Founder Control, Ownership Structure and Firm Value: Evidence from Entrepreneurial Listed Firms in China[1]

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Abstract

In emerging markets, the deviation between the ultimate controlling shareholders' voting rights and their cash flow rights (hereafter "DVC") in the listed firms is quite prevalent. DVC could be introduced due to the ultimate controlling shareholders' opportunistic incentives, as well as by their incentives to improve firm efficiency. This study uses 229 listed firms ultimately controlled by individuals or families (hereafter "entrepreneurial firms") for 2004 in China, to investigate the effect of DVC on firm value and to determine whether it is different between founder and non-founder controlled firms. We find that DVC has a positive effect on firm value for founder controlled firms. This result implies that investors believe that their interests are better protected by founder controlled firms than by non-founder controlled firms.

Key Words: Founder Control; Ownership Structure; Firm Value, China, Tunneling

Jel Classification: G34, G32

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Introduction

In recent years an increasing number of studies have examined the causes and consequences of corporate ownership structure. A seminal paper by La Porta *et al* (1999) finds that many firms around the world have a concentrated ownership structure and a controlling shareholder, which usually is a family or state agency. Claessens *et al* (2000) examined East Asia, Faccio and Lang (2002) and Barca and Becht (2001) examined Western Europe, Khanna (2000) examined emerging markets, and Morck *et al* (2000) and Attig *et al* (2003) examined Canada. Collectively they find that the controlling family uses a pyramidal ownership structure to control the firms in the business group. Recent research has examined the effect of family control and pyramidal ownership structure on corporate governance (Khanna and Palepu, 2000; Khanna and Rivkin, 2001; Bae *et al*, 2002; Bertrand *et al*, 2002; Claessens *et al*, 2002; Anderson and Reeb, 2003; Anderson *et al*, 2003; Attig *et al*, 2003; Lins, 2003; Lemmon and Lins, 2003; Villalonga and Armit, 2006). The causes of ownership structure, especially the pyramidal structure of family controlled firms have also been examined (Bertrand *et al*, 2005; Almeida and Wolfenzon, 2006). This research has added new theories and evidence about the corporate governance of family controlled firms in various countries. The findings are useful, not only to understand the corporate governance characteristics and behavior of family controlled firms, but also for evaluating corporate governance efficiency.

Since the founding of the Chinese stock market in the early 1990s, listed firms restructured from state-owned enterprises (SOEs) have been the majority of all listed firms. As a result, research on corporate governance issues of firms in China has mainly focused on corporate governance issues of state-controlled listed firms. There is little research on corporate governance issues of entrepreneurial listed firms.[3] However, in recent years, the number of entrepreneurial firms has increased notably as the result of reforms in IPO regulations and the privatization of state-controlled listed firms. By the end of 2004, about a quarter of listed firms were entrepreneurial firms (Kong and Zhang, 2005). Subsequently, corporate governance issues of entrepreneurial firms have attracted the attention of researchers. Xia and Fang (2005) find that compared with the non-state-controlled listed firms, state-controlled listed firms, especially those controlled by the county or city level governments have lower firm value, especially in regions with weak institutional environments. Because the major part of the non-state-controlled listed firms are the entrepreneurial listed firms (the remainder are the firms

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[3] In this paper, state-controlled firms refer to the firms ultimately controlled by the government agencies such as the finance bureau and the state asset supervisory and management committee, and entrepreneurial firms refer to the firms ultimately controlled by individuals or families.

controlled by towns and villages), their research implies that entrepreneur control is superior to government control.

To address the question of what determines firm value of entrepreneurial listed firms in China, Su and Zhu (2003) use a sample of 128 entrepreneurial listed firms in 2002 to investigate the effect of DVC on firm value. They find that DVC has a negative effect on firm value. However, their research can be improved in two ways. First, their sample year is before 2004 when listed firms were not required to disclose the ownership chain between their ultimate shareholders and the listed firms. This causes bias in calculating the DVC. Second, they performed univariate analysis on the effect of DVC on firm value but without controlling the effect of other variables. Fan *et al* (2005) find that entrepreneurial listed firms demonstrate more layers between their ultimate controlling shareholders and them when the ultimate controlling shareholders' wealth is less. The finding indicates that setting up a pyramidal ownership structure is likely to help the ultimate controlling shareholders to mitigate the financial constraint. However, their research does not take into account the ultimate shareholders' opportunistic incentives to set up a pyramidal ownership structure[4]. Since tunneling behaviors are prevalent and investor protection is weak in the Chinese stock market, it is insufficient to analyze the causes of pyramidal ownership structure from the perspective of financial constraint alone.

This research is based on the 229 entrepreneurial listed firms reported by the New Fortune "100 top entrepreneurs and 100 top capitalists" at the end of 2004. I investigate the economic consequences of pyramidal ownership structure by differentiating the firms into founder controlled and non-founder controlled. In China's transitional economy, firms cannot finance by debt or equity freely with low costs. Since investor protection is weak, a pyramidal ownership structure is not only a channel to mitigate financial constraint, but also a method of tunneling minority shareholders. However, the founders are more likely to care about the long term development of their firms and the image of themselves. The research findings are consistent with this argument. I find that DVC does not necessarily have a negative effect on firm value. The real effect is related to whether the firms are founder controlled or non-founder controlled. DVC is more likely to be a tunneling method in non-founder controlled firms than in founder controlled firms.

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[4] The term "pyramidal ownership structure" refers to a pyramidal-like organization structure that at the apex sits a controlling owner who controls a firm indirectly through layers of intermediate companies (La Porta *et al*, 1999; Claessens *et al*, 2000; Fan *et al*, 2005). The term "tunneling" refers to the expropriation of minority shareholders through the transfer of assets and profits of firms for the benefit of those in control (Johnson *et al*, 2000).

Compared with prior literature, the paper's main contribution is that it provides new evidence on understanding and evaluating the ownership structure and corporate governance efficiency of entrepreneurial firms in China. It differentiates entrepreneurial firms into founder controlled and non-founder controlled and combines the opportunistic view and the efficiency view of ultimate controlling shareholders' setting up the pyramidal ownership structure. The finding that investors believe that their interests are more likely to be protected by founder controlled firms also provides a useful perspective to examine market factors protecting investors in China's weak legal investor protection environment.

The remainder of the paper proceeds as follows. Section II theoretically analyzes the relationship among founder control, ownership structure and firm value. It then develops the hypothesis to be tested. Section III presents the research design, including sample selection, data sources, model and variables. Section IV provides the empirical results and interpretations of the results. The final section concludes.

Theoretical Analysis and Hypothesis

The causes of the emergence of a pyramidal ownership structure of entrepreneurial listed firms can be explained either by *the opportunistic view* or by *the efficiency view*. The opportunistic view argues that the ultimate shareholders set up a pyramidal structure so as to tunnel the minority shareholders. The ultimate shareholders can separate their voting rights from cash flow rights through a pyramidal ownership structure so as to effectively control firms in the bottom of the pyramid. Under a pyramidal ownership structure the ultimate controlling shareholders have large voting rights but small cash flow rights. Hence, they have the incentive and ability to tunnel resources from the bottom level firms to the upper level firms in the pyramid, thereby tunneling the minority shareholders. The ultimate controlling shareholders' tunneling incentive and ability are even stronger in an environment of weak legal investor protection. This view is supported by Claessens *et al* (2002) who examined 1301 listed firms in eight economies of East Asia and find that firm value increased with the increase of the ultimate controlling shareholders' cash flow rights, but decreased with the increase of their voting rights. Bertrand *et al* (2002) examined India, Lins (2003) examined emerging markets and Lemmon and Lins (2003) examined East Asian firms during the financial crisis. All of these studies find similar evidence. With regard to research on Chinese listed firms, Zhou *et al* (2003), He and Liu (2005), Li *et al* (2005) also find evidence of large shareholder tunneling minority shareholders. Collectively, these research findings indicate that in the weak legal investor protection environment, ultimate controlling shareholders have an incentive and an ability to tunnel the minority shareholders. Furthermore, the pyramidal ownership structure separates the ultimate controlling shareholders' voting rights from

cash flow rights and exacerbates the tunneling effect.[5]

The efficiency view argues that the pyramidal ownership structure can be used by the ultimate controlling shareholders to mitigate external financing difficulties, to establish an internal capital market, and to increase firm size and withstand risks so as to enhance firm value. Almeida and Wolfenzon (2006) show that through a pyramidal ownership structure, the ultimate controlling shareholders can use all the retained profits of the firms within the business group. Therefore, they have incentives to set up a pyramidal ownership structure when the cost of external financing is high. Because the cost of external financing *vis-à-vis* internal financing is normally higher in a weak investor protection environment, the ultimate controlling shareholders' incentive to set up a pyramidal ownership structure is even stronger. Fan *et al* (2005) argue that when the ultimate controlling shareholders' wealth is less, they would face a tighter financing constraint. Their incentive would be stronger here to set up a pyramidal ownership structure. Fan *et al* (2005)' research reveals that more layers exist between the ultimate controlling shareholders and the listed firms when the former owns less wealth. The result supports the view that a pyramidal ownership structure can be used by the ultimate controlling shareholders to mitigate financing constraints. In addition, the setting up of a pyramidal ownership structure also helps to increase firm size by realizing scale economies and improving the ultimate control of shareholders' political influence (Bertrand and Mullainathan, 2003; Morck *et al*, 2005). This is extremely important for the entrepreneurial firms facing political discrimination and government regulations in China's transitional economic environment.

Taken together, the opportunistic view and the efficiency view on the causes of pyramidal ownership structure are both supported by theory and evidence. This research is concerned with whether ultimate controlling shareholders who are the founders or not determines the incentive (opportunistic or efficiency improving) to set up a pyramidal ownership structure. Here, the ultimate controlling shareholders refer to the current controlling shareholders who are the founders of the listed firms or their preexistences, while the non-founders are

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[5] A point against the opportunistic view is that if the controlling shareholders' tunneling behaviors are prevalent, why then would the minority shareholders seek to invest in these firms? Bertrand and Mullainathan (2003) propose three explanatory reasons. First, in some countries, information disclosure quality is quite low, so the minority shareholders may not be able to discover the controlling shareholders' tunneling behavior. Second, the pyramidal ownership structure may be useful to enhance firm value due to scale economies and more political connections, thereby counteracting the negative effect of the controlling shareholders' tunneling behaviors on firm value. Third, the minority shareholders may have no other choice, eg, when the pyramidal ownership structure emerges due to mergers and acquisitions, the original minority shareholders cannot exit without bearing the loss of price falls even though they can successfully expect the tunneling behavior of the new controlling shareholders.

current controlling shareholders who are neither the founders of the listed firms nor of their preexistences.[6] I expect that difference in controlling shareholders to affect their incentives and behavior. As for the efficiency improving incentive, in China's transitional economy, due to underdevelopment of financial markets, it is difficult for the entrepreneurial firms to finance from the banks or stock market. The founder and non-founder controlled firms both face financial constraints. However, as for the opportunistic incentive, founders are usually more likely to focus on the businesses founded by themselves, to care about the development and the reputation of their firms and families (Anderson and Reeb, 2003; Anderson *et al*, 2003; Wang, 2005). Hence, the founders' incentive to set up a pyramidal ownership structure so as to tunnel the minority shareholders is weaker than that for non-founders.[7] Based on this discussion, the hypothesis is developed:

Hypothesis: The negative (positive) effect of DVC on firm value is smaller (larger) in founder controlled entrepreneurial listed firms than in non-founder controlled entrepreneurial listed firms.

Research Design

1. Sample Selection and Data Sources

Kong and Zhang (2005) report in the *New Fortune* that by the end of 2004 there were 335 non-state-controlled listed firms in China's stock market. I selected 236 listed firms controlled by the *New Fortune* "top 100 entrepreneurs and top 100 capitalists" at the end of 2004 as the original sample. Six firms are excluded because they disclosed no information on cash flow rights, and one firm is excluded because it was in the finance and insurance industry. The final sample of 229 firms represents about two thirds of all non-state-controlled firms and comprises a representative sample. These sample firms represent the relatively larger firms in the 335 non-state-controlled listed firms. In the 229 sample firms, the number of the founder and non-founder controlled firms are 81 and 148, respectively.

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[6] The ultimate controlling shareholders being the non-founders results from the cases that individuals or families acquire the controlling ownership of the listed firms or their preexistence (entrepreneurial firms or state-controlled firms) that were not founded by them and become the ultimate controlling shareholders of the listed firms.

[7] I find that in the sample firms, the age of the founder is significantly (both statistically and economically) larger than that of non-founder. Because the older is more likely the younger to be risk-averse and to have got reputation and the opportunistic behavior has the characteristics of high risk, high return and short-term, the difference in age between founder and non-founder is consistent with the difference in their opportunistic incentives.

The differentiation between founder and non-founder is determined by whether the current ultimate controlling shareholders are the founders of the listed firm or their preexistences. These are differentiated according to disclosures about ultimate controlling shareholders in annual reports, and the firm history information in the IPO prospectus or listing announcements of listed firms. Data on financial variables, stock price, the ratio of tradable shares and industry category are from CSMAR (China Stock Market and Accounting Research) Database. The data on the marketization index of each region is taken from the 2000 index constructed by Fan *et al* (2003). Voting rights, cash flow rights, and the wealth of the ultimate controlling shareholders are extracted directly from the statistics of the New Fortune. To confirm data accuracy, data were cross checked on voting rights and cash flow rights with data in CCER (China Center for Economic Research) Database. Differences revealed between these two databases were reconciled from information obtained directly from the annual reports of listed firms. This process produced 229 sample firms where voting rights refer to the sum of the smallest percentage of ownership in each chain between the ultimate controlling shareholders and the listed firms. Cash flow rights refer to the product of percentage of ownership in each chain between the ultimate controlling shareholders and the listed firms. For example, if the ultimate controlling shareholder A owns 20% and 30% ownership of company B and company C, respectively, and company B and company C own 10% and 20% ownership of D respectively, then A, the ultimate controlling shareholder, has voting rights and cash flow rights in company D of 30% (10%+20%) and 8% (20%*10%+30%*20%) respectively. This calculation method is consistent with that of Claessens *et al* (2000). In addition, in the sample firms, the ultimate controlling shareholders refer to the shareholders (individuals or families) that own the most voting rights and not less than 10% of the listed firms' voting rights. When the voting rights of different largest shareholders (individuals or families) differ at 10% or less than 10%, these largest shareholders usually have a close relationship with each other, so in this case, the ultimate controlling shareholders refer to these largest shareholders collectively. In the sample firms, less than 20 firms fall into this case with little expected impact on results.

2. Model and Variables

I employ the following OLS regression model to test the hypothesis:

$$Tobin\ Q = \beta_0 + \beta_1 * Founder + \beta_2 * DVC + \beta_3 * Founder * DVC + \beta_4 * CTLR + \beta_5 * Wealth + \beta_6 * SIZE + \beta_7 * Regulat + \beta_8 * ROA + \beta_9 * DR + \beta_{10} * TrdR + \beta_{11} * Index + e$$

Where, β_0 is the intercept, β_1~β_{11} are regression coefficients and e is the residual term. The specifications of the variables are as follows.

(1) Dependent Variable

Tobin Q represents firm value, ie, the ratio of firm's year-end market value over its current acquisition value. Obtaining current acquisition value is difficult and hence book value is used as a proxy. Market value is the sum of the market value of the firm's liabilities, which includes short-term liabilities and long-term liabilities, and the market value of equity. Because listed firms in China have tradable and non-tradable shares, the market value of equity is the sum of the market value of tradable shares and non-tradable shares. However, because there is no market price for non-tradable shares and the non-tradable shares are usually transferred based on net assets per share, the market value of non-tradable shares was calculated as the product of the number of shares and net assets per share. Firm value is then calculated as: *Tobin Q*=firm's market value/current acquisition value=(stock price*number of tradable shares+net assets per share*number of non-tradable shares+book value of liability)/total book assets. All values in the formula are year end values. This method of calculating Tobin Q is consistent with that used by Su and Zhu (2003) and Xia and Fang (2005) for the China's listed firms. I denote the Tobin Q calculated by this method as *Q1*.

To mitigate the bias of calculating Tobin Q using net assets as the proxy of market value of non-tradable shares, the market value per share of non-tradable shares is calculated by 20%, 30% or 40% of stock price, and Tobin Q is denoted thereby as *Q2*, *Q3* and *Q4* respectively. Bai *et al* (2004) adopt the method of calculating the market value of non-tradable shares by 20% and 30% of the stock price so as to calculate Tobin Q of China's listed firms. I followed their method here and take into account the method of calculating the market value of non-tradable shares by 40% of stock price as well so as to improve the robustness of the results.

(2) Testing Variables

Founder is a dummy variable. Its value is 1 when the ultimate controlling shareholders are the founder of the listed firms or their preexistences, and 0 otherwise. *DVC* is the deviation of the ultimate controlling shareholders' voting rights from their cash flow rights in the listed firms, ie, the ratio of voting rights over cash flow rights. For the calculation of voting rights and cash flow rights, refer to the subsection "Sample selection and data sources". *Founder*DVC* is the interaction term of *Founder* and *DVC*. The hypothesis predicts that this interaction term should be positively correlated with the dependent variable.

(3) Control Variables

CTLR is the ultimate controlling shareholders' voting rights in the listed firms. Refer to the subsection "Sample selection and data sources" for its calculation. This variable is included because the larger the ultimate controlling shareholders' voting rights, the more ability they possess to tunnel the minority shareholders, this effect

not being fully captured by the DVC variable.

Wealth is the natural logarithm of the wealth of the ultimate controlling shareholders. This variable is included because the more wealth possessed by the ultimate controlling shareholders, the higher can be expected regarding their managerial ability. Here, they would provide more support to the listed firms, to enhance reputation and be less concerned with tunneling minority shareholders. All of these aspects are likely to improve firm value.

SIZE is the natural logarithm of year-end total assets. *Regulat* is a dummy variable indicating the firm in regulated industry (value is 1) or not (value is 0). The following industries are classified as regulated based on the CSRC's industry category guide: Mining (B), Petroleum, Chemical and Plastics (C4), Metal and nonmetal (C6), Electric Power, Gas and Water Production and Supply (D), Transportation and Storage (F), and Information Technology (G).

Additionally, *ROA*, *DR*, *TrdR* and *Index* are included as control variables. *ROA* is the ratio of net income over total assets, *DR* is the ratio of total liability over total assets, and *TrdR* is the ratio of year-end number of tradable shares over that of non-tradable shares. These variables are used to control the effect of firm operation efficiency, liability ratio and tradable shares ratio on firm value. *Index* is the marketization index of the province level region in which the firm registers. This variable is to control the effect of a regional institutional environment on firm value. Data on this variable are from the 2000 index reported by Fan *et al*. (2003).

(4) Summary Statistics

Table 1 presents the summary statistics of all variables in the regression model, and Panels A, B and C report the results on the total sample, founder controlled firms and non-founder controlled firms, respectively. Panel A shows that for 229 sample firms, the mean of *Q1* is 1.22, with minimum and maximum values of 0.59 and 4.01, respectively. Consistent with expectations, the mean of *Q2* is smaller than that of *Q3* and the mean of *Q3* is smaller than that of *Q4*. The mean of DVC is 2.43, with the minimum and the maximum values 1.00 and 26.15, respectively, indicating that on average, voting rights are twice those of cash flow rights, the smallest *DVC* is no deviation between voting rights and cash flow rights, and the biggest DVC is 26.15. The mean of *CTLR* is 38%, and its minimum and maximum values are 10% and 75%, respectively, suggesting that the ultimate controlling shareholders have relatively large voting rights.

Panel B and Panel C show that the mean and median values of *Q1* of the founder controlled firms are 1.19 and 1.15 respectively; those of the non-founder controlled firms are 1.23 and 1.13 respectively, thereby indicating that the two types of firms do not have obvious difference in firm values. However, the mean and median values of *Q2*, *Q3* and *Q4* of founder controlled firms are all slightly smaller than those of non-founder controlled firms. The mean and median values of *DVC* in non-founder controlled firms are both larger than

those in founder controlled firms, and the mean and median values of *CTLR* in non-founder controlled firms are both smaller than those in founder controlled firms.[8] In addition, there are some differences between founder controlled firms and non-founder controlled firms in ultimate controlling shareholders' wealth, firm size, regulated industry category, operation efficiency, liability ratio and regional institutions index.

Table 1: Summary Statistics

Panel A: Total sample

Variables	N	Mean	S.D	Min	25%	Median	75%	Max
Q1	229	1.22	0.35	0.59	1.05	1.14	1.27	4.01
Q2	229	1.10	0.50	0.36	0.88	0.99	1.16	5.86
Q3	229	1.18	0.56	0.41	0.93	1.05	1.26	6.66
Q4	229	1.26	0.62	0.46	0.96	1.10	1.37	7.46
Founder	229	0.35	0.48	0.00	0.00	0.00	1.00	1.00
DVC	229	2.43	2.55	1.00	1.11	1.67	2.81	26.15
CTLR	229	0.38	0.15	0.09	0.28	0.30	0.49	0.75
Wealth	229	18.87	0.99	15.89	18.27	18.92	19.40	21.40
SIZE	229	21.01	0.77	18.56	20.54	21.00	21.51	23.15
Regulat	229	0.30	0.46	0.00	0.00	0.00	1.00	1.00
ROA	229	0.01	0.09	-0.68	0.01	0.03	0.05	0.20
DR	229	0.53	0.23	0.08	0.41	0.52	0.64	2.34
TrdR	229	0.37	0.12	0.06	0.29	0.35	0.43	1.00
Index	229	6.61	1.49	3.15	5.61	6.41	8.10	8.41

Panel B: Founder controlled firms

Variables	N	Mean	S.D	Min	25%	Median	75%	Max
Q1	81	1.19	0.25	0.59	1.05	1.15	1.28	2.20
Q2	81	1.02	0.32	0.36	0.85	0.93	1.10	2.57
Q3	81	1.11	0.38	0.41	0.92	1.00	1.18	2.87
Q4	81	1.20	0.43	0.46	0.96	1.07	1.29	3.17

[8] The maximum value of DVC in non-founder controlled firms is 26.15, which is much larger than its 75 percentile value, indicating that DVC is likely to have outliers. However, the 25 percentile value, median and 75 percentile value of DVC in non-founder controlled firms are all larger than those in founder controlled firms, indicating that the larger DVC in non-founder controlled firms relative to that in founder controlled firms is not due to outliers. The effect of outliers on DVC is further discussed in the subsection "Robustness checks".

Variables	N	Mean	S.D	Min	25%	Median	75%	Max
DVC	81	1.76	1.29	1.00	1.01	1.25	1.95	9.59
CTLR	81	0.47	0.15	0.18	0.34	0.45	0.59	0.75
Wealth	81	19.25	0.85	17.18	18.83	19.23	19.62	21.40
SIZE	81	20.96	0.74	19.66	20.33	20.87	21.51	22.66
Regulat	81	0.33	0.47	0.00	0.00	0.00	1.00	1.00
ROA	81	0.04	0.06	-0.32	0.02	0.04	0.06	0.13
DR	81	0.42	0.19	0.08	0.29	0.42	0.55	0.93
TrdR	81	0.33	0.09	0.19	0.26	0.31	0.38	0.70
Index	81	7.01	1.53	3.15	5.70	7.90	8.32	8.41

Panel C: Non-founder controlled firms

Variables	N	Mean	S.D	Min	25%	Median	75%	Max
Q1	148	1.23	0.39	0.86	1.04	1.13	1.27	4.01
Q2	148	1.15	0.57	0.53	0.89	1.02	1.22	5.86

Empirical Results and Interpretations

1. Univariate Analysis

Table 2 reports the Pearson correlation coefficients among variables. It shows that the correlation coefficients among *Q1*, *Q2*, *Q3* and *Q4* all exceed 0.90, suggesting that the methods of calculating the market value of tradable shares has little affect on the calculation of Tobin's Q. *Founder* is negatively correlated with *Q1*, *Q3* and *Q4*, but the correlation coefficients are insignificant, however, it is negatively correlated with *Q2* and the correlation coefficient is significant at the 0.10 level, indicating that there is not much difference in Tobin Q between founder and non-founder controlled firms. *DVC* is positively correlated with *Q1*, *Q2*, *Q3* and *Q4*, but the coefficients are not significant, suggesting that DVC does not necessarily harm firm value, and its effect on firm value is likely to be related to specific conditions. Founder is negatively correlated with *DVC*, and positively correlated with *CTLR*, the coefficients of both significant at 0.01 level, indicating that founders have more voting rights in the listed firms and less DVC than non-founders. The column of *Founder* in Table 2 shows that in the founder controlled firms, the ultimate controlling shareholders' wealth is higher, operation efficiency is higher, liability ratio is lower, the ratio of tradable shares is lower and the degree of marketization of the region where the firm locates is higher than counterpart firms that are non-founder controlled. Since the univariate analysis shows only the relationship between two variables, I use a multivariate regression to further test the hypothesis.

Table 2: Pearson Correlation Coefficients

	Q1	*Q2*	*Q3*	*Q4*	*Founder*	*DVC*	*CTLR*	*Wealth*	*SIZE*	*Regulat*	*ROA*	*DR*	*TrdR*
Q2	0.965	1.000											
	0.000												
Q3	0.969	0.997	1.000										
	0.000	0.000											
Q4	0.967	0.990	0.998	1.000									
	0.000	0.000	0.000										
Founder	-0.060	-0.127	-0.095	-0.070	1.000								
	0.363	0.056	0.150	0.290									
DVC	0.063	0.087	0.069	0.053	-0.197	1.000							
	0.343	0.188	0.302	0.423	0.003								
CTRL	-0.063	-0.127	-0.097	-0.074	0.461	-0.260	1.000						
	0.345	0.055	0.142	0.268	0.000	0.000							
Wealth	0.004	-0.035	-0.015	0.002	0.287	-0.512	0.454	1.000					
	0.951	0.599	0.825	0.982	0.000	0.000	0.000						
SIZE	-0.474	-0.411	-0.440	-0.461	-0.050	0.013	-0.115	0.271	1.000				
	0.000	0.000	0.000	0.000	0.453	0.844	0.084	0.000					
Regulat	0.032	0.024	0.027	0.030	0.052	0.026	0.046	0.071	0.027	1.000			
	0.635	0.717	0.680	0.652	0.437	0.697	0.487	0.283	0.689				
ROA	0.087	-0.008	0.023	0.047	0.199	-0.074	0.145	0.219	0.002	-0.068	1.000		
	0.190	0.907	0.733	0.481	0.003	0.267	0.028	0.001	0.976	0.307			
DR	0.134	0.340	0.289	0.246	-0.340	0.176	-0.245	-0.180	0.186	0.003	-0.472	1.000	
	0.043	0.000	0.000	0.000	0.000	0.008	0.000	0.006	0.005	0.964	0.000		
TrdR	-0.022	0.003	-0.049	-0.091	-0.244	0.180	-0.391	-0.240	0.277	0.021	-0.130	0.122	1.000
	0.745	0.965	0.458	0.171	0.000	0.007	0.000	0.000	0.000	0.748	0.050	0.065	
Index	0.024	-0.004	0.015	0.030	0.197	-0.169	0.181	0.182	0.010	0.034	0.153	-0.140	-0.177
	0.719	0.952	0.824	0.656	0.003	0.010	0.006	0.006	0.879	0.614	0.020	0.034	0.007

Note: The number of observations is 229. Each variable has two rows of values, with the upper row presenting Pearson coefficients and the lower row presenting P values.

2. Multivariate Regression Analysis

(1) Total Sample Analysis

Table 4 reports the regression results about the relation among founder control, ownership structure and firm value, with four sets of results corresponding to dependent variables *Q1*, *Q2*, *Q3* and *Q4* respectively. In all results, *DVC* and *Founder*DVC* are both significantly positively correlated with the dependent variables, indicating that DVC is not necessarily harmful to firm value. In contrast, DVC is likely to enhance firm value, especially for the founder controlled firms. This is because in an emerging market, the ultimate controlling shareholders' incentive to form an internal capital market is likely to be stronger than their incentives to tunnel the minority shareholders. This is especially the case when the ultimately controlling shareholders are the founders. The above results support the hypothesis.

With regard to the control variables, in the four sets of results, *CTLR* is

significantly negatively correlated with the dependent variable. This outcome suggests that voting rights have a negative effect on firm value because investors believe that the greater the voting rights of the ultimate controlling shareholders', the stronger their ability to tunnel the minority shareholders. *Wealth* is significantly positively correlated with the dependent variable, indicating that the ultimate controlling shareholders' wealth has a positive effect on firm value. *SIZE* is significantly negatively correlated with the dependent variable, suggesting that firm value decreases with the increase of firm size. This is consistent with Xia and Fang (2005) and might be explained by a lower propensity for growth opportunities experienced by large firms. *ROA* is significantly positively correlated with the dependent variable, indicating that better performing firms have higher firm values. *DR* is significantly positively correlated with the dependent variable, a result that is likely due to debt holders constraining firms' opportunistic behaviors. *TrdR* is significantly positively correlated with the dependent variable. This result is likely due to the monitoring role of tradable shareholders over non-tradable large shareholders. It may be due too to the method of calculating Tobin Q when there are non-tradable shares. For example, the market value of non-tradable shares is calculated based on net assets, or 20%, 30% or 40% of stock price, while the market value of tradable shares is calculated directly from stock prices, hence the firm value of the firms with high tradable shares ratio may be overestimated. *Regulate* and *Index* does not have a significant association with *TobinQ*, indicating that industry regulation and regional environment do not have a significant effect on firm value. This result regarding regional environment is consistent with that of Xia and Fang (2005) for non-state-controlled firms.

Table 3: Founder Control, Ownership Structure and Firm Value (Total Sample)

Independent variables	Predicted Sign	*Q1*			*Q2*			*Q3*			*Q4*		
		Coeff.	T value		Coeff.	T value		Coeff.	T value		Coeff.	T value	
Intercept	?	4.991	8.95	***	6.064	8.08	***	7.008	8.19	***	7.951	8.26	***
Founder	+	-0.076	-1.18		-0.096	-1.11		-0.105	-1.07		-0.115	-1.03	
DVC	?	0.019	2.28	**	0.024	2.05	**	0.026	1.99	**	0.028	1.93	*
Founder DVC*	+	0.044	1.76	*	0.061	1.84	*	0.071	1.87	*	0.081	1.89	*
CTLR	-	-0.403	-2.65	***	-0.634	-3.09	***	-0.727	-3.11	***	-0.820	-3.12	***
Wealth	+	0.148	5.82	***	0.200	5.86	***	0.227	5.83	***	0.254	5.80	***
SIZE	-	-0.336	-12.27	***	-0.458	-12.43	***	-0.523	-12.45	***	-0.588	-12.45	***
Regulat	+	0.027	0.70		0.032	0.61		0.042	0.70		0.051	0.77	
ROA	+	0.931	3.85	***	1.343	4.12	***	1.540	4.14	***	1.737	4.16	***
DR	+	0.557	5.90	***	1.236	9.72	***	1.292	8.91	***	1.348	8.27	***
TrdR	+	0.518	3.14	***	0.681	3.07	***	0.577	2.28	**	0.473	1.66	*
Index	+	0.013	1.08		0.019	1.12		0.022	1.17		0.026	1.21	
N		229			229			229			229		
F value		15.65			20.20			19.11			18.48		
Adj-R^2		0.41			0.48			0.47			0.46		

*Note: *, ** and *** denote statistical significance at 0.10, 0.05 and 0.01 levels (two tailed).*

(2) Separate Analysis on Founder and Non-founder Controlled Firms

I next analyze the founder and non-founder controlled firms separately so as to investigate the effect of DVC on firm value in these two types of firms. Table 4 and Table 5 report the results on these two types of firms, respectively. Table 4 shows that in the four sets of results with *Q1* to *Q4* as dependent variables, *DVC* is significantly positively correlated with the dependent variable, indicating that DVC has a positive effect instead of a negative effect on firm value in founder controlled firms. This result is likely to be because in founder controlled firms, the efficiency improvement effect of *DVC* exceeds its tunneling effect on firm value. Table 5 shows that in four sets of results *DVC* is positively correlated with the dependent variable, but the correlation is insignificant, indicating that in non-founder controlled firms, DVC does not have a significant effect on firm value. This is likely to be because in non-founder controlled firms, the efficiency improvement effect of DVC is counteracted by its tunneling effect on firm value. The results of Table 4 and Table 5 together suggest that DVC is more likely to have a positive effect on firm value in founder controlled firms than in non-founder controlled firms, further supporting the hypothesis.

In addition, the results on control variables of Table 4 and Table 5 are similar to those of Table 3 with the exception that in Table 4, *ROA* does not have a significant relation with the dependent variable, a result possibly due to firm value being related more to factors other than accounting performance in founder controlled firms.

Table 4: Ownership Structure and Firm Value (Founder Controlled Firms)

Independent variables	Predicted Sign	*Q1*			*Q2*			*Q3*			*Q4*		
		Coeff.	T value		Coeff.	T value		Coeff.	T value		Coeff.	T value	
Intercept	?	3.045	4.10	***	2.918	3.13	***	3.373	3.12	***	3.827	3.11	***
DVC	?	0.086	4.47	***	0.118	4.89	***	0.138	4.93	***	0.158	4.96	***
CTLR	-	-0.593	-3.19	***	-0.963	-4.14	***	-1.119	-4.15	***	-1.274	-4.15	***
Wealth	+	0.271	5.95	***	0.386	6.76	***	0.449	6.79	***	0.512	6.81	***
SIZE	-	-0.354	-7.55	***	-0.470	-8.00	***	-0.544	-8.00	***	-0.618	-7.98	***
Regulat	+	0.031	0.70		0.013	0.23		0.017	0.27		0.021	0.29	
ROA	+	0.071	0.16		-0.007	-0.01		0.005	0.01		0.017	0.02	
DR	+	0.411	2.92	***	0.921	5.22	***	0.914	4.47	***	0.907	3.90	***
TrdR	+	0.530	1.80	*	0.788	2.13	**	0.748	1.75	*	0.709	1.46	
Index	+	0.015	0.99		0.015	0.81		0.018	0.84		0.021	0.87	
N		81			81			81			81		
F value		8.84			9.79			9.96			10.26		
Adj-R^2		0.47			0.50			0.50			0.51		

*Note: *, ** and *** denote statistical significance at 0.10, 0.05 and 0.01 levels (two tailed).*

Table 5: Ownership Structure and Firm Value (Non-Founder Controlled Firms)

Independent variables	Predicted Sign	*Q1*			*Q2*			*Q3*			*Q4*		
		Coeff.	T value		Coeff.	T value		Coeff.	T value		Coeff.	T value	
Intercept	?	5.804	7.60	***	7.355	7.14	***	8.482	7.26	***	9.608	7.34	***
DVC	?	0.012	1.19		0.013	0.93		0.013	0.85		0.014	0.78	
CTLR	-	-0.514	-2.30	**	-0.763	-2.53	**	-0.878	-2.56	**	-0.993	-2.59	**
Wealth	+	0.110	3.40	***	0.142	3.25	***	0.158	3.19	***	0.174	3.13	***
SIZE	-	-0.343	-9.71	***	-0.474	-9.93	***	-0.539	-9.96	***	-0.604	-9.96	***
Regulat	+	0.033	0.59		0.061	0.81		0.076	0.90		0.092	0.96	
ROA	+	1.067	3.57	***	1.585	3.93	***	1.816	3.97	***	2.046	3.99	***
DR	+	0.598	4.89	***	1.319	7.99	***	1.395	7.45	***	1.470	7.01	***
TrdR	+	0.554	2.71	***	0.707	2.56	**	0.597	1.91	*	0.487	1.39	
Index	+	0.023	1.31		0.038	1.60		0.046	1.68	*	0.053	1.73	*
N		148			148			148			148		
F value		12.67			16.98			16.28			15.82		
Adj-R2		0.42			0.49			0.48			0.48		

*Note: *, ** and *** denote statistical significance at 0.10, 0.05 and 0.01 levels (two tailed).*

(3) Additional Analysis

The above analysis indicates that in founder controlled firms, the ultimate controlling shareholders' incentive is weak to set up a pyramidal ownership structure in order to tunnel minority shareholders. To provide additional evidence, I further examine the relation between founder control and the largest shareholders' behavior. Jiang *et al* (2006) find that occupying assets of listed firms is an important way for the largest shareholders to tunnel minority shareholders. Using their approach, I adopt the ratio of year-end balance of "other accounts receivables" over total assets as the proxy of the degree of the largest shareholders' asset occupying behavior. This is denoted as *Tunnel Proxy*. Table 6 provides the effect of founder control and DVC on *Tunnel Proxy*, with the control variables the same as those in Table 4 and Table 5. Table 6 shows that *Founder* is significantly negatively correlated with *Tunnel Proxy,* while *DVC* does not have a significant relationship with *Tunnel Proxy*. The results indicate that founders are less likely to tunnel minority shareholders through asset occupying behavior than non-founders, and DVC does not have a significant effect on the largest shareholders' asset occupying behavior. These results further suggest that founders have weaker incentives to tunnel minority shareholders than do non-founders, and a pyramidal ownership structure may not result from the tunneling incentive of the ultimate controlling shareholders.

Table 6: Founder Control and Asset Occupying Behavior

Independent variables	Predicted sign	Dependent variable: Tunnel *Proxy*		
		Coeff.	T value	
Intercept	?	0.446	2.68	***
Founder	-	-0.039	-2.96	***
DVC	+	-0.002	-0.86	
CTLR	+	0.020	0.43	
Wealth	-	-0.010	-1.26	
SIZE	+	-0.009	-1.07	
Regulat	?	0.023	1.96	*
ROA	-	-0.505	-6.96	***
DR	-	-0.015	-0.53	
TrdR		0.058	1.18	
Index		-0.003	-0.74	
N		229		
F value		10.77***		
Adj-R^2		0.30		

*Note: *, ** and *** denote statistical significance at 0.10, 0.05 and 0.01 levels (two tailed).*

(4) Robustness Checks

The main results of this study have two alternative explanations, ie, the diversification difference explanation and the acquisition explanation. First, founder controlled firms are likely to be more specialized (ie, they focus on particular industries) and more likely to obtain listing directly. In contrast, non-founder controlled firms are likely to be more diversified (ie, engaged in various industries) and more likely to be listed through the ultimate controlling shareholders' acquisition of some listed firms' controlling shares. As a result, the firm value difference between founder and non-founder controlled firms is likely to be caused by the difference in their degree of diversification or method of obtaining listing status. However, I argue that these alternative explanations are not of much importance because in China's emerging market and transitional economy, diversification may not harm firm value. Prior literature on Chinese firms also does not find evidence of a negative effect of diversification on firm value. The results of Table 3 to Table 5 show that DVC is more likely to have a positive effect on firm value in founder controlled firms than in non-founder controlled firms. The diversification difference explanation and the acquisition explanation do not easily explain why the founder's effect on firm value is related to DVC. Therefore, the results of this study are more likely to be explained by the combination of *the opportunistic view* and *the efficiency view* of the causes of pyramidal ownership structure. In addition, to examine the effect of outliers on the results, I exclude the observations beyond the three or five standard deviations on each variable mean, and redo the analyses in Table 3 to Table 5. The main results are unchanged.

Conclusions

Despite an increasing interest in corporate governance issues of family firms or entrepreneurial firms, little research has been undertaken on those of China's family firms or entrepreneurial firms. This study selects the 229 entrepreneurial listed firms reported by the New Fortune "top 100 entrepreneurs and top 100 capitalists" for 2004 as the research sample, and investigates the relation among founder control, ownership structure and firm value. I find that DVC is more likely to have a positive effect on firm value in founder controlled firms than in non-founder controlled firms. The result indicates that investors tend to believe that their interests are more likely to be protected by founder controlled firms.

The study contributes to the literature by providing new evidence to help us understand and evaluate the ownership structure and corporate governance efficiency of entrepreneurial firms in China. This is achieved by differentiating entrepreneurial firms into founder controlled and non-founder controlled, and by combining the opportunistic view and the efficiency view in explaining the ultimate controlling shareholders' purpose in establishing the pyramidal ownership structure. Moreover, the findings of this study also provide a useful attempt to identify the market forces protecting investors in China's weak legal investor protection environment.

The reader is reminded that, although this study investigates the difference in incentives and behavior of setting up a pyramidal ownership structure between founder and non-founder controlled firms, it is not designed to study factors which affect a founder's decision to control a firm. Information about this question would be useful to our understanding about corporate governance characteristics and behavior of entrepreneurial firms. Finally, this paper does not examine the effect of the degree of family involvement in corporate governance on firm value. These issues can be the focus of further research.

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