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Abstract

We empirically examine some listed Chinese firms' political connection, ownership, and financing constraints. Politically-connected firms display no financing constraints whereas firms without connection experience significant constraints. Non-connected family-controlled firms bear greater constraints than non-connected state-owned firms.

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1. Introduction

There have been many studies on the relationship between capital market imperfections and investment behaviors of firms in emerging markets.[1] Financial frictions are considered to pose a serious impediment to the efficient allocation of credit for corporate investment and therefore economic growth (King and Levin, 1993). Some of these studies focus on firms' characteristics like size, age, and business group affiliation that affect their credit access and consequently financing constraints. Only a few studies have examined the relationship between firms' financing constraints and investment in transition economies. Konings et al. (2003) find that firms in Bulgaria and Romania, the two "slow reformers", are less sensitive to internal financing constraints than firms in Poland and the Czech Republic, the two "fast reformers". China's capital markets, despite their tremendous economic growth in recent decades, are still under-developed. Poncet et al. (2010) show that Chinese private firms are credit constrained while state-owned firms and foreign-owned firmsare not. In this paper, we focus on the impact of political connection on the financing constraints of listed Chinese firms. We also take into account ownership information.[2]

Section 2 specifies the empirical model. Section 3 describes data and the results. Section 4 concludes.

2. Empirical model

In a perfect capital market where financial friction is absent, as assumed by Modigliani and Miller (1958), internal and external funds are perfect substitutes and a firm's investment decisions are made independently of its financing choices. Capital markets in reality tend to be less than perfect and firms face higher cost for external financing due to asymmetric information and agency problems. Therefore, firms are considered financially constrained when their investment are sensitive to internal funds.

We use the following specification for empirical testing:

$$\left(\frac{I}{K}\right)_{it} = \alpha_0 + \alpha_1\left(\frac{S}{K}\right)_{it} + \alpha_2\left(\frac{C}{K}\right)_{it} + \varepsilon_{it}, \qquad (1)$$

where I_{it} is investment, defined as capital expenditure of firm i during period t; S_t is net sales during t; and C_t is defined as cash and equivalent at the beginning of period t. These variables are scaled by capital stock K_t, which is measured as the value of property, plant, and equipment at the start of period t. Our main interest is α_2, the coefficient on the cash-to-capital ratio (cash for short). Under the null hypothesis of no financing constraints, $\alpha_2 \leq 0$. If firms rely on cash holdings (our proxy for internal funds) to finance investment, they face financing constraints; that is, $\alpha_2 \geq 0$.

Firms may hold more cash in anticipation of greater capital investment if expected future profit is high. In this case, the coefficient α_2 may not reflect financing constraints. An "accelerator" term, defined as sales growth (ΔS) over capital stock, is incorporated into (1) to account for the effects of future opportunities on investment. Additionally, a firm's investment

[1] See Schiantarelli (1996) for a literature review.

[2] Additionally, compared to Poncet et al. (2010), our study uses a different data source and sample period and focuses on publicly-traded firms.

may be affected by its leverage; therefore, we also include a debt-to-capital ratio in the following augmented model:

$$\left(\frac{I}{K}\right)_{it} = \alpha_0 + \alpha_1\left(\frac{S}{K}\right)_{it} + \alpha_2\left(\frac{C}{K}\right)_{it} + \alpha_2\left(\frac{\Delta S}{K}\right)_{it} + \alpha_2\left(\frac{D}{K}\right)_{it} + \varepsilon_{it} \quad (2)$$

To examine the effect of political connection on firms' financing constraints, we split the sample into two groups: firms with and without political ties. To take into account ownership structure, we further separate firms into state-owned and family-controlled ones.[3]

3. Data and results

To estimate Equations (1) and (2), data for investment, sales, cash balance, capital, and debt of Chinese firms listed on Shanghai and Shenzhen stock markets are obtained from Worldscope. Financial and service firms are excluded. Outliers for the investment, sales, and cash variables are also dropped.

We examine the biography of the CEO and Chairman of the board of directors of each firm using the China Stock Market and Accounting Research (CSMAR) database and Sina Finance website.[4] If biographical information or the name of the CEO/Chairman is missing from these sources, the firm is excluded from our sample. A firm is considered politically-connected if its CEO/Chairman is or was a government official or a military officer or someone with a political ranking at the provincial or ministerial level. Out of 1347 firms, 330 are considered to be politically connected. Since the CEO/Chairman appointment duration is about three years, we combine the information on the profile of CEO/Chairman with three years of financial data taken from Worldscope. Information on firm's ownership type is also obtained from the CSMAR database. Our samplecontains up to 3585 firm-year observations of 1347 firms during 2005-2007.

Table 1 provides the summary statistics for the major variables. In each cell, the first number is the value averaged over 2005-2007 whereas the number in the parentheses is the standard deviation. While firms without political ties generate greater sales per unit of capital, they also hold more cash relative to politically connected firms. Unconnected firms may hold cash in anticipation of higher future investment or as a precaution against liquidity constraints. This possibility is examined in the augmented model.

Table 2 presents the regression results of the baseline model, Equation (1). We apply the ordinary least square (OLS), instrument variable (IV), and fixed effects (FE) estimators to the two groups of politically-connected and non-connected firms. In Column 1, the investment of firms without political ties responds positively to sales (α_1 = 0.018) and cash holdings (α_2 = 0.065). The coefficient on cash is statistically significant at 1% level, suggesting that the non-connected firms face financing constraints. On the other hand, in Column 2, the investment of politically connected Chinese firms is not sensitive to internal funds; the coefficient on cash (α_2 = 0.010) is much smaller and is not significant. The connected firms seem to be free from the credit constraints endured by their non-connected counterparts.

OLS estimates may be biased due to the endogeneity of cash holdings. We use two lags of the cash variable as its instruments in the IV regressions. The coefficient on cash is not significant for the politically-connected firms (-0.008) whereas it is significant for the non-connected firms

[3] We thank the anonymous referee for this suggestion.
[4] See http://finance.sina.com.cn.

(0.075). The IV results are consistent with the OLS results. Sargan's J-statistic for testing the null hypothesis of orthogonality of the instruments and the error terms is shown for each IV regression. The over-identifying restrictions are accepted for the two IV regressions. We also report Cragg-Donald first-stage F-statistic to test the null hypothesis of weak instruments against the alternative that they are strong. The reported F-statistics all reject the null hypothesis of weak identification. To account for unobserved time-invariant factors, we re-estimate Equation (1) using fixed effects regression. The results are similar to those obtained by the other two methods.

The results based on the augmented model, Equation (2), are shown in Table 3. In Columns (1) and (2), investment of firms without political connection responds positively to the amount of cash on hand and sales growth. It is not the case with connected firms.

In Columns (3) and (4), we replace Sales with Tobin's Q, which is positive and statistically significant in the investment equation for both groups. More importantly, non-connected firms seem to have financing constraints while connected firms do not.

With respect to ownership, the results based on IV and FE estimators in Columns (5)-(12) suggest that having political connected CEO/Chairman is still important to firms' investment in terms of financing constraint. The coefficient on the cash variable in the regressions for the politically-connected state-owned and family-controlled firms is not statistically different from zero; on the other hand, it is positive and statistically significant in the regressions for the non-connected state-owned and family-controlled firms.[5] However, non-connected family-controlled firms consistently bear greater constraints than non-connected state-owned firms in both IV estimation (estimated coefficient on cash: 0.122 versus 0.085) and FE estimation (0.091 versus 0.076).

4. Conclusion

It has been documented that political connection confers significant benefits on firms. For example, Faccio et al. (2006) present evidence that politically-connected firms are more likely to be bailed out when they face financial difficulties non-connected counterparts. In this study, we show that listed Chinese firms with politically connected CEO/Chairman seem to be free from financing constraint. These firms probably have easier access to external credit via either the personal connection of the firms' top management, explicit preferential policy treatment, or they are perceived by lenders to have implicit government guarantee. The reduction in the financing constraint is a benefit to the shareholders of the connected firms and is consistent with the literature examining the value of political connection. However, whether this is conducive to an economy-wide efficient allocation of capital is a topic for further research.

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[5] We also conduct two additional robustness checks. One more year (year 2004) of firms' financial data is added to the analysis. The estimated coefficients in Equations (1) and (2) are very similar and confirm the above results. We also divide the firms into four groups according to both the size of their inflation-adjusted assets and the political background of their CEO/Chairman. The effect of political connection remains. The investment of politically connected firms, whether large or small, is not sensitive to cash holdings whereas the investment of large and small non-connected firms is. These results are available on request.

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Table 1: Summary statistics (2005-2007)

	Number of firms	Investment (I/K)	Sales (S/K)	Cash (C/K)
All firms	1347	0.229 (0.303)	2.510 (2.127)	0.767 (1.154)
Non-connected firms[a]	1017	0.240 (0.312)	2.681 (2.165)	0.792 (1.124)
State-owned	563	0.214 (0.244)	2.679 (2.152)	0.714 (1.020)
Family-controlled	341	0.297 (0.403)	2.814 (2.175)	0.936 (1.292)
Politically-connected firms[a]	330	0.195 (0.272)	1.986 (1.913)	0.693 (1.271)
State-owned	227	0.204 (0.276)	1.967 (1.938)	0.628 (1.125)
Family-controlled	74	0.172 (0.207)	2.195 (1.896)	0.869 (1.371)

Note: In each cell, the first number is the value of the variable averaged over 2005-2007 and the number in parenthesis is the standard deviation.

[a] Firms' ownership information is missing for some firms. We also drop firms with ambiguous ownership classification. Therefore, the sum of sub-groups of state-owned and family-controlled firms in each of the non-connected and politically-connected groups is not equal to their total.

Table 2: Baseline regression - Dependent variable: *I/K*

	Non-con OLS (1)	Pol-con OLS (2)	Non-con IV (3)	Pol-con IV (4)	Non-con FE (5)	Pol-con FE (6)
Sales (*S/K*)	0.018**	0.021**	0.018**	0.023**	0.079**	0.066**
	(0.003)	(0.006)	(0.029)	(0.006)	(0.011)	(0.020)
Cash (*C/K*)	0.065**	0.010	0.075*	-0.008	0.078**	0.035
	(0.012)	(0.015)	(0.029)	(0.019)	(0.018)	(0.024)
R-squared	0.090	0.035	0.077	0.044	0.187	0.093
Observations	2705	880	1705	558	2705	880
Cragg-Donald[b]			458	203		
Sargan statistic			0.749	3.282		
(p-value)			(0.387)	(0.070)		

Notes: ** and * denote statistical significance at 1% and 5% levels, respectively. Robust standard errors are in parentheses. Year dummies are included. "Non-con" and "Pol-con" refer to firms without and with political connection, respectively. "IV" denotes instrumental variable regression where cash is instrumented with its first and second lags. "FE" denotes regression with time fixed effects.

[a] The first-stage *F* statistic for testing the null hypothesis of weak instruments

Table 3: Augmented regression - Dependent variable: *I/K*

	Sales (*S/K*)		Tobin's Q[a]		State-owned		Family-controlled		State-owned		Family-controlled	
	Non-con	Pol-con	Non-con	Pol-con	Non-con	Pol-con	Non-con	Pol-con	Non-con	Pol-con	Non-con	Pol-con
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	IV	IV	IV	IV	IV	IV	IV	IV	FE	FE	FE	FE
Sales (*S/K*)	0.012*	0.023**			0.010	0.023**	0.015	0.021	0.080**	0.088**	0.081**	0.064*
	(0.006)	(0.006)			(0.006)	(0.007)	(0.013)	(0.011)	(0.016)	(0.031)	(0.020)	(0.024)
Tobin's Q			0.008**	0.055**								
			(0.003)	(0.020)								
Cash (*C/K*)	0.091**	-0.013	0.076**	0.020	0.085*	-0.024	0.122*	0.024	0.076**	0.039	0.091**	0.015
	(0.031)	(0.018)	(0.018)	(0.014)	(0.037)	(0.019)	(0.058)	(0.035)	(0.031)	(0.057)	(0.025)	(0.024)
Leverage	0.020**	-0.039	-0.041*	-0.092**	0.050	-0.009	0.015	-0.041	-0.138	-0.064	-0.002	-0.014
	(0.006)	(0.031)	(0.016)	(0.031)	(0.047)	(0.024)	(0.009)	(0.032)	(0.114)	(0.034)	(0.010)	(0.055)
Acceleration	0.028**	0.006	0.007	0.011	0.038**	0.004*	0.021	0.013	0.013	-0.001	-0.003	-0.018
	(0.008)	(0.004)	(0.004)	(0.006)	(0.015)	(0.002)	(0.013)	(0.011)	(0.013)	(0.004)	(0.014)	(0.021)
R-squared	0.089	0.054	0.090	0.109	0.096	0.033	0.09	0.165	0.240	0.134	0.172	0.136
Observations	1697	552	1740	575	979	389	527	115	1528	612	861	184
Cragg-Donald	416	204	720	345	303	351	97	10				
Sargan statistic	1.204	2.769	0.236	0.037	1.815	2.492	1.267	0.588				
(p-value)	(0.273)	(0.095)	(0.627)	(0.847)	(0.178)	(0.114)	(0.260)	(0.443)				

See notes to Table 2.

[a] Here the variable "Sales" is replaced with Tobin's Q. Tobin's Q is defined as total debt plus total market value divided by the book value of total assets, all calculated at the beginning of period.