Chapter 16
Institutional Development and Controlling Shareholder's Expropriation: Evidence from China

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Abstract This paper argues that the possibility of political extraction can influence the controlling shareholder's tunneling. We use the index of "relationship between government and market", which is from the NERI, as the measure of institutional development, and the samples are the listed companies in China during 2003–2007. The paper shows that, when the possibility of political extraction is high, firms controlled by the large shareholder who has a less separation of control rights and ownership rights hold less cash than other firms, and more expropriation by the controlling shareholder.

Keywords Cash holding · Controlling shareholder · Expropriation · Institutional development

16.1 Introduction

There is a growing empirical literature on the controlling shareholder's expropriation. For example, Shleifer and Vishny (1997) show that the controlling shareholder may use corporate resources to pursue their own self-interest, including diverting corporate resources for personal benefits at the expense of small shareholders; Wolfezen (1999) show that controlling shareholder can control the right of voting effectively by pyramiding or cross-holding; and Faccio et al.

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(2001, 2005) find that the features of "crony capitalism" are actually even more pronounced in Western Europe and East Asian economies, so the salient agency problem in these economies is expropriation of outside shareholders by the controlling shareholder.

According to agency theory, the controlling shareholder may choose to use corporate resources to pursue their own self-interest, including diverting corporate resources for personal benefits. There are many kinds of possible ways that controlling shareholder could use to exercise "tunneling", such as cash holdings, related party transactions, dividend policy, debt financing.

This paper evaluate whether institutional development can influence the controlling shareholder's expropriation behaviors. We examine the data of listed companies in China from 2003 to 2007. Just as Stulz (2005)'s view "'twin agency problems' that arise because rulers of sovereign states and corporate insiders pursue their own interests at the expense of outside investors", we mainly concerns the controlling shareholder's expropriation behaviors under different political environment.

In this paper, our objectives are two-fold. First, we investigate whether institutional development influences the impact of controlling shareholder on corporation's liquidity management. We find that companies in provinces with weak institutions tend to hold less cash. Second, we examine whether institutional development influences the controlling shareholder to occupy funds of listed company. We find that companies in provinces with weak institutions tend to be occupied more funds by controlling shareholder. These results reveal that controlling shareholder's expropriation can be reinforced by weak political environment.

The rest of the paper is organized as follows. In Sect. 16.2, we describe hypotheses based on theoretical discussion, and in Sect. 16.3, we describe the data and model. Section 16.4 presents the regression results, and in Sect. 16.5, we conclude.

16.2 Research Hypotheses

The agency problem between controlling shareholder and minority shareholders is mainly embodied in the reality that the controlling shareholder would seek personal benefits at the expense of minority shareholders. La Porta et al. (1999) and Claessens et al. (2002) find that the discrepancy between the controlling shareholder's ownership rights O and its control rights C has impact on the controlling shareholder's expropriation behavior. That is, the higher cash flow rights controlling shareholder has, the less embezzlement carried out by controlling shareholder, because this occupation may reduce its own utility.

The discrepancy between the controlling shareholder's ownership rights O and its control rights C may be amplified by pyramiding or cross-holding and the controlling shareholders will have greater motivation and opportunity to expropriate the interests of minority shareholders, which is referred as "Entrenchment effect". Ozkan and Ozkan (2004) shows that corporate cash holdings begin to decline when the manager' shares up to 24 %, and cash holdings begin to rise when the manager's shares up to 64 %. It is high agency cost that leads to the low corporate cash holding. He and Liu (2005) find that, due to the lack of protection of minority shareholder s' interests, and the absence of the market mechanism used to constraint the behavior of controlling shareholder, the tunneling phenomenon occurs frequently in Chinese capital market.

Cash is an asset with the strongest liquidity. Because it is very difficult for external investors to supervise, the cash is vulnerable to be transferred by insiders. Therefore, the controlling shareholder with high possibility of embezzlement could realize private benefits through transfer the listed company's cash flow, especially in environment with weak enforcement of property rights. For example, Caprio and Faccio (2011) find that firms located in provinces with weaker institutions hold less cash than firms located in provinces with stronger institutions. Based on above analysis, our first hypothesis is stated as follows:

H1: The lower possibility of controlling shareholder's expropriation, the higher firm's cash holding; however, when the firm is located in provinces with weaker institutions, the firm's cash holding will reduce while the lower possibility of controlling shareholder's expropriation.

Because government and corporate insiders pursue their own interests at the expense of outside investors, the listed company faces "twin agency problems" (Stulz 2005). The one is "the agency problem of corporate insider discretion". As insider, managers may take a variety of behaviors to maximize their own private benefits rather than the interests of outside investors. Another is "the agency problem of expropriation by the state". Government may use the powers to expropriate investors by actions ranging from outright confiscation to regulations that favor their own benefit.

The government expropriation may affect the controlling shareholder's interests. In order to reduce the risks of state expropriation and maintain his own interests, the controlling shareholder may take various actions, such as adjusting the corporation's investment policy and financing policy to increase their discretion and also make it harder for government to squeeze. In this case, the controlling shareholders become entrenched and can more easily take advantage of atomistic shareholders. Therefore, our second hypothesis is stated as follows:

H2: The lower possibility of controlling shareholder's expropriation, the fewer firm's funds be occupied; however, when the firm is located in provinces with weaker institutions, the firm's funds will be occupied much more while the lower possibility of controlling shareholder's expropriation.

16.3 Data and Methods

16.3.1 Data

Our initial sample includes all Chinese firms that are listed on the Shanghai or Shenzhen Stock Exchange during the period of 2003–2007. We eliminate firms with one of following features: (1) financial firms; (2) ST or PT firms; (3) firms that some data is unavailable or missing. At last, we have a sample of 4,807 observations. The data used in this paper includes three parts: the ultimate controlling shareholder data and the firm-level financial data are from the China Stock Market and Accounting Research (CSMAR) database. Following La Porta et al. (2002), we define the controlling shareholder as the shareholder whose actual ownership right over 10 % (La Porta et al. 2000). The institutional development data is from the National Economic Research Institute (NERI) (Fan et al. 2001).

16.3.2 Methods

In order to test the H1, the regression equation is set as follows:

$$Cash = \alpha + \beta_1 PoliticalE + \beta_2 Slevel + \beta_3 PoliticalE * Slevel + \beta_4' X + \varepsilon \tag{16.1}$$

Where *Cash* is primary independent variable, which represents the level of firm's cash holding. We compute a firm's cash holding ratio (Cash) as cash and short-term investment divided by non-cash assets (total assets minus cash holding) at the end of year *t* from 2003 to 2006, and as cash and cash equivalents divided by non-cash assets at the end of year *t* in 2007.

PoliticalE represents the institutional development level, which is measured by NERI index. NERI index of marketization captures the following aspects of regional market development: relationship between government and market; development of non-state business; development of product markets; development of factor markets; development of market intermediaries and legal environment. We use the index of relationship between government and market as the measure of institutional development. If the index of a province is above the sample mean value, we set *PoliticalE* equal to 1 and 0 otherwise. We expect that β_1 should be negative.

Slevel represents the possibility of controlling shareholder's expropriation, which is the separation level of controlling shareholder's control rights and ownership right. Therefore, we use the ratio O/C as the measure of the corporation's vulnerability to insider expropriation (Faccio et al. 2001). A low O/C ratio demonstrates the possibility of controlling shareholder's expropriation is high. If the O/C ratio is above the sample mean value, we set *Slevel* equal to 1 and 0

otherwise. We expect β_2 should be positive. According to H1, the coefficient of *PoliticalE* * *Slevel* should be negative.

We also include the following control variables that previous papers have found to be significant in tests of the trade-off of cash holdings (Opler et al. 1999). *Size* is the natural log of total assets at the end of year *t* and is taken as a proxy for firm size. *Control* is the nature of ultimate controller, and equal to 1 if the firm's ultimate controller is a national entity, 0 otherwise. *Lev* is ratio of debt to total assets. *Debt* is the sum of long term and short term debt at the end of year *t*. *CF* is the ratio of firm's annual operating net cash flow to total assets. *OF* is the change in net working capital, which is measured by the change in current assets minus current liabilities from year $t - 1$ to year *t* divided by total assets at the end of year *t*. *Growth* is calculated as the annual rate of growth of sales. *FA* represents the net capital expenditures in year *t*, which is measured by the annual rate of growth of fixed assets. We also include industry and year fixed effects in the tests.

In order to test the H2, the regression equation is set as follows:

$$OtherC = \alpha + \beta_1 PoliticalE + \beta_2 Slevel + \beta_3 PoliticalE * Slevel + \beta_4' X + \varepsilon \tag{16.2}$$

Where *OtherC* is the primary dependent variable, which represents the level of funds occupied by the controlling shareholder. It is calculated as the other receivables divided by total assets at the end of year *t*. The higher *OtherC* is, the more funds be occupied by controlling shareholder. According to H2, the coefficient of *Slevel* is expected to be negative and that of *PoliticalE* * *Slevel* should be positive. The definitions of *PoliticalE*, *Slevel* and *X* are consistent with (16.1).

16.4 The Empirical Results

16.4.1 Descriptive Statistics

Table 16.1 presents the descriptive statistics of the firm-level variables for the pooled sample.

The mean *Cash* is 20.59 % with standard deviations of 24.44 %, and the maximum value reached 466.95 %; the minimum value is 0. We find a great deal of variation in the *Cash*. It demonstrates that the phenomenon of high cash holding is relatively outstanding in Chinese stock capital during the sample period. Actually, many famous companies have been high cash holding since 2000, such as GM, IBM, and the companies' average cash holding rate is up to 17 % in United States (Opler et al. 1999). Some studies have shown that this phenomenon is a manifestation of embezzlement by controlling shareholders (Kalcheva and Lins 2007), but some other studies regarded the reason for high cash holdings as the precautionary motivation of firms, rather than management agency problem caused by separation of control right and ownership right (Bates et al. 2009). From the

Table 16.1 Descriptive statistics

	Max	Min	Mean	Stnd.Dev
Cash	4.6695	0.0000	0.2059	0.2444
OtherC	11.7180	0.0000	0.0665	0.3350
PoliticalE	1.0000	0.0000	0.4316	0.4953
Slevel	1.0000	0.0000	0.6724	0.4694
Size	27.6251	12.3143	21.4156	1.1087
Lev	9.7366	0.0081	0.5222	0.3356
CF	1.0690	−0.5708	0.0563	0.0891
OF	7.3631	−5.4285	0.0099	0.3227
Growth	77.8110	−1.0000	0.4168	2.6471
FA	31.3065	−2.1803	0.2285	1.2389

Cash is defined as cash and short-term investment divided by non-cash assets (total assets minus cash holding) at the end of year *t* from 2003 to 2006, and as cash and cash equivalents divided by non-cash assets at the end of year *t* in 2007. We use the NERI index of relationship between government and market as the measure of institutional development. If the index of a province is above the sample mean value, we set *PoliticalE* equal to 1 and 0 otherwise. *Slevel* represents the possibility of controlling shareholder's expropriation, which is the ratio O/C

perspectives of corporate governance mechanism and the tunneling behavior of controlling shareholder, Xin (2006), examine the problem of cash holding in Chinese capital market, and their results are in favor of the tunneling theory (Xin and Xu 2006).

The average value of *OtherC* is 6.65 % with standard deviation of 33.50 %, and its maximum value and minimum value are 1,171.80 % and 0 respectively, which shows the funds are occupied by controller of firms. The mean *PoliticalE* and *Slevel* are 0.4316 and 0.6724 with standard deviation of 0.4953 and 0.4694 respectively.

16.4.2 Institutional Development, Expropriation of Controlling Shareholder and Cash Holdings

The results in Table 16.2 show that there is a negative and significant association between firm's cash holdings and the possibility of controlling shareholder's expropriation. For example, regression (16.1) shows that, the coefficient of *Slevel* is 0.022, with a *t*-statistics of 3.142. While higher *Slevel* represents lower possibility of controlling shareholder's expropriation, the results are consistent with the first half of H1. From regression (16.2) we can find that the coefficient of *PoliticalE* is −0.043, with a *t*-statistics of −6.900. This result suggests that firm's cash holdings will be lower in the province with weak institutional development.

To assess whether institutional development can influence the controlling shareholder's expropriation behaviors, we augment our specification in regression (16.2) with an interactive variable *PoliticalE* * *Slevel*. As shown in regression

Table 16.2 Institutional development, controlling shareholder's expropriation and cash holdings

	(1)	(2)	(3)
Intercept	0.571***	0.623***	0.619***
	(8.669)	(9.442)	(9.349)
Slevel	0.022***	0.021***	0.026***
	(3.142)	(2.956)	(2.794)
PoliticalE		−0.043***	−0.036***
		(−6.900)	(−3.381)
*PoliticalE * Slevel*			−0.023*
			(−1.665)
Control	−0.008	−0.005	−0.005
	(−1.042)	(−0.643)	(−0.665)
Size	−0.016***	−0.018***	−0.018***
	(−5.237)	(−5.787)	(−5.768)
Lev	−0.100***	−0.102***	−0.101***
	(−10.761)	(−10.940)	(−10.897)
CF	0.409***	0.415***	0.414***
	(11.478)	(11.692)	(11.671)
OF	0.020**	0.019**	0.019**
	(2.074)	(1.972)	(1.989)
Growth	−0.000	0.000	0.000
	(−0.066)	(0.310)	(0.309)
FA	0.002	0.002	0.002
	(0.689)	(0.737)	(0.700)
	(0.689)	(0.737)	(0.700)
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
Observations	4,570	4,570	4,570
Adjusted R^2	0.076	0.085	0.085
F Value	24.523***	26.117***	24.700***

Cash is defined as cash and short-term investment divided by non-cash assets (total assets minus cash holding) at the end of year *t* from 2003–2006, and as cash and cash equivalents divided by non-cash assets at the end of year *t* in 2007. We use the NERI index of relationship between government and market as the measure of institutional development. If the index of a province is above the sample mean value, we set *PoliticalE* equal to 1 and 0 otherwise. *Slevel* represents the possibility of controlling shareholder's expropriation, which is the ratio O/C. *, **, *** denotes statistical significance at the 10 %, 5 %, and 1 % levels respectively. The sample period is from 2003 to 2007

(16.2), the interaction term between institutional development and the possibility of controlling shareholder's expropriation has significance of 10 %, and its coefficient is −0.023. This result demonstrate that the firm's cash holding will reduce while the lower possibility of controlling shareholder's expropriation, if the firm is located in provinces with weaker institutions.

16.4.3 Institutional Development, Expropriation of Controlling Shareholders and Funds Occupation

Table 16.3 presents a regression of funds occupied by controlling shareholder on institutional development, possibility of controlling shareholders' expropriation and the interaction between these two variables (along with other controls). As we pointed out earlier, controlling shareholder's behavior will be affected by the political environment. As a consequence, the coefficient of the interaction item should be different with zero significantly.

Table 16.3 Institutional Development, Controlling Shareholder's Expropriation And Funds Occupation

	(1)	(2)	(3)
Intercept	0.737***	0.752***	0.760***
	(11.153)	(11.301)	(11.389)
Slevel	−0.005	−0.006	−0.015
	(−0.757)	(−0.812)	(−1.601)
PoliticalE		−0.012*	−0.026***
		(−1.908)	(−2.360)
*PoliticalE * Slevel*			0.020
			(1.533)
Control	−0.004	−0.004	−0.003
	(−0.584)	(−0.472)	(−0.430)
Size	−0.043***	−0.043***	−0.043***
	(−13.958)	(−14.068)	(−14.100)
Lev	0.496***	0.496***	0.495***
	(52.976)	(52.948)	(52.846)
CF	0.082**	0.083***	0.085***
	(2.290)	(2.334)	(2.367)
OF	−0.028***	−0.028***	−0.028***
	(−2.834)	(−2.866)	(−2.900)
Growth	−0.003**	−0.002**	−0.002**
	(−2.206)	(−2.099)	(−2.098)
FA	−0.006**	−0.006**	−0.005**
	(−2.222)	(−2.211)	(−2.140)
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
Observations	4570	4570	4570
Adjusted R^2	0.426	0.426	0.426
F Value	212.865***	200.674***	189.712***

OtherC is calculated as the other receivables divided by total assets at the end of year *t*. We use the NERI index of relationship between government and market as the measure of institutional development. If the index of a province is above the sample mean value, we set *PoliticalE* equal to 1 and 0 otherwise. *Slevel* represents the possibility of controlling shareholder's expropriation, which is the ratio O/C. *, **, *** denotes statistical significance at the 10 %, 5 %, and 1 % levels respectively. The sample period is from 2003 to 2007

The results in Table 16.3 show that there is positive association between funds occupation and the possibility of controlling shareholder's expropriation, but it is not significant. We further control *PoliticalE* in regression (16.2), and its coefficient is −0.012, with a t-statistic of −1.908. The result suggests that firm's funds occupied by controlling shareholder will be higher in the province with weak institutional development. In regression (16.2), the interaction term between *PoliticalE* * *Slevel* is controlled. The coefficient of the interaction term exhibits positive sign, but the statistical significance is only about 12 %.

In sum, our results so far have documented evidence that the institutional development may influence the controlling shareholder's expropriation from listed companies in Chinese capital market, in response to the threat of political extraction. Specifically, firms located in provinces with weak institutions are subject to a greater likelihood of controlling shareholders' expropriation.

16.4.4 Robust Test

We check the robustness of the regression results by using other indexes to measure the institutional development. First, we employ the NERI index of marketization as a new measure. If the index of a province is above the sample mean value, we set *PoliticalE* equal to 1 and 0 otherwise. Second, we also use the data from the World Bank's report (2006) as another new measure . We take the following regions as low institutional development environment: northeast, northwest, central region and southwest. If the firm is located in one of these regions, the *PoliticalE* is equal to 1 and 0 otherwise. The results are similar to those reported in Tables 16.2 and 16.3.

16.5 Conclusion

This paper evaluate whether institutional development can influence the controlling shareholder's expropriation behaviors. According to agency theory, the expropriation of outside shareholders by the controlling shareholder has mainly come from the separation of ownership and control right. By a pyramid, cross-holding or reciprocal holding, the controlling shareholder got the control right of a listed company with few resources, and became the corporate insider with great discretion. Then, the controlling shareholder may choose to use corporate resources to pursue their own self-interest, including diverting corporate resources for personal benefits. However, controlling shareholder's behavior will be affected by the political environment. If the whole market environment is in a state of disorder, the government can use their power to maximize political interests, such as the cash flow tax, punitive forfeiture of assets and banning certain business activities or asking for bribes.

The results reveal that controlling shareholder's expropriation can be reinforced by weak political environment. First, we find that companies in provinces with weak institutions tend to hold less cash. Second, we find that companies in provinces with weak institutions tend to be occupied more funds by controlling shareholder. Our work has implications for the literature on controlling shareholder's tunneling behavior by bringing it to light that the institutional development may influence the controlling shareholder's decision-making.

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