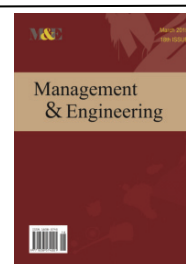




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Institutional Investors and the Cost of Equity Capital: Evidence from Chinese Listed Companies

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KEYWORDS

Institutional investors,
The cost of equity capital,
PEG model

ABSTRACT

This paper investigates the relationship between institutional investors and the company's cost of equity capital. Especially considering the large proportion of state-owned shares in China's capital market, we divide the Chinese listed companies into state-owned shares and non-state-owned shares, and investigate the different effects of institutional investors on the company's cost of equity capital in two groups. This study confirms that with the increase of the proportion of institutional ownership, the company reduced the cost of equity capital. Relative to state-owned enterprises, institutional investors help to reduce much more cost of equity capital of non-state-owned enterprises.

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1 Introduction

With the maturing of China's capital markets, the role of institutional investors has become more visible day by day in the capital market. Institutional investors have traditionally been considered to be more mature sensible investors with professional advantages and information superiority in corporate governance. Institutional investors involve in the company's decision-making, which can effectively reduce agency costs; Institutional investors have the resources of information which cannot be acquired by individual investors; Institutional investors play the role of information disclosure, reducing the information asymmetry between companies and investors (Baik, et al., 2010). The cost of capital is one of the important core concepts of corporate finance. Particularly for the cost of equity capital, there is a significant preference for equity financing on Chinese listed companies (Yan Dawu, et al., 2001). So what role has institutional investors played? What is the relationship between the institutional investors and the cost of equity capital? In the backdrop of Chinese unique capital market characteristics, how would the State-owned shares affect the relationship between institutional investors and the cost of equity capital?

There are two main contributions to this article: Firstly, the research combined institutional investors with the cost of equity capital is relatively lacking. This paper aims to clarify the relationship between institutional investors and the cost of equity capital of companies, and provide new evidence for the influence of factors related to the cost of capital areas. Secondly, the paper examines the impact of institutional investors on the company's cost of equity capital in the emerging markets of China's stock market combined with China's unique system of property rights, examines the different effects on the cost of equity capital between state-owned enterprises and private enterprises.

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2 Literature Review and Research Hypotheses

Institutional investors, who have always been recognized as “sophisticated investors”, have certain professional standards and advantages (Bushee, 1998; Bartov, et al. 2000; Jiambalvo, et al. 2002). Institutional investors can participate directly or indirectly to the corporate governance, affect managers’ behavior, plays a supervisory role. Gao Lei (2008) showed that institutional investors can effectively inhibit the earnings management behavior. Chung, et al. (2002) also found that institutional investors are able to control the behavior of earnings management, the possibility of earnings management will decrease when shareholding of institutional investors is increasing. Hartzell and Starks (2003) show that institutional ownership can reduce agency costs in management compensation and opportunism surpluses.

China’s capital has some special properties in the equity market, a large part of listed companies are state-owned enterprises while there is a big difference between the state-owned enterprises and non state-owned enterprises in the policy and institutional system. Brandt and Li (2003) find that banks are more willing to provide loans to state-owned enterprises rather than private enterprises. Xu Haoping and Lv Changjiang (2007) find that for non-state-owned enterprises, the less government intervention in business, the more improved on predictability of investors for corporate behavior and business environment, thus reducing the cost of equity capital of enterprises. Jiang Yan and Lu Zhengfei (2009) believe that China’s holding mechanism makes government departments become shareholders of many listed companies, which exacerbates agency problems between controlling shareholder and other shareholders and increases the agency costs, resulting in the incassation of the cost of equity capital. State-owned enterprises have the advantage of government, they have a lower cost of capital, and the impact degree on its cost of equity capital is not obvious as non-state-owned enterprises when Institutional investor enters the enterprise.

In summary, this paper puts forward the following hypothesis:

H1: With the proportion of institutional investors holding increasing, the cost of equity capital of company will reduce.

H2: Comparing to the state-owned enterprises, institutional investors has more effect on reducing the cost of equity capital of non-state-owned enterprises.

3 Empirical Models

3.1 The cost of equity capital

The cost of equity capital is the necessary return that shareholders required. At present, the cost of equity capital measure includes two estimation methods, Ex post C of EC and ex ante C of EC. Elton (1999) believes that the ex ante C of EC method is an unbiased estimate of the future expected return. Fama and French (1997) examine the CAPM and the Fama-French three-factor model and think that the ex ante C of EC exists three inevitable imprecision.

Synthesis of existing research, we select PEG model from Ex post C of EC. PEG model was first proposed by Ohlson and Juettner-Nauroth in 2003, Easton derived PEG model again in 2004. Easton (2004) finds that using the PEG model method to calculate cost of equity capital is still valid.

Specific model is as follows:

$$r_{PEG} = \sqrt{\frac{eps_2 - eps_1}{P_0}} \quad (eps_1 \geq eps_2 \geq 0) \quad (1)$$

eps_1 : Phase forecast earnings per share is analysts predicted values; eps_2 : the second period earnings per share; P_0 : Stock Price of on the End of the period; r_{PEG} is dependent variable, which means the cost of equity capital and calculated by PEG model.

3.2 Institutional investors and control variables

In this paper, the dependent variable for institutional investors is the proportion of institutional investors holdings (Inst). Control variables refer to the existing researches, including the company size, financial characteristics, corporate governance, growth factors and so on (Lu Zhengfei and Ye Kangtao, 2004; Zeng Ying and Lu Zhengfei, 2006).

3.3 Model building

According to the hypothesis we design a multiple regression model (2), detailed variables will be shown in the variable summary table and use the model (2) test of the hypothesis one and hypothesis two. Ferreira and Mastos (2008) find that institutional investors prefer to invest in the company with large-scale and good corporate governance. State-owned enterprises in all respects superior to non-state-owned enterprises, so inevitably there will be some scholars who believe that the cost of equity capital of the state-owned enterprises was significantly lower than non-state-owned enterprises, then attracting institutional investors to enter. In this paper, we increase the average examine on the measurement of the second hypothesis to examine whether the cost of equity capital of state-owned enterprises is significantly lower than those of non-state-owned enterprises or not.

The regression model is established as follows:

$$r_{PEG} = \alpha_0 + \alpha_1 Inst + \alpha_2 Beta + \alpha_3 Size + \alpha_4 Lev + \alpha_5 Profit + \alpha_6 Op + \alpha_7 To + \alpha_8 OwnCon1 + \varepsilon \quad (2)$$

3.4 Sample selection

We construct our sample from all listed companies that subsist in Shanghai and Shenzhen stock market from the year 2009 to 2011, included in CSMAR and RESSET. While the samples processed as follows: (1) Eliminate financial firms, which have specific capital structure, and firms with incomplete data. (2) Since the control variable operating risks need nearly three years of data, therefore the listing and delisting companies after 2007 is excluded. These exclusions leave us with 358 companies and 1074 observations each variable. (3) In order to eliminate the impact of outliers on the conclusions, we use the Winsorize approach to process on the part of the sample in 1% and 99%.

4 The Statistical Results and Analysis

4.1 Descriptive statistics

Table 1 Descriptive statistics of sample (1)

Variable symbol	Mean	Median	Maximum	Minimum	SD
rPEG	0.113 154 7	0.105 172	0.432 575 1	0	0.048 164 1
Inst	0.202 311 9	0.155 120 5	0.888 281	0	0.171 621 9
Cont	0.374 301 7	0	1	0	0.484 167 5
To	608.332 3	519.654	2 883.733	3.444 4	403.631 4
OwnCon1	37.362 97	35.54	86.35	3.62	16.101 11

From these descriptive statistics, the mean (median) of the Cost of equity capital is 11.3 percent (50.45), which is basically consistent with the current status of China's capital market. The minimum value is 0, happens to predict the first phase and the second phase leading to the final cost of equity capital is equal to zero. The distribution of proportion of shares held by institutional investors is from 0 to 88 percent. Standard deviation is 0.171 621 9, which suggests that institutional investors holding have huge differences. Considering the nature of the final control, the state-owned enterprises account for 60 percent or more. From the point of view of turnover, minimum is 3.444 4, maximum is 2 883.733, standard deviation is 403.631 4, floating largely between different stocks.

4.2 The nature of the controlling shareholder and the cost of equity capital

Table 2 The mean test of the cost of equity capital of state-owned and non-state-owned

Group	Obs	Mean	Std.Err.	Std.Dev.	[95% Conf. Interval]	
0	672	0.111 864 4	0.001 818 2	0.047 134	0.108 294 3	0.115 434 5
1	402	0.115 311 6	0.002 485	0.049 823 5	0.110 426 4	0.120 196 8
combined	1074	0.113 15 47	0.001 469 7	0.048 164 1	0.110 270 9	0.116 038 5
diff	—	-0.003 447 2	0.003 036 5	—	-0.009 405 3	0.002 510 9
diff = mean(0) - mean(1)				t = -1.1353		
Ho: diff = 0				degrees of freedom = 1 072		
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.1283		Pr(T > t) = 0.2565		Pr(T > t) = 0.8717		

As can be seen in the mean value test table, T-statistics is -1.135 3, it can be explained that 87.17 percent of the possibility that the cost of equity capital of state-owned enterprises is lower than non-state enterprises, and 12.83 percent of the possibility that the cost of equity capital of state-owned enterprises is higher than non-state enterprises. It does not mean that the cost of equity capital of state-owned enterprises was significantly lower than non-state-owned enterprises, thus providing the basis for the second hypothesis testing.

4.3 Empirical evidence

Table 3 The result of regression estimation (1)

rPEG	Coef.	Z value	P value
Inst	-0.022 216 7	-2.40	0.016**
_cons	0.001 395 4	0.04	0.965
Wald chi2(9)	305.39	Number of obs	1074
Prob > chi2	0.000 0	Number of groups	358

Notes: Significant at levels of: *, **5 and ***10 percent, respectively.

From the regression results (1), it can be seen the Inst corresponding Z value is -2.40, significant at level of 5 percent. That is, with the proportion of institutional investors holding down the cost of equity capital declined, and thus, H1 is proved. According to the Housman test, random effects model is very significant while the fixed was not. So the panel results obtained from the random effects the model.

Table 4 The result of regression estimation (2)

The ultimate controller	State-owned enterprise		Non-state-owned enterprise	
	Coef.	P value	Coef.	P value
rPEG				
Inst	-0.016 454 6	0.216	-.018 068 3	0.081*
_cons	-0.097 189 4	0.095*	.038 369 3	0.207
Number of obs	672		402	
F	19.19		19.18	
Prob > F	0.000 0		0.000 0	

According to the regression, coefficients of Inst in state-owned enterprises is -0.016 454 6, P value is 0.216. In the non-state-owned enterprises, with the increase in the proportion of institutional investors' holdings, the cost of equity capital is reducing, significant at level of 10 percent, H2 is proved.

4.4 Robustness test

In order to obtain robust conclusions, we conducted robustness test in the following five aspects. First of all, we use sensitivity analysis to test model (2), the results showed that all the independent variables regression results are consistent with the original model results; Meanwhile we use VIF test to examine the regression results, and find that VIF values is less than 5, which means there is no serious problem of multi-collinearity between variables. In summary, the estimation results of regression model are reliable.

5 Conclusion

This paper confirmed that with an increase in the proportion of institutional ownership, the company will reduce the cost of equity capital; relative to the state-owned enterprises, institutional investors have greater extent on reducing the cost of equity capital on non- state-owned enterprises. Based on previous literature, this paper has a supplement on the relationship research between institutional investors and the cost of equity capital of the listed companies. Based on the results of this paper, we consider that institutional investors has an extremely important role on governance and disclose information about acts of behavior for listed companies. Although in China's capital market, there is still part of the fund during the speculative trading behavior, how to more effectively play institutional investors and enhance market efficiency, and the promotion of the role of the standardize development of listed companies, it is a further study which is worthy to be researched and explored in the future.

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