

Pyramidal Structure, Legal Environment and Excessive Benefits of Control: Evidence from Chinese Listed Companies

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Abstract The paper by examining the control transactions during 2005 to 2007 in Shanghai and Shenzhen securities market, finds the excessive benefits of control are positively related to the length of the business pyramidal chain, in other words, the lower level the listed company situates in a pyramidal structure, the more expropriation the controlling shareholder extracts. And the legal protection is negative related to the excessive benefits of control. The enlightenment to us is that shortening control chain and simplify the control structure can curb the extraction of ultimate controllers, which is in alignment with the refocusing strategy. And better legal protection is important. We also find the presence of other block shareholders can reduce the excessive benefits of control.

Key words Excessive benefits of control; Length of pyramidal chain; Ultimate controllers; Refocusing strategy

1 Introduction

The concept of the excessive benefits of control is brought out on the basis of the benefits of control. Most researches define the benefits of control as the tunneling of companies and the extraction of minority shareholders by controlling shareholders. Liu Shaobo (2007) believes the benefits of control are the compensation for cost of control as well as the risk premium of control, and the expropriation of controlling shareholders should be defined as the excessive benefits of control. Thus, the protection of minority shareholders is to curb the controlling shareholders' excessive benefits of control, and stimulate their rational benefits of control.

You Daming & Sheng Yidong (2008) try to measure the excessive benefits of control. They test the effect of the ratio of independent directors, the scale of the board of directors and other firm specific factors on the excessive benefits of control, but neglect maybe more important institutional factors as control right structure, legal institution, etc.

This paper tries to study the determinants of the excessive benefits of control from the perspective of institutional factors, based on the control transactions of listed companies in China during 2005 to 2007. The effect of pyramidal control structure and related legal protection on the excessive benefits of control is examined and some instructive conclusions are got. The paper is structured as follows. Section 2 discusses the theory framework and assumptions. Section 3 describes the methodologies including variables definition, sample collection and data source. Section 4 gives the statistics results of sample companies. Section 5 concludes the paper.

2 Theoretical Analysis and Assumptions

2.1 Pyramidal structures provide infrastructure for controlling shareholders extraction

The business pyramidal structure is common in the world, especially in East Asian countries (Claessens et al, 2002). In China, about 89.02% listed companies are controlled by ultimate owners through pyramidal structures (Zhen Hongxian & Shi Yongdong, 2008). Ultimate owners enhanced their control with less investment through the use of pyramidal structures, which also results in reduced transaction costs and uncertainties. However, recent researches find pyramidal structures provide veils for controlling shareholders to extract minority shareholders through complex and unfair relation-based transactions. In a pyramidal structure, a controlling shareholder can transfer resources from the firm for his own benefit through self-dealing transactions and transfer price favoring the controlling shareholder (Johnson et al, 2000).

Studies provide evidence that the separation of cash flow rights and control rights under the pyramidal structures results in expropriation of minority shareholders. In a pyramidal group, the longer the pyramidal chain, the more resources will be controlled by the ultimate owner. However, his cash flow gain from the bottom company will be less and less with the control chain growing longer. When there is not sufficient protection for minority shareholders, expropriation through illegal or legal but maybe unfair transactions will be encouraged as they bring more riskless income to ultimate owners.

The longer the controlling chain, the more resources can be extracted.

Thus, our assumption H_1 is: the excessive benefits of control are positively associated with the length of pyramid chain. In other words, the lower layer the listed company is on, the more excessive benefits of control will be reaped by ultimate controllers.

2.2 Pyramidal structure challenges traditional company act as to shareholders protection

A company is an independent artificial person and shareholders only have limited liabilities. Demsetz (1964) points out that the limited liabilities of shareholders, which reduce their investment risk, stem from the direct control right of their property transferring from shareholders to managers. For early companies, all shareholders are natural persons, and there are no conflicts between these two characteristics.

The two characteristics of independent artificial person and shareholders limited liabilities also promote the pyramidal organizations of business groups. For controlling shareholders, they can reduce their risk as well as expand by establishing a subsidiary.

However, pyramidal organizations break the balance between independent artificial person and shareholders limited liabilities. In a pyramidal structure, parent company control the subsidiaries through strategy, personal, finance and business culture systems, the subsidiaries become the tool for parent company to realize its strategic objective and only nominally independent. With the protection of limited liability, owners' losses are limited to the amount of capital committed to the enterprise (Attig et al, 2004)^①.

Many countries try to amend the company act to provide the minority shareholders with more protection. La Porta et al. (2002) compared the civil law and common law countries and concludes that civil law countries are in a disadvantage in the respect of minority shareholders' protection, and have a higher level of private benefits of control. Dyck and Zingale (2004) prove that better legal system and legal enforcement limit the private benefit of control. Based on control transactions between 2001 and 2004 in China, Ye Hui and Li Shanmin (2008) prove better governance environment as government involvement, marketing freedom and legal environment curbs the private benefits of control. Wang Peng (2008) finds efficient investor protection limits the cash occupied by controlling shareholders.

So we bring out our assumption H_2 : in an environment of pyramidal structure groups, the excessive benefits of control are negatively related to the legal protection of minorities.

3 Methodologies

3.1 Variables definition

3.1.1 Dependent variables

To test the level of the excessive benefits of control and its dependent factors, Let EBC be the excessive benefit of control, P be the price per share of control transactions, NA be the net assets per share, and R be the lowest return required by controlling shareholders. We calculate the excessive benefits of control as following.

$$EBC = \frac{P - NA}{|NA|} - R \quad (1)$$

The excessive benefits of control is get after subtracting the lowest required return on capital for controlling shareholders from private benefits of control, which is the compensation of cost and the incentive for controlling shareholders. To make the calculation easier, R is 6 percent in this paper.

3.1.2 Independent variables

The length of the pyramidal chain: It is the length of chain from the ultimate owners to the listed companies. The length of a two-layer pyramidal structure is 1, and the length of a three-layer pyramid is 2, etc.

The legal protection level for minority shareholders: As it is impossible to get the data of minority shareholders protection level of each district, the legal environment of provinces is used as a substitute. The institutional environment is identical to all Chinese listed companies. However, the level of legal enforcement varies much for different provinces (Fan Gang & Wang Xiaolu, 2003). The data comes from Fan and Wang's NERI Index of Market Freedom of China's Provinces 2004.

^① Attig, Najah, Klsus P. Fischer, and Yoser Galdhoum. On the Determinants of Pyramidal Ownership: Evidence on Dilution of Minority Interests. EFA 2004 Maastricht Meetings Paper No. 4592. [http:// papers.ssrn.com](http://papers.ssrn.com)

Other control variables: The percentage of block transferred, debt ratio, size of the company and modified Z index are chosen as control variables. The modified Z index measures the extent of constrain to ultimate controllers from other block shareholders, which is calculated by dividing the shares controlled by the largest ultimate owner by shares controlled by the second largest ultimate owner. The bigger the ratio is, the less restriction to the largest ultimate owner from other block shareholders. The closer the ratio is to 1, the more restriction to the ultimate owner.

Table 1 Definition of Variables

Variables	Definition
EBC	the private benefit of control. $EBC = (P - NA) / NA - R$, P be the price per share of control transactions, NA be the net assets per share, and R be the lowest average return required by controlling shareholders, which is 6% in the paper.
Conlev	The length of the pyramid control chain from the ultimate controller to the listed companies.
LEGindex	Legal protection for minority shareholders
Trans	The percentage of block share transferred to total shares issued.
Size	The size of the company, represented by log of total assets.
Leverage	Debt ratio = total liabilities / total assets.
Modi-Z	Modified Z index. Calculated by dividing the shares controlled by the first ultimate owner by shares controlled by the second ultimate owner.

3.2 Sample collection

We collect our samples from CSMAR of GTA Research Center, Shenzhen, China. We exam all control transactions of Chinese listed companied from 2005 to 2007. The sample is selected if (1)it is negotiated block shares transfer with payment; (2) the transaction succeeds;(3) the largest shareholder changes ;(4) Excessive benefits of control is positive; (5)all required data can be get. After excluding abnormal samples, we get 141 samples at last. These samples are related with 84 companies, and 82 of them are in a pyramidal structure.

Table 2 Distribution of Samples

Length of Pyramidal chain	Number of companies	Nature of the ultimate controllers	
		Non-state owned	State owned
1(non-pyramidal structure)	2	2	
2	43	28	15
3	21	16	5
4	13	6	7
5	5	4	1
total	84	56	28

3.3 Data source

The percentage of block transferred data comes from CSMAR. The length of the pyramidal chain, debt ratio, size of the company and modified Z index are collected or calculated from the annual report by the author. The annual report is get from CNINFO, a website of information disclosure designated by China Securities Regulatory Commission.

Spss 13.0 is used to do all analysis.

4 Results of Statistical Analysis

4.1 Descriptive analysis

Descriptive analysis of all samples (Table 3) shows that the average excessive benefits of control is 102%, a quite high level. The minimum block transaction is only 0.08% of total shares, which is because the purchaser buy the equity from several sellers, and some sellers only have a small percentage of equity shares. The average leverage ratio shows that sample companies have a relatively high debt ratio, and the average modified Z index shows there are little restrictions to the ultimate controllers for sample companies.

Table 3 Descriptive Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
EBC	141	0.02	8.09	1.02	1.57
LEGindex	141	1.73	11.04	7.41	2.51
Conlev	141	1	5	2.62	0.92
Trans	141	0.08	70	18.62	16.59
Size	141	4.18	7.84	5.48	1.04
Leverage	141	5.32	932.32	71.42	81.77
Concen	141	1	236.23	17.37	46.04

4.2 Regression analysis

Table 4 is the regression results. All VIFs are close to 1, and well below the commonly accepted threshold of 10. This suggests that multi-collinearity is not a problem.

Table 4 Regression Analysis

	B	t	Sig.	VIF
(Constant)	1.3898	1.8318*	0.0692	
LEGindex	-0.1071	-2.5024**	0.0135	1.3175
Conlev	0.2923	2.7551***	0.0067	1.0719
Trans	-0.0062	-0.9555	0.3410	1.3176
Size	-0.1387	-1.2723	0.2055	1.4672
Leverage	0.0019	1.6232	0.1069	1.0185
Concen	0.0219	9.7246***	0.0000	1.2251
F 值	24.4010		0.000***	
Adjusted R ²	0.5010			

* Significant at 10%, ** Significant at 5% level, *** Significant at 1% level.

It shows that the length of the pyramid chains is positively related to the controlling shareholders excessive benefits of control, and statistically significant at 1 percent. The results imply that the lower the layer on which the listed company is, the more excessive benefits of control the controlling shareholders extract. As expected, the legal environment index is significantly negative related with private benefit of control at 5 percent, which means better enforcement of law can help reduce the excessive benefits of control in a pyramidal structure.

And the excessive benefits is significantly positively related to the modified Z index at 1 percent, showing that the presence of other block shareholders can help to curb the appropriation of the ultimate controllers. The excessive benefits of control is significantly positively related to the leverage ratios at 15 percent, implying that the debtors governance effect is very limited in current situations in China, but provide more resources that can be extracted by ultimate owners.

The result also indicates that the excessive benefits of control is negatively related to the block share transferred and the size of the company, but statistically insignificant.

5 Conclusion

Based on the control transactions of listed companies during 2005 and 2007 in Shanghai and Shenzhen securities market, the paper finds the length of the pyramidal chain is positive related to the ultimate owners' excessive benefits of control. In other words, the lower level the listed company situates in a pyramidal structure, the more expropriation the controlling shareholder extracts. And the legal protection is negative related to the excessive benefits of control. The analysis also suggests the presence of other block shareholders can significantly reduce the ultimate owners' excessive benefits of control.

The enlightenments to us are: First, policies should be established to encourage ultimate owners to shorten control chain and simplify the control structure to curb the extraction of ultimate controllers. It also means to encourage the ultimate owners to implement refocusing strategy, expanding around the business core competence and advantageous lines, selling non-core businesses, which is also helpful for

controlling shareholders' effective control and to gain rational benefits of control. Besides that, Enforcement of laws and constructing an equity structure with more block shareholders are also of great importance to protect the minority interest.

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