Founding Family, Pyramid Structure and Debt Cost

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Abstract—**With undeveloped financial market, private firms are facing severe financing constraints. Debt financing from banks is main financing channel for most private firms. Based on the three characteristics of the founding family firms: undiversified investments, long-term investment horizon, and reputation concerns, this paper investigates the impact of founding family on debt cost. We find that, compared to non-family firms, founding family firms enjoy lower debt cost and their debt cost shows lower sensitivity to the pyramid structures. Our results show that founding family is an important variable that affects the firms' debt cost significantly.**

Keywords- *Founding family control; Pyramid structure; Debt cost*

I. INTRODUCTION

There are two main points about the debt cost of private listed company: one is based on the perspective of financial discrimination, private enterprise's debt cost is higher than that of state-owned enterprises (Guangzi Li, etc2009; Kai Zhu etc., 2010); The other is based on the perspective of pyramid structure: The pyramid structure is widespread in private listed company, the separation of control right and cash flow right improves the agency cost, deepens the agency conflict between the ultimate controller and the creditors, therefore, the pyramid structure improves the enterprise's debt costs (Qilin Su, 2004; Qiliang Liu, Quanzeng Li, Yiwei Yao, 2008). The latest researches think that pyramid structure of the private enterprise has two sides: On the one hand, pyramid structure form has "support role" by helping private enterprise establish the internal capital market, which is a replacement of the external financing constraints (Zengquan Li, Xiangang Xin, Xuhui Yu, 2008); On the other hand, pyramid structure also make private enterprise controlling shareholders get high control private gains by their unique power and status. Which aspect plays a leading role is relevant to the external environment, the regions of better legal protection and developed finance mainly have "support" effect and vice versa.

Since the establishment of GEM, the differences between two kinds of private-controlled companies which listed through IPO and back-door respectively have increasingly attracted public attention. Many researchers find the former ones showed higher stock value, lower diversified degree than the latter one (Xiaohong Chen, 2007). Anderson et al. (2003) think its effect of founding family control that reduces the risks and debt cost of family business. This paper, based on three characteristics of the founding family, explores the impact of founding family control on debt capital cost of listed companies. Unlike many Chinese related researches which highlighted the severe agency problem in listed family firms, our paper finds some interesting results that founding family plays a significant role in reducing debt capital cost, moreover, it alleviated the agency problem caused by pyramid ownership structure.

II. LITERATURE REVIEW

Transparencies of information disclosure have a direct and significant effect on debt cost. High quality of accounting disclosure can reduce information asymmetry and market uncertainty; thereby increase market liquidity (Claudia et al., 2010). Kyle (1985) argues that instead of accounting information quality, its increasing liquidity that reduces debt cost. Domestic researches also find good corporate disclosure can reduce debt cost (Yu Fu-sheng, et. al 2007).

Corporate governance had a significant impact debt financing. Wang Fen (2006) found that the higher concentration of company stock was the weaker degree of information disclosure, and the greater possibility for the actual controller to select public debt financing. When the debt ratio rises, the additional debt will lead to increased financial risk, raising the cost of debt capital (He Jin, 2006). Independence and scale of director board is another measure influencing debt cost. Cui Wei (2008) shows that high percentage of large shareholder holding, combined with effective independent director system can reduce the agency conflicts faced by creditors and reduce debt cost.

As for the impact of family control on debt cost, there was conflicting theories. From agency theory, large shareholding by family members always mean strong control over the company, family shareholders have motive to seize private benefits of control, which would harm outside shareholders(liu feng,2007). However, from family business theory, appearance of family will reduce debt agency costs because of non-diversified family investment, family inheritance and family reputation (Anderson, 2002). Ellul et al. (2007) argued which theory prevails depend on the degree of investor protection, if the creditor is well protected, debt cost of family business is lower than that of non-family firms; otherwise, vice versa.

III. THEORETICAL ANALYSIS AND HYPOTHESIS DEVELOPMENT

A. Founding Family Firms' features

Family Firm is defined as a firm whose big shareholder is founder or family heir (related by blood or by marriage) in Foreign studies (Claessens et al., 2000; Faccio and Lang, 2001). In this paper, founding family business (FFB) is defined as a firm, listed through IPO, which haven't occurred to control right transfer. By 31 December 2009, according to CCER database, there are more than 2000 listed companies in Chinese stock market, the number of private listed companies in A shares is 717, and the number of founding family firms is 399, occupied 55.65%.

The first feature of FFB is long investment period. With stable control rights and "one-hundred year operation" dream, founding family shareholders could often make decisions with long period horizon. In contrast, state-owned enterprise and other private-controlled companies always pursue short-term performance maximization with investment and financing decisions.

The second feature is undiversified investment risk, which means founders who put all energy and wealth into the firm under his control could not construct portfolio to diversify investment risk. This investment includes not only high proportions of equity investment, but also family business's specific investment of human resources and social network. Undiversified investment risk makes enterprise managers become more risk averse. Some Chinese founding family controlled companies, such as Chuanhua Company, make step-by-step investment strategy to reduce risk. Firstly, they invest a small amount to try one project. They don't make large amount investments until the benefits appear and become stable.

The third feature of FFB is that founder's reputation effect which adapts to the belief of long-term operation. With reputation concerning, Founder companies will communicate well with stakeholders of companies, avoid expropriating the wealth from company.

B. Founding Family Control and Debt Cost

The three features of FFB have a significant impact on the debt cost. Firstly, with undiversified investments, Founders play a role of an effective supervisor, who reduces the managements' self-interest seeking and agency cost of PP conflict. Also undiversified investments make FFB highlight avoiding risks. Low-level operation and financial risk naturally reduces cost of debt capital.

Secondly, long-term operation makes transaction of loan financing appear repeatedly, according to the transaction cost theory, the higher trade frequency, the lower transaction costs will be, cost of debt capital thus is expected to be lower.

Thirdly, reputation is an implicit incentive mechanism of lower transaction costs, including contract implementation cost and performance supervision cost. (Biliang Luo, 2002). This would ease agency conflict between stakeholders and the company, result in lower risk of default. Anderson et al. (2003) found that founding family firms still have lower debt costs than non-founding firms after control ling the CEO type. So we put forward the following assumption.
Hypothesis 1: Founding family firms have lower debt costs than that of non-founding family firms.

C. Pyramid Structure and Debt Cost

Pyramid ownership structure is popular in Southeast Asia country where founding family almost held the entire company (Shleifer and Vishny, 1997) and tended to obtain private benefit of control. Pyramid is considered to be one mechanism for seizing private benefit of control (Grossman and Hart, 1988). Similarly, many of Chinese family business groups are featured with pyramid equity structure.

Zengquan Li al. et(2008) said that adoption of pyramid structure was a reaction to external financing constraints. They thought pyramid structure can enlarge the scale of debt financing. Inferred from this theory, the founding family business will suffer serious financial constraints and high debt cost if a firm uses the pyramid structure. The more prevailing theory, however, argues that pyramid structure is the key factor influencing agency cost. The higher degree of separation cash rights from control rights, the higher agency cost will be , that will result in higher cost of debt capital(Aslan and Kumar, 2008;Mianzhi Yang,2010). Then, we will have our second hypothesis.

Hypothesis 2-1: The higher of the separation degree of the cash flow right and the control right, the higher of the debt cost.

With the impact of three features, Chinese founding family business always uses pyramid structure to build internal capital markets to alleviate enterprise financing constraints. Therefore, we expect the debt cost of founding family firm shall be lower than non-founding family firm in the same pyramid structure or the founding family weakens the positive relationship between the separation degree and debt cost. That's why we put forward the third hypothesis.
Hypothesis 2-2:
Comparing to non-founding family business group, the degree of correlation in FFB between separation due to pyramid structure and debt cost is lower.

IV. RESEARCH DESIGN

A. Data Description

With a sample period from 2007 to 2009, we obtained 1975 samples, including 726 samples of FFB and 1249 samples of non-FFB. Data source is CSMAR.

Debt Cost: according to Guangzi Li (2009), we measured debt cost with three categories. The first one is proportion of interest expenses to company loans, total liabilities and periodic cost. The second one is to use financial expenses as substitute of interest expenses; the third one is measured indirectly as financial expenses divide business income or the change of the management cost.

Founding Family Firm is defined as a firm whose controller is natural person or family, listed through IPO and the control right has not changed hands. We use a dumb variable to measure founding family enterprise.

Separation is defined as proportion of cash flow right to control right of controlling shareholders, because cash flow right is less than control right, so the variable value is between 0 and 1. When separation degree of two rights is greater, the proxy value is smaller.

As for control variables, Fuxiu Jiang al. et (2006) controlled the factors including management risk, financial risk, governance, the growth, profitability and the size, when they study impact of diversification on debt cost; Guangzi Li al. et(2009) controlled solvency, profitability, operation risk, enterprise's development and other related factors. This paper includes various control variables in regression analysis that potentially affect the debt cost such as solvency, debt risk, corporate governance, enterprise growth and profitability.

B. Descriptive Statistics

From correlation coefficient matrix, we find founding family is negatively correlated with six debt cost indexes. So founding family firm may have a lower debt cost. Pyramid structure has a significant negative correlation with five debt cost indexes, which explains the higher separation degree, the higher debt cost is.

We also calculate the descriptive statistics of variables. The mean of founding family is 0.35, indicating that founding family firms already occupy considerable proportion of the listed companies. The mean of pyramid structure is 0.58, indicating that separation of cash flow right from control tight is still serious.

C. Model

As creditors often make credit policy according to previous year's financial situation, therefore, debt cost in t year is matched with ownership structure and financial index in year t-1. The regression model is as followed: (Model 1)

$$\text{cost}_{it} = \beta_0 + \beta_1 fam_{it} + \beta_2 pyr_{it-1} + \beta_3 lev_{it-1} + \beta_4 loan_{it-1} + \beta_5 size_{it-1} + \beta_6 equ_{it-1} + \beta_7 grow_{it-1} + \beta_8 roa_{it-1} + \beta_9 ind_{it} + \xi_{it}$$

Hypothesis 1 and 2-1 can be tested by model 1, and in order to test hypothesis 2-2, we add an interaction item of founding family and pyramid structure to model 1 to get model 2.

V. EMPIRICAL RESULTS

A. Univariate Analysis

From univariate analysis, among eight proxies of debt capital cost, except the fourth indicator (financial ratio of borrowing costs) and the eighth indicator (rate of change of management fees), debt capital cost of FFB is respectively lower than that of non-founding family firms.

B. Multivariate Analysis

According to table 1 in appendix, it can be seen from model 1 to model 8 that coefficient of FFB dummy variable is stably negative and shows significantly in Model 2 and Model 5. We argue that the equity nature of founding family have a significant impact on debt cost of listed companies. The emergence of founding family significantly reduces cost of debt financing, so hypothesis 1 has been confirmed.

According to table 1 and table2 in the appendix, there is significantly negative correlation between pyramid structure and debt cost. Indicating that the greater separation takes place, the higher cost of debt financing is, and then hypothesis 2-1 has been verified. This is consistent with previous literature findings.

To test hypothesis 2-2, this paper analyzes the effect of interaction of FFB and pyramid structure on debt cost. According to table 2 in appendix, from model 1 to model 8, except model 4, coefficients of interaction item are significantly negative, indicating that founding family firms could alleviate the impact of pyramid structure on debt cost. With same degree of separation, the debt cost of FFB is lower than non-FFB, and the equity nature of the founding family would ease the negative impact of pyramid structure on debt cost. Thus we verified hypothesis 2-2.

To make regression result more robust, this paper applied the model to one of our subsamples, samples of manufacturing. The regression results are almost unchanged, which further verify the stability of our conclusion.

VI. CONCLUSIONS

Debt financing, especially credit financing, remains the major financing channel for Chinese enterprises. Debt financing transaction costs (including agency costs) determine the level of cost of debt capital. In emerging markets, family enterprises are very common, and they often control listed subsidiaries through pyramid structure, so conclusions of our study have broad applicability.

This study concludes that: First, in recent years, the financial constraints private enterprises faced did not improve and debt financing remains a major financing channel. In the environment of prudent monetary policy, it is particularly difficult for private debt financing, so the cost of debt and debt capital sources become as the fundamental survival of private enterprise.

Second, debt cost of FFB is lower than that of non-FFB. We find that the features of founding family business significantly impact debt financing transaction costs. Three key factors, including undiversified investment risk, long-term operation and reputation concerning, result in a significantly lower debt capital cost for FFB. The founding family plays an active role in debt contracts.

Third, pyramid structure increases debt cost. High separation of cash flow right from control right represents higher transaction costs among company management, shareholders and creditors. Pyramid structure is prevalent in the private enterprises of Southeast Asia. Many empirical

evidences have documented the negative impact of pyramid structure on debt cost in private controlled business groups. This paper gets similar result of this issue which makes our conclusion more robust.

Fourth, among FFB, the negative impact of separation degree on debt cost has been significantly reduced. FFB with pyramid structure may form an internal capital market, and it would be helpful for repaying debts, adapting to the changing external institutional environment, reducing business risk.

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APPENDIX

Table1 Regression Results of Model 1

	1(N=1297)		2(N=1334)		3(N=1334)		4(N=1868)	
	ylxfloan		ylxfd		ylxfq		ycailoan	
	B	t	B	t	B	t	B	t
fam	-0.023	-1.55	-0.005***	-3.94	-0.002	-0.15	-0.002	-0.03
pyp	0.048***	2.68	-0.008***	-5.62	0.061***	-3.80	-0.134*	-1.91
LEV	0.115***	3.54	-0.009***	-3.46	0.020	0.68	-0.069	-0.55
loan	-0.283***	-5.00	0.082***	17.38	0.685***	13.50	0.235	1.06
F	5.20		38.57		38.87		0.62	
Adj R^2	0.03		0.21		0.21		0.00	
	5(N=1975)		6(N=1975)		7(N=1975)		8(N=1975)	
	ycaid		ycaiq		ycai		yguanli	
	B	t	B	t	B	t	B	t
fam	-0.003***	-2.85	-0.002	0.348	-0.002	1.019	-0.017	-0.943
pyp	-0.010***	-6.60	-0.054***	-6.079	0.013***	-4.497	-0.054**	-2.427
LEV	-0.003	-1.269	0.028*	1.769	0.028***	5.36	0.000	-0.01
loan	0.083***	17.762	0.584***	21.223	0.116***	12.773	0.004	0.05
F	52.18		76.89		52.09		15.68	
Adj R^2	0.19		0.26		0.19		0.06	

Note: *, **, *** respectively represents signification in level 10%, 5%, 1% two-tailed test.

Table2 Regression Results of Model 2

	1(N=1297)		2(N=1334)		3(N=1334)		4(N=1868)	
	ylxfloan		ylxfd		ylxfq		ycailoan	
	B	t	B	t	B	t	B	t
fam	-0.0250*	-1.7110	-0.0050***	-4.1750	-0.0030	-0.2450	0.0020	0.0290
pyp	0.0540***	3.0200	-0.0080***	-5.0400	0.0570***	-3.5260	-0.1460**	-2.0650
zsjc	-0.092***	-2.620	-0.012***	-4.076	-0.055*	-1.748	0.186	1.349
LEV	0.1180***	3.6370	-0.0090***	-3.3730	0.0210	0.7220	-0.0740	-0.5900
loan	-0.2750***	-4.8670	0.0830***	17.6900	0.6900***	13.5880	0.2200	0.9940
F	5.39		36.79		35.34		0.74	
Adj R^2	0.03		0.22		0.21		0.00	
	5(N=1975)		6(N=1975)		7(N=1975)		8(N=1975)	
	ycaid		ycaiq		ycai		yguanli	
	B	t	B	t	B	t	B	t
fam	-0.0040***	-2.9580	-0.0030	0.4140	-0.0030	1.0860	-0.0180	-0.9900
pyp	-0.0090***	-6.1890	-0.0520***	-5.8010	0.0120**	-4.2270	-0.0500**	-2.2380
zsjc	0.008***	-2.850	-0.0310*	-1.77	-0.010*	-1.8130	-0.057	-1.30
LEV	-0.003	-1.179	0.0290*	1.8260	0.0280***	5.4200	0.0010	0.0310
loan	0.0840***	17.9310	0.5870***	21.3020	0.1170***	12.8650	0.0090	0.1290
F	47.94		69.58		47.26		14.28	
Adj R^2	0.20		0.26		0.19		0.06	

Note: *, **, *** respectively represents signification in level 10%, 5%, 1% two-tailed test.

Note:dependent variable:ylxfloan=Interest Expenses / Average Loans;ylxfd = Interest Expenses / Average Debts; ylxfq=Interest Expenses / Period Costs;ycailoan=Financial Expenses / Average Loan;ycaid=Financial Expenses / Average Debts;ycaiq=Financial Expenses / Period Costs;Ycai=Financial Expenses / Business Income;yguanli=The Change of Management Costs; Fam:dumb variable 1:founding familfirm;0:the others;Pyr:Cash flow right/control right;Zsjc:Fam* pyr;Lev:Average Debts / Average Assets;Loan:Average Loans / Average Debts.