officials. In order to mitigate the corruptions in the real business of the company, the Central Organization Department of the CPC released "File 18 Regulation" on October 19, 2013 with a formal title of "To Further Regulate the Officials Who Take Positions in Enterprises". The general principle is to forbid all party and government officials above certain ranks (section chief rank) from taking any position in enterprises, even a part-time basis. Specifically, the officials should not take any positions within three years after their retirement. Even after three years, they still need to get special

approval from the corresponding Party Committee if they want to assume such a position. Moreover, compensations from any form are not allowed.

Immediately following the announcement of File 18 Regulation, it emerges a large scale resignation tide of independent directors with official backgrounds. By July 2014, the Central Organization Department had forced around 40,700 government officials, among which 229 were provincial officials or above, to resign from taking part-time job in companies. The large scale of resignation of government officers provides an ideal context to study the effect of political connections. It shares a similar spirit as the director sudden death as an identification strategy (Nguyen and Nielsen, 2010; Fracassi and Tate, 2012). However, the death sample is usually quite small and prevents the researchers from adopting such approach to address the endogeneity concerns (Huang, Jiang, Lei and Yang, 2014). The File 18 Regulation as an unexpected shock can otherwise offer a large sample of "sudden death" politically connected independent directors, especially with the case of China as the largest emerging country.

Utilizing the file 18 Regulation as a nature experiment, some recent studies examines various aspects of impact from political connections. Berkowitz, Lin and Liu (2015) show that the stock market returns for the private firms with politically connected independent directors suffered relative to those of non-connected private firms upon the issuance of File 18 regulation. They also find evidence that the File 18 regulation encouraged private firms that had politically connected independent directors to become more innovative and more transparent and more efficient investors. Hope, Yue, and Zhong (2017) find that politically connected firms improve their accounting quality after File 18 Regulation. Jin and Zhang (2018) provide evidences that the politically connected firms experience a substantial decline in subsidies after the regulation, especially for the low-efficiency firms. It is well documented that political connections or politicians impact on various aspects of firm performance

(Fishman, 2001; Faccio, 2006; Goldman, Rocholl and So, 2009; Akey, 2015). One important aspect of the impact of political connection is firm financing, about how the connected person can add value utilizing their political resources to get easier access to financing (Claessens, Feijen, and Laeven, 2008), lower cost of equity (Boubakri et al., 2012), preferential bank loans (Li, Meng, Wang, and Zhou, 2008; Houston, Jiang, Lin, and Ma, 2014). More emphasis has been put on the research of the political connections with the formal financial institutions, however, informal financing also works and play a non-ignorable role to the formal system (Ayyagari et al., 2010). Utilizing the File 18 Regulation as a nature experiment, our paper examines the effect of political connection on various financing channels.

3. Data and Variable

3.1 Data sources and sample coverage

We conduct the empirical tests using data on Chinese listed firms for the period of 2012 to 2014, one year prior to and one year after the announcement of Regulation Regulation No.18. We first collect firm's financial data from China Stock Market and Accounting Research (CSMAR) database. CSMAR provides comprehensive accounting and financial statements of China's listed companies as well as detailed board and top management team's biographical information. CSMAR also documents the leaving announcements of board directors, but the leaving reason may not be disclosed accurately. Therefore, we supplement our data by hand collecting the curriculum vitae of CEOs and board members.[5] We trace their working experience to identify whether the resigning independent directors have political connections. Their education background obtained from the curriculum vitae also enables us to form the university alumni connections.

We assemble a balanced firm-quarter panel dataset with 1,391 firms from the first quarter in 2012 to the fourth quarter in 2014. In this dataset, we have excluded firms in

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[5] Curriculum vitae of TMT/board members are obtained from the "Profile of Directors and Senior Managers" in the CSMAR database, similar as in Ding et al. (2018a).

financial service industry, those under special treatment and firms issuing B shares, because special regulations will affect firm's financing policy choice. We also exclude firms not having any independent directors resigning during this period, for the purpose of comparing the effects brought by independent directors leaving firm due to the No. 18 regulation with resigns of independent directors with other reasons. The effects of normal independent directors resign are not of interests of this paper. However, if we include firms not having any independent directors leaving, our results do not qualitatively change.

3.2 Variables

We use four variables to measure a firm's financing behaviors. *Bank loan*, measured as the short term loan plus long term loan over the one-quarter-lagged total assets, is a major component of a firm's liability. In our sample, the average of bank loan to total assets ratio is 16.7%. We use bank loan to measure the magnitude of formal finance from commercial banks. We also use *short loan* (short term loan scaled by lagged total assets) as the additional measurement of the firm's formal finance. Short loan on average accounts for 11.7% of the total assets in our sample, and therefore is the major component of bank loan.

For the informal finance measurement, the definition is still under debate and highly subjective. We follow Jiang et al. (2010), and use *net other payables* as the informal finance measurement. It is defined as the amount of other payables minus other receivables scaled by lagged total assets, and mainly captures inter-corporate loans and other informal ways of financing based on personal trust. The net other payables on average amounts to 2.0% of the total assets.

Finally, we use the increment in paid-in capital normalized by total assets as the *equity* financing measurement. Equity financing is a more costly way than debt financing. In China, it also faces more regulatory restrictions. The paid-in capital does not vary much for quarter to quarter, as the mean of equity financing over total assets is only 1.0%. Though not

significant for the financing composition, it still constitutes one form of obtaining external finance, and therefore worth consideration in our analysis.

Our key independent variables are the measures of resigning independent directors with political connection, as well as number of university alumni connections of CEOs and chairmen. As for the political connection measurement, we create a variable, *LeavingPoli*, defined as the dummy indicating whether the resigned independent director is politically-connected. We define the resigning directors with political connections as directors who are currently holding or has held a position in the government equal to or higher than the division head (chuji ganbu), and left the firm after the issuance of Regulation No.18 (October 19, 2013). We view these resigning directors as politically-connected ones leaving due to exogenous shocks.

Figure 1 plots the number of resigning independent directors before and after the Regulation No.18. In one year after the issuance of Regulation No.18, a total number of 2479 independent directors resigned from the listed firms. Around 40% of them are politically connected. For comparison, much fewer independent directors resigned in earlier 2013, or 2015, with around 300 directors in either year. This shows that the Regulation No.18 is quite restrictive for the government officials. Among 1,391 firms we studied, 619 have political connections before the Regulation No.18s. They are all affected by this anti-corruption move.

[[FIGURE 1]]

Figure 2 shows the quraterly trend of average bank loan ratio for firms with political-connected directors resigning and those firms without. We find that firms with political connections before Regulation No.18s have larger bank loan to total assets ratio than firms without political connections before the launch of Regulation No.18. These firms suffer more than 3% decline from the fourth quarter in 2013 to the first quarter in 2014, but firms without political ties had slight increase in the same period. The trend shown here confirms the

facilitating role of political connections for corporate borrowing. However, we find that such decline in the bank loan quickly recovers after two quarters. In the third quarter in 2014, less than one year after the launch of Regulation No.18, the average bank loan ratio in the politically-connected firms has re-climbed to the level before this file. We suspect that the alumni connections come into play when firms lost political connections and make up for the lost in bank loans. We will empirical test the effect of alumni connections in the analysis below, and show that the effect varies with types of alumni connections and across firms with different financial fundamentals and locations. Moreover, we suspect alumni connections might help firm's financing more than just formally obtaining loans from banks, although political connections do not have significant impact on the net other payables and equity financings. We will also test relationship between alumni connections and informal finance and equity finance below.

[[FIGURE 2]]

University connection, *UnivCon*, is measured as the logarithm of number of listed firms that the focal firm connects to. Two firms are viewed as connected if one CEO or chairman of one company is graduated from the same university as another CEO or chairman from the other company. We find 1246 universities as their alma mater in our sample. On average, 3.98 alumni worked as CEO or chairmen in listed companies in China for each university. But the distribution of alumni is highly skewed, as illustrated in Table 1. For most of the universities, there are less than 3 alumni serving as CEO or chairman. We find that 817 universities have only 1 alumnus working as CEO or chairman in the listed companies. These CEOs or chairmen do not connect to any other alumni through university alumni connections. 159 universities have 2 alumni working as CEOs or chairmen. Only a very limited number of universities have dozens of alumni in top management teams. Tsinghua university tops this list with 235 graduates, followed by Peking University and Zhejiang University. This highly

skewed distribution yields the pattern that few pairs of firms are connected through CEO alumni relationships. In our firm-quarter dataset, 5,964 observations (37.82%) are firms with university connection to at least one another firm. In this subgroup, the median of connecting company number is 10. In the rest 62.18% of the firms, CEOs or chairmen do not hold any university degree, or graduated from a university that no other alumni work as CEOs or chairmen of listed firms. University alumni connections are less prevalent than the political connections.

[[TABLE 1]]

We control several other firm level variables that could potentially influence corporate financing structure in the analysis below. All variable definition is presented in Table 2. To minimize the effect of outliers, we winsorize our sample at 1% on each variable in both tails. Table 3 reports the summary statistics. On each variable, we compare the mean value of firms with university connections to other listed companies, and those firms without university connections to other listed companies. The political connection variable does not differ significantly between two groups. It means that political connection and university connection are not highly correlated. In fact, the correlation coefficient between these two variables is around 0.01. The political connection and university connection capture two different kinds of social connections of the firm. This paves the way for us to explain why they facilitate the corporate borrowing through two different ways.

[[TABLE 2 and 3]]

4. Empirical Results

4.1 Benchmark regression

We first empirically measure the effect of political connections on corporate borrowing. We estimate the following regression in the firm-quarter panel:

$$FirmFinance_{it} = \beta * LeavingPoli_{it-1} + \gamma * FirmControl_{it-1} + \theta_i + \varphi_t + \varepsilon_{it} \quad (1)$$

where the dependent variables, $FirmFinance_{it}$, are firm's formal and informal financing measurements. All independent variables are one quarter lagged to the dependent variable. The inclusion of firm fixed effects θ_i and year-quarter fixed effects φ_t aims to capture all time-invariant firm characteristics and firm-invariant time trend that potentially affect firm's financing structure. *LeavingPoli* is the key variable of interest, defined as the dummy indicating whether the resigned independent director is politically-connected. We also restrict that these directors left the firm after the issuance of Regulation No.18 (October 19, 2013). Hence, this variable is equivalent to the interaction between political connection and time dummy of after Regulation No.18, making Equation (1) the same function as difference-in-differences specification. Therefore, β captures the effect of resigning directors on firm's finance performance of firms with politically-connected directors resigning relative to firms with non-politically-connected directors leaving.

Columns (1) to (4) in Table 4 present the estimation results of Equation (1). The resigning independent directors with political connection indeed lowers firm's borrowing from bank. Compared to firms with non-politically-connected independent directors resigning, firms with at least one politically-connected independent directors leaving will have 1.0% smaller bank loan to total assets ratio in the next quarter, equivalent to 5.99% (= 1.0% / 16.7%) of the average bank loan to total assets ratio in our sample. Such change in a quarter exerts a non-trivial impact on firm's financing structure. We find similar patterns for firm's short loan financing. The break of political connection results in 0.6% larger decrease in short-term loan to total assets in the subsequent quarter, equivalent to 5.13% of the average short-term loan to total assets. This indicates that the severing political connections mainly affect firm's short-term borrowing from banks. Political connections have no significant impact on firm's informal debt financing and equity financing, as shown in columns (3) and

(4) of Table 4. Although the coefficients of resigning independent directors with political connections are negative in these two columns, neither of them is significant. The first four columns in Table 4 depict that political connections mainly assist firm's financing through formal financing, and particularly short-term borrowing from banks. After the Regulation No.18, firms originally with political connections suffer around 5% of decrease in bank loan and short-term loan to total assets ratio. As for the more costly informal financing and equity financing, they are not affected by the Regulation No.18.

[[TABLE 4]]

We next explore the effects of university alumni connections and its interaction with the severing of political connection. In columns (5) to (8) of Table 4, we re-estimate Equation (1), replacing the political connections with the logarithm of number of university alumni connections as the key explanatory variable. We find that university alumni connections have no significant impact on firm's financing. This suggests that firms usually seek to the more powerful political connections first. Alumni connections alone do not facilitate firm's financing.

Instead of the direct effect on firm's financing, we suspect that university alumni connections have the second-order effect, especially when the firm is in difficulty. Evidence in columns (1) to (4) in Table 4 shows that firm faces difficulty in obtaining loans from banks after politically-connected directors leave the firm. Could university alumni connection help those firms suffering the break of political connections? We estimate the following regression, focusing on the interactions between the break of political connections and university alumni connections:

$$
\begin{aligned}
FirmFinance_{it} = {}& \beta_1 * LeavingPoli_{it-1} + \beta_2 * UnivCon_{it-1} \\
& + \beta_3 * UnivCon_{it-1} * LeavingPoli_{it-1} + \gamma * FirmControl_{it-1} \\
& + \theta_i + \varphi_t + \varepsilon_{it} \qquad\qquad\qquad\qquad\qquad (2)
\end{aligned}
$$

where β_3 captures the change in marginal effect of university alumni connection when the political connection status changes. Columns (9) through (12) in Table 4 reports the regression results of Equation (2). β_3 is significantly positive under all four specifications. To give a quantitative explanation for column (9), in the group of firms with no university connections to other listed firms, compared to firms with non-politically-connected independent directors resigning, firms with at least one political-connected independent directors leaving will have 1.3% smaller bank loan to total assets ratio in the next quarter, but such negative effect drops to 1.1% (= -0.013 + 0.003 * log(1+1)) if a firm links to one other listed firms through alumni connection. As the number of university alumni connection increases, the negative effect further decreases. When the firm connects to 10 other listed firms (the median number of alumni connections conditioned on having alumni connections), such negative effect further drops to -0.6%. Therefore, if firm have 10 connections through university alumni, the negative effect from the severing political connections on bank loan is almost compensated.

Other than mitigating the negative impact on the formal finance from bank loans, university alumni connection also helps firm obtain more inter-corporate loans. Columns (11) shows that alumni connection can facilitate acquiring more other payables when political connection breaks. In the group of firms with no university connections to other listed firms, compared to firms with non-politically-connected independent directors resigning, firms with at least one politically-connected independent directors leaving have 0.6% smaller net other payables to total assets ratio in the next quarter. In the group of firms linking to 1 other listed firms, such negative effect brought by the leaving politically-connected independent director drops to the 0.3%. If the firm connects to 3.88 other listed firms through alumni relationships, the negative impact brought by the severing of political connections could be fully compensated. When the firm could connect to 10 other listed firms, such negative effect

disappears. It turns to positive 0.4%, almost compensating the drop in the bank loan (0.6%), filling up the loss from the formal finance. Alumni connections have larger marginal effects on making up the loss of political connections for net other payables than that for bank loans or short loans. Therefore, university alumni connection could help mitigate the negative impact on formal finance brought by the break of political connections. It could also help obtain more informal finance, as revealed in the other payables accounting item, with larger marginal improvement in the group of firms facing larger financial distress.

In columns (12), we put the increment in paid-in capital as the dependent variable, and re-estimate equation (2). Although neither political connection nor alumni connection alone leads to the increment of paid-in capital, the interaction term between political connection and university alumni connection is significantly positive. It shows that when the political connection breaks, university alumni connection may also work through attracting equity financing. Taking results in columns (9) to (12) together, we demonstrate that university alumni connection helps firm financing through banks, other payables and equity when firm's political connection breaks. If the firm have alumni connections to 10 other listed firms, the drop in bank loan resulted from Regulation No.18 is almost compensated by both formal and informal finance.

4.2 Alumni connection heterogeneity

In this subsection, we explore the heterogeneity in alumni connections to infer how such connection works. If the university alumni connection partly works through the informal finance channel, a connection to the upstream firms would have larger facilitating role. The underlying idea is that, when firm lacks liquid cash flow and faces stringent financial constraints, it could argue with its suppliers to pay back in longer cycles. This is equivalent to obtain short-term loans to relieve its urgent financial distress. Having alumni connections to the suppliers may also assist firm in paying less margins and deposits, which could be a

significant portion of other payables for manufacturing firm. Such negotiation with suppliers would be easier if the firm has more personal connections with its upstream firms. We argue that having connections to the upstream firms would lead to larger amount of other payables. Likewise, firms could argue with its downstream partners and ask them to pay the money in advance in order to solve the financial distress. Alumni connections to the downstream firms should be helpful for reducing the amount of other receivables, and receiving more cash. In both cases, connections to the upstream firms or downstream firms is valuable for firm's net other payables.

The effect of firm's upstream and downstream connections does not confine in the net other payables. Such connections serve as an additional assurance to the banks and other investors that this company has strong relationship in the production chain, and therefore should also be useful for firm's obtaining formal finance from banks and equity finance.

We create two new variables to count the university alumni connections to upstream firms and downstream firms, separately. In order to identify the upstream firm, we use the input-output table for China in 2012 from the Department of National Economy Accounting of State Statistical Bureau. It contains the sale and purchase relationship data on 42 industries. For each firm, we calculate the number of firms to which the CEO and chairman have university alumni connections. The firm's university alumni connection to upstream firms is then calculated as the weighted average of number of connected firms in each industry. The weight given to each industry is its percentage contribution to the total purchases of the industry where the firm belongs to. Similarly, we calculate the number of connections to the downstream firms. The average number of connections to upstream firms and downstream firms is 0.86 and 0.84 respectively, much smaller than the number of total university alumni connections (7.43). This evidence suggests that alumni connections are not industry-specific. Most of the alumni connections do not link to the suppliers or purchasers.

When conducting regressions using the number of upstream connections as reported in Table 5, we observe that its interaction effect with *LeavingPoli* is still significantly positive in most cases. Connecting to upstream firms is useful for firms to obtain informal finance when the independent directors with political connection resign. The marginal effect of the interaction term between alumni connections and political connections is two times larger than that in the benchmark regression for net other payables. As we do not have detailed information on the informal finance items, results here suggest that extending payment circles to the suppliers might be a potential solution for firms' resolving short term financial distress. The upstream and downstream connection effect of mitigating the negative impact on formal finance and equity finance also remains, and have larger marginal effect than the non-specific alumni connections as shown in Table 4.

[[TABLE 5]]

4.3 Firm heterogeneity

We hypothesize that alumni connections work through bringing external resources to the firms and certifying firm's credit worthiness. We expect such effect is larger in firms that need resources and certifications. In this subsection, we explore several firm-level heterogeneities to provide evidence consistent with this hypothesis.

We first split the sample based on whether firms have state ownership. Firms with state ownership may have political connections to the local or central government through mechanisms other than the hiring directors. Their connections to the government are not completed cut off after the Regulation No.18. By contrast, resigning political-connected directors in the firms with zero state ownership could leave these firms facing greater financial troubles. We re-estimate the Equation (2) in these two subsamples separately, and present the regression result in Table 6. In the state-owned enterprises (SOE), alumni connections are useful for firm's borrowing from banks after the break of political

connections. In the firms with no state ownership, alumni connections could help firm obtain equity financing. In both subsamples, having more alumni working as CEO in other listed firms leads to higher net other payables in the subsequent quarter. This shows that informal financing channel is effective in both SOE firms and non-SOE firms.

[[TABLE 6]]

We hypothesize that university alumni connection works through information transmission mechanism and certification mechanism. Therefore, social connection is expected to work better in firms that need more resources and more certifications for loans. In Table 7, we present subsample results divided by firm's size, leverage, and by firm's location. Dividing samples provides some varieties in firm's demand for resources and certifications, and enables us to test the mechanism hypothesized.

[[TABLE 7]]

One challenge in interpreting our baseline results causally is the possibility that university alumni connections may capture the effect of firm size. Normally, large firm may have more resource and therefore more likely to hire a CEO with more social connections. But this is not necessarily the case. The correlation coefficient between firm size and number of university connections is only 0.140, not highly correlated. Moreover, we split the sample by the median of firm asset recorded in 2013Q4, the quarter when Regulation No.18 launched, and present the estimation of equation (2) in Panel A in Table 7. When implementing the regressions, we find larger marginal effect in the small firm group for the informal finance mechanism and equity financing mechanism. This provides the evidence that social connections bring resources to the firm, because small firms get access to limited resources, therefore benefiting more from the social connections. Their effects on formal financing from banks are not significant in small firms. Such resources and certification brought by alumni are not enough for banks risking their own interests to issue loans.

In Panel B, we split the sample based on the median firm leverage recorded in 2013Q4. High leverage firms are more difficult in acquiring bank loans. We find the effect magnitude of university alumni connection in the high leverage firms are 1.67 time the magnitude in the low leverage firms for bank loans. If a firm has relatively high leverage, they may need external certification to strengthen their credibility. Or they may need better information transmission to pass their fundamental conditions and needs for money to banks or upstream firms. We expect university alumni connections could serve as such external credibility certification, or as an intermediation to transfer such information. As a result, we expect larger effects in the high leverage firms for net other payables. Results reported in Panel B of Table 7 show that university alumni connection indeed has larger marginal effects in the high leverage firms for acquiring informal finance, but its effects on short-term loan are quite similar in the two groups.

Finally, we divide firms based on the market development conditions in the provinces where they locate. Fan, Wang and Zhu (2011) designs a provincial-level marketization index to measure the extent of market reforms. The marketization index is based on official statistics, and enterprise and household surveys. The index rises as the private sector shares of output, investment and employment rises, price controls and trade barriers fall, factor markets (labor, finance and investment) are more liberalized, and the legal environment improves. A high index indicates a province has made more progresses towards a market economy. Therefore, we expect in a province with high market index, informal finance based on personal trust is less prevalent. The results in Panel C of Table 7 support this hypothesis, as we find that university alumni connection has five times larger effects in the low market index provinces for net other payables.

Taking these results together, they are generally consistent with what we expected. Social connections bring in external resources and strengthen a firm's credit worthiness. It thus plays a bigger role in firms that need resources and certification more.

4.4 Endogeneity

The endogeneity issue for our research is not severe, since we explore the consequences of an exogenous political event. However, our regression results still face the reverse causality and omitted variable concern that might generate biased estimates. We address the endogeneity issue below.

The potential reverse causality comes from the selective appointment of top management team members. Firm with good quality may selectively appoint CEO or chairman with large number of university connections. To tackle this potential channel, we use the number of university connections two years prior to the observation time period (Huang et al, 2014). The argument behind is that it is difficult for firms to foresee such political shocks. And since our sample period ends in the fourth quarter of 2014, all university connections two years ago are all measured before the political shock. Furthermore, the university connections of top management teams are usually not easy to be known well in advance, and education connections are established long before the hired person assumes CEO or chairman position. The regression results remain when considering connections two years ago for net other payables and equity, as shown in Table 8.

[[TABLE 8]]

One important omitted variable in our baseline regression is the CEO ability. Graduating from a university with many alumni serving as top managers in Chinese listed firms is a signal for the CEO's ability. Such personal advantage may help firm manage the financing better. Therefore, the university connections may not capture the degree of information transmission or external credit, but rather the ability of CEO. We provide some evidence

against this explanation by introducing a dummy variable called *top 10*. It indicates whether the CEO is graduated from the top 10 universities. The top 10 list is obtained from the QS ranking list. We use this dummy variable as the proxy for the CEO ability. After adding this top 10 dummy alongside its interaction term with university connections, we find that neither of them is significant. It shows that graduating from top 10 universities would not help firm obtain more finance, nor will it amplify the university connection effect on corporate finance (Table 9). Moreover, our baseline results on alumni connections and on the break of political connections have almost no changes with the addition of these measures. Our results are thus not driven by CEO ability.

[[TABLE 9]]

5. Conclusion

This paper examines how Chinese listed firms make up for their losses in finance after a sudden shock on their political connections. Our results show that the alumni connections quickly work and mitigate the negative impacts. But the alumni connections work in different ways with political connections. As political connections mainly help firms acquire formal finance such as bank loans, alumni connections helps firms obtain both formal finance and informal finance such as trade credits, with an overall stronger role in informal finance.

We also document heterogeneous effects that social connections play in obtaining finance. If a firm is favoured by Chinese banks, it uses alumni connections to more or less to replace the lost politician connections and acquire bank finance. If a firm has more connections with upstream or downstream firms, or if a firm is in disadvantage position in China's formal finance system, the role social connections play is mainly in obtaining informal finance.

In all of our tests, we find insignificant effects of social connections in firms not affected by the shock on political connections. These results indicate that, in terms of finance, most

firms use social connections only for the backup, probably because social connections are matched with more costly informal finance which is used more in trouble times. The less costly bank finance is what firms what to acquire for the first order. Overall, this paper suggest firms utilize different connections in acquiring different finance in different situations, which is certainly worth further and more detailed studies.

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Figure 1 Number of resigning independent directors after Regulation No. 18
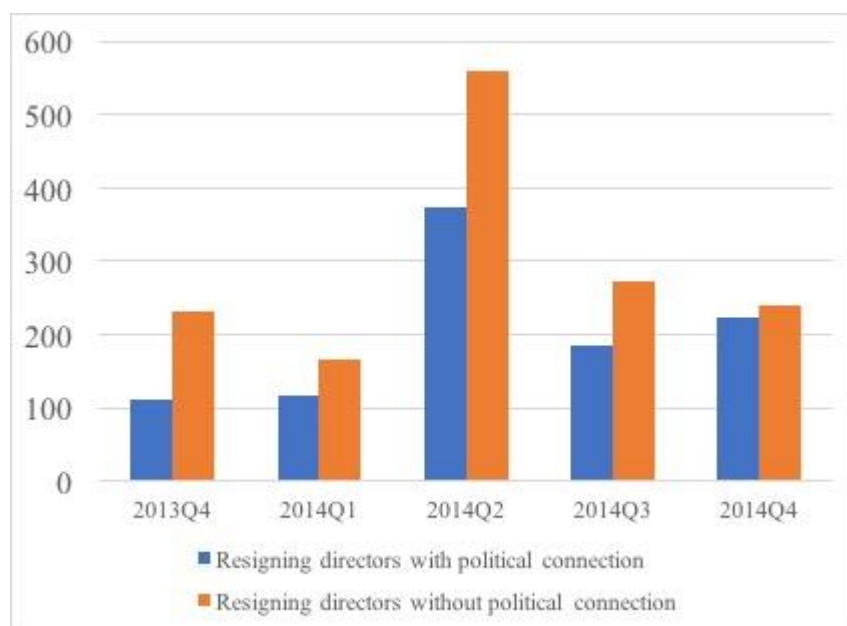
Note: This figure plots the number of resigning independent directors in the 5 quarters after the issuance of Regulation No.18. Independent directors with and without political connections are plotted separately.

Figure 2 Bank Loan Ratio, Short Loan Ratio, Net Other Payables Ratio and Equity

Note: This figure plots the average bank loan ratio, short loan ratio, net other payables, and change in paid-in capital (equity financing) in each quarter from the first quarter in 2012 to the fourth quarter in 2014. We calculate and plot the firms with politically-connected independent directors resigning and firms without politically-connected independent directors resigning separately.

Table 1 University Alumni Connections

University	Number of Listed Companies Whose CEO or Chairman is the Alumni
Tsinghua University	235
Peking University	205
Zhejiang University	121
Renmin University of China	103
Fudan University	99
Xian Jiaotong University	99
Shanghai Jiaotong University	87
China Europe International Business School	83
Wuhan University	68
Sun Yat-sen University	63
…	…
Yangzhou University and 158 other universities	2
Beijing City University and 816 other universities	1

Note: This table presents the top 10 universities with most number of alumni serving as CEO or chairman in the listed companies in China. We also list some universities having only 1 or 2 alumni serving as CEO or chairman in the listed companies in China

Table 2 Variable Definition

Variable	Definition
BankLoan	Short term loan plus long term loan scaled by lagged total asset
ShortLoan	Short term loan scaled by lagged total asset
NetOtherPayables	Other payables minus other receivables scaled by lagged total asset
Equity	Increment in paid-in capital by lagged total asset
LeavingPoli	Dummy indicating whether the resigned independent director is politically-connected
UnivCon	Logarithm of one plus number of listed firms that the focal firm connects to
logAsset	Logarithm of firm's asset
TangibleAsset	Ratio of firm's tangible asset to total asset
ROA	Return on asset
Investment	Capital expenditure
Growth	Percentage change in firm's sales
EffTaxRate	Effective tax rate
TMTNumber	Logarithm of number of top management teams

Note: This table provides definition of variables used. *LeavingPoli* and *UnivCon* are collected manually. All remaining variables are collected from CSMAR.

Table 3 Summary Statistics

	Full Sample		With University Connection		Without University Connection		Diff
	Mean	SD	Mean	SD	Mean	SD	p-stat
BankLoan	0.167	0.152	0.158	0.147	0.173	0.154	0.000
ShortLoan	0.117	0.118	0.105	0.112	0.124	0.121	0.000
NetOtherPayables	0.020	0.001	0.020	0.001	0.020	0.001	0.878
Equity	0.010	0.000	0.010	0.000	0.010	0.000	0.886
LeavingPoli	0.091	0.288	0.094	0.292	0.090	0.286	0.386
UnivCon	0.953	1.384	2.521	1.053	-	-	-
logAsset	21.914	1.269	22.165	1.425	21.762	1.137	0.000
TangibleAsset	0.408	0.176	0.390	0.171	0.419	0.178	0.000
ROA	0.009	0.017	0.010	0.016	0.009	0.018	0.000
Investment	0.015	0.018	0.015	0.017	0.016	0.018	0.065
Growth	0.098	0.224	0.107	0.234	0.092	0.218	0.000
EffTaxRate	0.161	0.286	0.167	0.279	0.157	0.289	0.024
TMTNumber	2.983	0.002	3.010	0.003	2.967	0.002	0.000
Observations	15771		5964		9807		

Note: This table reports summary statistics of the variables used in our analysis. We report the mean of standard deviation of each variable in the full sample, firms with university connection and firms without university connection, respectively. The last column provides the *p* value of the *t* test with the null hypothesis that the means in the two subsamples are equal.

Table 4 Benchmark Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	BankLoan	ShortLoan	NetOtherPa yables	Equity	BankLoan	ShortLoan	NetOtherPa yables	Equity	BankLoan	ShortLoan	NetOtherPa yables	Equity
LeavingPoli	-0.010***	-0.006**	-0.002	-0.001					-0.013***	-0.009***	-0.006*	-0.002
	(0.003)	(0.003)	(0.003)	(0.001)					(0.004)	(0.003)	(0.003)	(0.001)
UnivCon					-0.001	0.001	0.001	0.000	-0.002	0.001	0.001	0.000
					(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
UnivCon * LeavingPoli									0.003*	0.003*	0.004***	0.002**
									(0.002)	(0.001)	(0.001)	(0.001)
logAsset	0.051***	0.026***	-0.003	-0.022***	0.052***	0.026***	-0.003	-0.022***	0.051***	0.026***	-0.003	-0.022***
	(0.008)	(0.007)	(0.008)	(0.003)	(0.008)	(0.007)	(0.008)	(0.003)	(0.008)	(0.007)	(0.008)	(0.003)
TangibleAsset	0.099***	0.087***	0.063***	0.003	0.099***	0.087***	0.063***	0.003	0.099***	0.087***	0.063***	0.003
	(0.018)	(0.016)	(0.015)	(0.007)	(0.018)	(0.016)	(0.015)	(0.006)	(0.018)	(0.016)	(0.015)	(0.006)
ROA	-0.472***	-0.374***	-0.232***	0.035	-0.474***	-0.375***	-0.232***	0.035	-0.473***	-0.375***	-0.233***	0.034
	(0.068)	(0.055)	(0.079)	(0.024)	(0.069)	(0.055)	(0.079)	(0.024)	(0.068)	(0.055)	(0.079)	(0.024)
Investment	0.126***	0.026	-0.024	0.018	0.127***	0.026	-0.024	0.018	0.126***	0.025	-0.026	0.017
	(0.046)	(0.037)	(0.030)	(0.022)	(0.046)	(0.037)	(0.030)	(0.022)	(0.046)	(0.037)	(0.030)	(0.022)
Growth	-0.000	-0.002	0.001	0.014***	-0.000	-0.002	0.001	0.014***	-0.000	-0.002	0.001	0.014***
	(0.004)	(0.003)	(0.002)	(0.002)	(0.004)	(0.003)	(0.002)	(0.002)	(0.004)	(0.003)	(0.002)	(0.002)
EffTaxRate	0.002	0.001	-0.001	0.000	0.002	0.001	-0.001	0.000	0.002	0.001	-0.001	0.000
	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
TMTNumber	0.001	-0.002	0.017**	0.009***	0.003	-0.001	0.017**	0.009***	0.002	-0.002	0.016**	0.009***
	(0.009)	(0.008)	(0.008)	(0.003)	(0.009)	(0.008)	(0.008)	(0.003)	(0.009)	(0.008)	(0.008)	(0.003)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	15634	15634	15634	15631	15634	15634	15634	15631	15634	15634	15634	15631
R-sq	0.895	0.876	0.637	0.236	0.895	0.876	0.638	0.236	0.895	0.877	0.638	0.236

Note: This table presents the estimation result of Equation (1) and (2). Dependent variables are bank loan, short loan, net other payables and equity, respectively, and are one quarter ahead of the independent variables. Independent variables are dummy variable indicating resigning independent director with political connections, logarithm of number of university connections and the interaction between these two variables. Other control variable includes Asset, TangibleAsset, ROA, Investment, Growth, EffTaxRate and TMTNumber. Firm fixed effects and year-quarter fixed effects are added in all regression specifications. Robust standard errors clustered by firms are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Table 5 Upstream and Downstream Connections

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	BankLoan	ShortLoan	NetOtherPayables	Equity	BankLoan	ShortLoan	NetOtherPayables	Equity
UnivUpCon	-0.012***	-0.008***	-0.005	-0.002	-0.012***	-0.008***	-0.005	-0.002
	(0.004)	(0.003)	(0.003)	(0.001)	(0.004)	(0.003)	(0.003)	(0.001)
LeavingPoli	-0.001	0.003	-0.000	-0.000				
	(0.004)	(0.005)	(0.003)	(0.001)				
UnivUpCon * LeavingPoli	0.007*	0.006*	0.008***	0.003*				
	(0.004)	(0.003)	(0.002)	(0.002)				
UnivDownCon					-0.002	0.003	-0.000	-0.000
					(0.004)	(0.005)	(0.003)	(0.001)
UnivDownCon * LeavingPoli					0.007*	0.006*	0.008***	0.003*
					(0.004)	(0.003)	(0.002)	(0.002)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	15634	15634	15634	15631	15634	15634	15634	15631
R-sq	0.895	0.877	0.638	0.236	0.895	0.877	0.638	0.236

Note: This table presents the estimation result of Equation (2). Dependent variables are bank loan, short loan, net other payables and equity, respectively, and are one quarter ahead of the independent variables. Independent variables are dummy variable indicating resigning independent director with political connections, logarithm of number of university connections and the interaction between these two variables. *UnivUpCon* is defined as the logarithm of weighted number of alumni connections to the upstream firms. *UnivDownCon* is defined as the logarithm of weighted number of alumni connections to the downstream firms. Other control variable includes Asset, TangibleAsset, ROA, Investment, Growth, EffTaxRate and TMTNumber. Firm fixed effects and year-quarter fixed effects are added in all regression specifications. Robust standard errors clustered by firms are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Table 6 A Comparison of SOEs and Non-SOEs

	SOE				Non-SOE			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	BankLoan	ShortLoan	NetOtherPayables	Equity	BankLoan	ShortLoan	NetOtherPayables	Equity
UnivCon	0.000	-0.001	0.001	0.000	-0.001	0.003	0.001	-0.000
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.003)	(0.002)	(0.001)
LeavingPoli	-0.016**	-0.013**	-0.011**	-0.002	-0.009*	-0.005	-0.003	-0.002
	(0.006)	(0.005)	(0.005)	(0.002)	(0.004)	(0.004)	(0.003)	(0.002)
UnivCon * LeavingPoli	0.005	0.005**	0.006***	0.000	0.002	0.000	0.002**	0.003**
	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	6555	6555	6555	6552	9073	9073	9073	9073
R-sq	0.902	0.884	0.771	0.216	0.879	0.870	0.530	0.245

Note: This table presents the subsample estimation result of Equation (2). Subsample are categorized based on whether the firm is state-owned. Dependent variables are bank loan, short loan, net other payables and equity, respectively, and are one quarter ahead of the independent variables. Independent variables are dummy variable indicating resigning independent director with political connections, logarithm of number of university connections and the interaction between these two variables. Control variable includes Asset, TangibleAsset, ROA, Investment, Growth, EffTaxRate and TMTNumber. Firm fixed effects and year-quarter fixed effects are added in all regression specifications. Robust standard errors clustered by firms are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Table 7 Firm Heterogeneity

Panel A: Firm Size

	Large Firm				Small Firm			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	BankLoan	ShortLoan	NetOtherPayables	Equity	BankLoan	ShortLoan	NetOtherPayables	Equity
UnivCon	-0.003	-0.002	0.003*	0.000	-0.000	0.004	-0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.000)	(0.003)	(0.003)	(0.002)	(0.001)
LeavingPoli	-0.015***	-0.013***	-0.004	-0.001	-0.011*	-0.005	-0.007	-0.005*
	(0.005)	(0.004)	(0.004)	(0.001)	(0.006)	(0.005)	(0.005)	(0.002)
UnivCon * LeavingPoli	0.004*	0.004**	0.002*	0.001	0.003	0.002	0.006***	0.003*
	(0.002)	(0.002)	(0.001)	(0.000)	(0.003)	(0.003)	(0.002)	(0.002)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7822	7822	7822	7822	7750	7750	7750	7750
R-sq	0.905	0.896	0.739	0.256	0.861	0.849	0.596	0.224

Panel B: Leverage

	High Leverage				Low Leverage			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	BankLoan	ShortLoan	NetOtherPayables	Equity	BankLoan	ShortLoan	NetOtherPayables	Equity
UnivCon	-0.002	0.001	0.001	0.000	-0.000	-0.000	0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.001)	(0.003)	(0.002)	(0.001)	(0.001)
LeavingPoli	-0.019***	-0.012**	-0.009*	-0.004***	-0.007	-0.006	-0.002	-0.002
	(0.006)	(0.005)	(0.005)	(0.001)	(0.005)	(0.004)	(0.004)	(0.002)
UnivCon * LeavingPoli	0.005*	0.003	0.005***	0.001	0.003	0.003*	0.002**	0.003*
	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7819	7819	7819	7819	7753	7753	7753	7753
R-sq	0.866	0.868	0.744	0.208	0.788	0.797	0.414	0.240

Panel C: market index

	High Market Index				Low Market Index			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	BankLoan	ShortLoan	NetOtherPayables	Equity	BankLoan	ShortLoan	NetOtherPayables	Equity
UnivCon	0.002	0.001	-0.000	0.000	-0.005**	0.000	0.001	0.000
	(0.003)	(0.002)	(0.001)	(0.001)	(0.002)	(0.003)	(0.002)	(0.001)
LeavingPoli	-0.010**	-0.007	-0.002	-0.003	-0.011*	-0.008	-0.010**	-0.002
	(0.005)	(0.005)	(0.003)	(0.002)	(0.006)	(0.005)	(0.005)	(0.002)
UnivCon * LeavingPoli	0.003	0.002	0.000	0.001	0.003	0.003	0.007***	0.002
	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7185	7185	7185	7183	7593	7593	7593	7592
R-sq	0.907	0.893	0.733	0.248	0.884	0.860	0.644	0.235

Note: This table presents the subsample estimation result of Equation (2). Subsample are categorized based on the median firm size recorded in 2013Q4 in Panel A, leverage recorded in 2013Q4 in Panel B, as well as median marketization index in the province where the firm locates in Panel C. Dependent variables are bank loan, short loan, net other payables and equity, respectively, and are one quarter ahead of the independent variables. Independent variables are dummy variable indicating resigning independent director with political connections, logarithm of number of university connections and the interaction between these two variables. Control variable includes Asset, TangibleAsset, ROA, Investment, Growth, EffTaxRate and TMTNumber. Firm fixed effects and year-quarter fixed effects are added in all regression specifications. Robust standard errors clustered by firms are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Table 8 Dealing with Endogeneity: Using Connections Two Years Ago

	(1)	(2)	(3)	(4)
	BankLoan	ShortLoan	NetOtherPayables	Equity
UnivCon2yrs	0.005***	0.003**	0.000	0.001
	(0.002)	(0.002)	(0.001)	(0.001)
LeavingPoli	-0.012***	-0.008**	-0.005*	-0.002
	(0.004)	(0.003)	(0.003)	(0.001)
UnivCon2yrs * LeavingPoli	0.002	0.002	0.003***	0.001**
	(0.002)	(0.001)	(0.001)	(0.001)
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
N	15634	15634	15634	15631
R-sq	0.895	0.877	0.638	0.236

Note: This table presents the estimation result of Equation (2). Dependent variables are bank loan, short loan, net other payables and equity, respectively, and are one quarter ahead of the independent variables. Independent variables are dummy variable indicating resigning independent director with political connections, logarithm of number of university connections two years ago and the interaction between these two variables. Control variable includes Asset, TangibleAsset, ROA, Investment, Growth, EffTaxRate and TMTNumber. Firm fixed effects and year-quarter fixed effects are added in all regression specifications. Robust standard errors clustered by firms are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Table 9 Dealing with Endogeneity: A Consideration of CEO Ability

	(1)	(2)	(3)	(4)
	BankLoan	ShortLoan	NetOtherPayables	Equity
UnivCon	-0.002	-0.000	0.001	-0.000
	(0.002)	(0.002)	(0.001)	(0.001)
LeavingPoli	-0.013***	-0.009***	-0.006*	-0.002
	(0.004)	(0.003)	(0.003)	(0.001)
UnivCon * LeavingPoli	0.003*	0.003*	0.004***	0.002**
	(0.002)	(0.001)	(0.001)	(0.001)
Top10	-0.012	0.001	-0.017	-0.003
	(0.011)	(0.009)	(0.018)	(0.006)
UnivCon * Top10	0.003	0.002	0.004	0.002
	(0.003)	(0.003)	(0.004)	(0.002)
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
N	15634	15634	15634	15631
R-sq	0.895	0.877	0.638	0.236

Note: This table presents the estimation result of Equation (2). Dependent variables are bank loan, short loan, net other payables and equity, respectively, and are one quarter ahead of the independent variables. Independent variables are dummy variable indicating resigning independent director with political connections, logarithm of number of university connections and the interaction between these two variables. *Top10* is a dummy variable indicating whether the CEO is graduated from the top 10 universities. Control variable includes Asset, TangibleAsset, ROA, Investment, Growth, EffTaxRate and TMTNumber. Firm fixed effects and year-quarter fixed effects are added in all regression specifications. Robust standard errors clustered by firms are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.