Institutional Environment and the Performance of Family Firms:

Evidence from Chinese Private Firms

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Abstract

Using a nationwide survey of private firms, we find that totally speaking, family control doesn't have a significant impact on firm performance. Further study on the effect of institutional environment shows that family control has significant negative impact on firm performance only when producer protection and the development of market intermediaries is high enough. This result implies that, at least to some extent, family firms evolve as an efficient response to imperfect institutional environment.

1 Introduction

Private businesses have significantly contributed to China's sustained growth over the past two decades. Among them a large fraction of businesses are organized around families. Family firms are characterized by concentration of ownership, control and often key management positions among family members.

Why are family firms so prevalent? What are the implications of family control for the governance, financing and overall performance of these businesses? These questions are far from solved in the economic research. One can refer a recent survey of relevant literature in Bertrand and Schoar 2006.

Some economists view family firms are an outcome of predetermined cultural norms that might be costly for corporate decisions and economic outcomes, say, culture argument (Max Weber 1904, Banfield 1958, Fukuyama 1995). Nepotism (Barnett 1960) in family firms may make the founder hire managers from kinship network rather than more talented professional managers and also creates negative incentive effects throughout the organization. Cultural beliefs might also dictate a will to build a family legacy and ensure family control at all cost, which is not always the best long-run strategy (Hill and Doughty, 2000; Ferguson, 1998). Finally, the popular rigid inheritance norms in family firms may have direct costs for family businesses.

Others believe that family firms evolve as an efficient response to the institutional and market environments (efficiency argument). Family control may create long-term commitment of the management to the business (Betts, 2001; Weber and Lavelle, 2003). Or it would be a substitute for weak formal investor protection (Bellow 2003; Ferguson 1998; Burkart, Panunzi and Shleifer, 2003), since trust between family

members can be a substitute for missing contractual enforcement. Family control would also help the firm if there is strong within-family succession of managerial talent. In localities where capital markets are very illiquid and difficult to raise large amounts of money, family firms might have their values if they promote cooperation and harmony and ensure that assets are not easily broken apart (Bellow 2003).

Empirical results don't have consistent conclusions among the literature. Some papers show that family firms underperform relative to nonfamily firms in most countries (Claessens, Djankov, Fan and Lang 2002 for southeast Asian countries; Morck, Strangeland and Yeung 2000 for Canada; Cronqvist and Nilsson 2003 for Sweden; Bloom and Van Reenen 2005 for France, Germany, Great Britain and USA). However, premium for family firms is found in India (Khanna and Palepu, 2000) and France (Sraer and Thesmar, 2004).

Family firms have their special cultural meaning and seem to be more prevalent in China and southeast Asian countries (Claessens, Djankov, Fan and Lang 2002), where Confucianism is popular and stresses the value of family (Whyte 1996). In fact, even Cantonese entrepreneurs who immigrated to the United States still adopt the narrow "familism" even after immigrating (Barnett 1960).

Behind cultural uniqueness, however, institutional and market attributes are equally important. China is transforming itself from traditional central planning economy to market economy. Under the imperfect institutional and market environment (especially the trust and legal system), private firms would try to find an efficient form of inside governance. When information publication, contract enforcement, property right, and investment protection are at a low level, family control may be a sound solution to make up for the serious agency problem.

Our first empirical task is to examine whether family firms underperform or

outperform relative to nonfamily firms in China. We do so by using a unique nationwide survey of more than 3,000 (more than 700 with complete information) private firms in China, and find that family control has no significant effect on firm profitability. This finding is robust to a series of alternative specifications that control for the characteristic s of entrepreneurs and enterprises.

We then go a step further and investigate where family control may have special link with firm profitability. We argue that in a transition economy such as that of China, the role of family control may vary with the extent of marketization. When the development of market intermediaries is low, i.e., there is lack of trust and legal protection in the society, since the trust with the family is much higher, family control may act as a substitute for the weakness of culture and institution. However, when the development of market intermediaries is high, i.e., there is enough trust and legal protection in the society, the positive role of family control is reduced while the negative aspect appears more obviously. Our empirical results show that family control does have negative impact on firm profitability when the development of market intermediaries is high, but has no obvious impact when the development of market intermediaries is low. The findings give some supports for the efficiency view that family firms evolve as an efficient response to the institutional and market environments. However, we don't find that the role of family control is more positive in the localities with lower financial marketization than in those with higher financial marketization. Thus the view is not supported that family control is important in the sense of capital pooling.

The structure of the remainder of this paper is as follows. Section 2 proposes hypotheses about the performance of family firms and the interaction with institutional and market environments, and outlines the econometric specification.

Section 3 describes the data and variables. Section 4 and 5 empirically test the hypotheses and report the results, and Section 6 provides a conclusion.

2 Hypotheses and Empirical Strategy

In this section, we describe the main hypothesis on the impact of family control for private firms.

2.1 Basic Hypothesis

Hypothesis 1: *In China, in an average meaning, family control doesn't obviously harms the performance of private firms.*

We test Hypotheses 1 by estimating the profitability equations, using return on assets (ROA) and return on equity (ROE) as dependent variables. More specifically, we estimate the following performance equation.

$$Profitability = \beta_0 + \beta_1 F + X\delta + \varepsilon,$$

Where profitability is measured by ROA and ROE, and F is the family control dummy. The vector X represents a complete set of control variables that include human capital of entrepreneurs, firm attributes, and industry and provincial dummies. We hypothesize that firm profitability is not significantly smaller when the firm is controlled by the family, that is, $\beta_1 \geq 0$, or $\beta_1 < 0$ but insignificant.

2.2 Further Hypothesis

We also examine the situation in which family control has more obvious impact. In particular, we hypothesize that family control is more harmful for profitability in strong institutional and market environments while harmless in weaker institutional and market environments. Luckily, empirical evidence shows that institutional and market environment differ dramatically across the country (Brandt and Li, 2003; Lu and Yao, 2005). In fact, the variation in such environment provides us with an opportunity to test the institutional stories behind Hypothesis 1. Simply put, if family

control does indeed make firms less profitable in localities with strong institutional and market environment, then this difference should increase with the improvement of environment. This leads to the following hypothesis.

Hypothesis 2: *Being family firms is more harmful for the performance of private firms in localities in which the institutional and market environment is strong, while has less obvious impact when the institutional and market environment is weak.*

To test Hypothesis 2, we construct a number of institutional indices to measure institutional heterogeneity across regions.

3 Data

The firm data that we use in this study come from a nationwide survey of privately owned enterprises that was jointly conducted in 2004 by the All China Industry and Commerce Federation, the State Administration for Industry and Commerce, the China Society of Private Economy at the Chinese Academy of Social Sciences, and the United Front Work Department of the Central Committee of the Communist Party of China. The sample comprises mainly large firms and a small portion of individual household enterprises that are drawn from 31 provinces, which covers all of the political subdivisions at this level in mainland China.

This dataset is by far the best for studying the effect of family control on the performance of private enterprises in Mainland China. In total, the dataset comprises 3012 privately owned enterprises, which represents 0.10 percent of the total number of privately owned enterprises nationwide. The survey involved intensive interviews with firm owners, which we define as entrepreneurs, with questions that covered many aspects of the firm, including the firm's size, history, and basic financial information, governance structure and the firm owner's family background, human capital, and occupational history. Most importantly, the survey collected information

on the governance structure of the firm, such as how many relatives are shareholders or directors of the firm, and on the family value of the entrepreneur, i.e. whether he believes that the successor of the firm should be selected from his/her family members. It also includes information on the political connection variables of the entrepreneurs, such as Party membership, previous work experience as a government cadre, and membership of the People's Congress (PC) and the Chinese People's Political Consultative Conference (CPPCC). We have 750 observations for which there is complete information on shareholder structure and control variables, 756 observations for which there is complete information on director structure and control variables, and 1109 observations for which there is complete information on family value and control variables.

A primary analysis of the data shows that some extent of family control is popular in private entrepreneurs. In 750 firms, about 62 percent has at least one family member and 21 percent has at least two family members in the shareholder. In 756 firms, about 49 percent has at least one family member and 17 percent has at least two family members in the shareholder. In 1109 firms, about 29 percent has the belief that the successor of the firm should be selected from his/her family members.

The firms come from diverse industrial sectors, ranging from farming to technical services. They have an average of 201 employees, which is much larger than the national average of 11.4 (YICAC, 2003). Firm size also varies greatly in the sample, ranging from individual household enterprises to large-scale enterprises with more than 3,000 employees.

In addition to the firm survey data, we also make use of the National Economic Research Institute (NERI) Index of Marketization (IM) of China's provinces in 2002 to measure the quality of market-supporting institutions at the provincial level. The

NERI indices capture the progress of institutional transition in China's 31 provinces. Appraisals of the regional institutions are made in several dimensions, namely the relationship between the government and the market, the development of the non-state sector, the development of the product markets, the development of production elements markets, the development of market intermediaries and the legal environment. Note that the sizes of the provincial governments vary greatly in China. Moreover, there is also a large cross-province variation in the dimensions. Such variation is important for us to link these factors to the performance of family firms.

Table 1 reports the summaries by groups of family control. There is no difference of average ROA and ROE between family controlled firms and nonfamily firms (lack of more detailed information about firm's governance structure, here we use whether there are at least 2 relatives are shareholders/directors to indicate family control. We also tried employing whether there are at least one relative is shareholder/director to indicate family control, the empirical results are less meaningful). Surprisingly, family controlled firms have a large size in the term of total asset, which contradicts the traditional view that predetermined family values place restraints on the development of the firm size (Banfield 1958). Also, family controlled firms are a little older, have higher leverage, more likely to appear in the localities with lower per capita GDP, financial marketization, development of market intermediaries and producer protection, and the owners are more likely to be PC member or CPPCC member.

4 Family Control and Profitability

In this section, we examine whether family control affects firm profitability. We use two measures of firm profitability: return on assets (ROA) and return on equity (ROE). We employ ordinary least squares regressions for all of the equations, and report the robust t-statistics in the tables. All of the regressions control for a complete

set of provincial and industry dummies.

The regression results show that family control doesn't have a significant effect on firm profitability. In Table 2.1, we use ROA to represent the firm performance and whether there are at least two family members are shareholders of the firm to indicate family control. We begin by estimating our benchmark performance equation with the family control, provincial and industry dummies as independent variables. The estimation results are presented in the first column of Table 2.1. The family control dummy, which is the variable of primary interest, has a negative coefficient -0.033, which is significant at the 5 percent level. Then we conduct a series of sensitivity tests. In the first sensitivity test, which is reported in column 2, we include firm features such as asset, leverage, firm age, the coefficient reduces a lot to -0.013 and becomes insignificant. In column 3-5, we further include human capital and political connection variables of the entrepreneur, and the coefficient remains small and insignificant. In Table 2.2, we employ whether there are at least two family members are directors of the firm to indicate family control. In column 1 to 5, all five specifications show the effect is insignificant, with either positive or negative sign.

In Table 2.3 and 2.4, we report the same set of regressions using ROE as dependent variable. The effect of family control on ROE follows a very similar pattern to that which is shown in Table 2.1 and 2.2.

In summary, the regressions in Table 2.1 to 2.4 consistently show that, totally speaking, family control doesn't have an effect on firm profitability.

5 Does Anywhere Family Control Matter?

In this section, we examine the effect of family control on firm performance in different localities with different institutional and market environments. More specifically, we test Hypothesis 2 by examining whether family control has a greater

negative effect on performance in localities in which institutions are stronger while has no obviously negative effect or even positive effect on performance in localities in which institutions are weaker.

The regression results suggest that family control is more harmful to firm performance in provinces with stronger institutions. In the first two columns of Table 3.1, we estimate the same ROA equation as that which is reported in column 5 of Table 2.1 for two sub-samples. To identify the effect of institutional environment from the economic development level of different provinces, we include per capita GDP as an additional control variable. The first sub-sample includes firms in provinces with the financial marketization higher than the median, and the second includes firms in provinces with the financial marketization lower than the median. The estimated family control effect is somewhat different for the two samples. However, we find here that family control has more negative effect when financial marketization is low, which is contradicted to Hypothesis 2. This shows that capital pooling is not the fundamental advantage of family control in imperfect institutional and market environment in China. In Panel 2 of Table 3.1, we continue to estimate the effect of family control by dividing the sample by the development of market intermediaries. The results are very different for the two sub-samples. For firms that are located in provinces with higher development of market intermediaries, the coefficient of family control is -0.032 and significant at the level of 10 percent. However, for firms that are located in provinces with lower development of market intermediaries, the coefficient of family control is much smaller in absolute value and insignificant. The results are really what we want and support Hypothesis 2. In Panel 3 of Table 3.1, we divide the sample by the extent of producer protection. The results are similar with Panel 2, although not so significant.

In Table 3.3, we use ROE as the dependant variable. The results are similar with those of Table 3.1.

In Table 3.2 and 3.4, we employ whether there are at least two family members are directors of the firm to indicate family control. Although we can't get significant results, but the trend is similar with that of Table 3.1 and 3.3, except that the role of family control is more positive when the financial marketization is low than when it's high. The coefficient of family control is larger in provinces with worse institutional environment.

In summary, the results give some consistent supports to the hypothesis that family control is some kind of substitute for perfect market intermediaries and investor protection, but don't consistently support that it is a substitute for perfect capital markets.

6 Conclusion

This paper explores the role of family control as a substitute for mature institutional and market environment, using a large and representative sample of private firms. We find that, totally speaking, family control doesn't have a negative effect on firm performance. This result is robust to a series of specification tests. With more detailed tests, we find that family control does have a negative effect on firm performance when producer protection and the development of market intermediaries are high, but has no negative effect when producer protection and the development of market intermediaries are low. We interpret the results as partial supports of both efficiency arguments and culture arguments. When producer protection and the development of market intermediaries are high, the culture argument dominates and family firms show a lower performance relative to nonfamily firms. However, when producer protection and the development of market intermediaries is low, family firms

evolve as an efficient response to such a weak environment and have almost the same or even better performance with those nonfamily firms.

It is likely that the strengthening of investor protection and the development of market intermediaries in China will last for a long time and China's market-supporting institutions are far from perfect and are likely to remain so for some time. Hence, family firms are likely to remain an efficient form for private firms. When investor protection and the development of market intermediaries reaches a level high enough with China's further reform and marketization, the advantages of family control will become less obvious and the disadvantages may outweigh the advantages, family firms may not be an efficient form of the enterprise governance. At that time present family firms may evolve to other efficient governance structures.

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Table 1: Summary Statistics by Groups of Family Control

Variable	≥2 relatives are shareholders		<2 relatives are shareholders		≥2 relatives are directors		<2 relatives are directors	
	Obs.	Mean	Obs.	Mean	Obs.	Mean	Obs.	Mean
Firm Profitability								
ROA	140	0.09	519	0.12	160	0.09	590	0.12
ROE	136	0.11	516	0.13	156	0.11	587	0.13
Local economic level								
Per capita GDP (log)	140	9.15	519	9.25	160	9.15	590	9.25
Firm's attributes								
Total assets (log)	140	7.05	519	5.96	160	6.86	590	5.92
Leverage	140	0.22	519	0.06	160	0.20	590	0.05
Firm age	140	7.83	519	5.94	160	7.70	590	5.93
Owner's human capital								
Education (schooling year)	140	13.14	519	13.75	160	13.16	590	13.68
Age	140	45.53	519	42.90	160	45.33	590	42.94
Owner's political status								
Former cadre	140	0.33	519	0.33	160	0.33	590	0.32
PC membership	140	0.35	519	0.19	160	0.34	590	0.19
CPPCC membership	140	0.49	519	0.33	160	0.46	590	0.32
Party membership	140	0.37	519	0.38	160	0.38	590	0.37
Institutional Indices								
Financial Marketization	140	4.89	519	5.01	160	4.86	590	5.01
Market Intermediaries	140	3.73	519	4.51	160	3.67	590	4.43
Producer Protection	140	7.34	519	7.68	160	7.32	590	7.66

Table 2.1: OLS Regressions Examining the Impacts of Family Control on the Firm Performance (ROA)

	Dependent variable: ROA				
	(1)	(2)	(3)	(4)	(5)
≥2 relatives are shareholders	-0.033**	-0.013	-0.015	-0.015	-0.018
	(2.31)	(1.00)	(1.08)	(1.09)	(1.31)
Firm's attributes					
Total assets(log)		-0.020***	-0.020***	-0.019***	-0.023***
		(3.99)	(3.68)	(3.67)	(3.95)
Leverage		-0.086***	-0.086***	-0.086***	-0.088***
		(3.25)	(3.24)	(3.24)	(3.29)
Firm age		0.002	0.002	0.002	0.001
		(0.88)	(0.80)	(0.77)	(0.65)
Owner's human capital					
Education			-0.002	-0.002	-0.002
			(0.55)	(0.52)	(0.57)
Age			0.000	0.000	-0.000
			(0.19)	(0.25)	(0.09)
Owner's political variables					
Former cadre			0.001	0.002	0.003
			(0.08)	(0.12)	(0.18)
PC					0.042***
					(2.63)
CPPCC					0.019
					(1.23)
Party				-0.004	
				(0.26)	
Observations	750	750	750	750	750
R-squared	0.07	0.17	0.17	0.17	0.18

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.
All specifications include provincial and industry dummies.

Table 2.2: OLS Regressions Examining the Impacts of Family Control on the Firm Performance (ROA)

	Dependent variable: ROA				
	(1)	(2)	(3)	(4)	(5)
≥2 relatives are directors	-0.015	0.007	0.005	0.005	0.002
	(0.96)	(0.45)	(0.31)	(0.32)	(0.15)
Firm's attributes					
Total assets(log)		-0.019***	-0.018***	-0.019***	-0.021***
		(3.87)	(3.63)	(3.64)	(3.98)
Leverage		-0.092***	-0.092***	-0.092***	-0.092***
		(3.52)	(3.56)	(3.57)	(3.48)
Firm age		0.001	0.001	0.001	0.000
		(0.48)	(0.30)	(0.38)	(0.21)
Owner's human capital					
Education			-0.002	-0.002	-0.002
			(0.53)	(0.63)	(0.57)
Age			0.001	0.001	0.001
			(0.87)	(0.71)	(0.61)
Owner's political variables					
Former cadre			0.005	0.004	0.006
			(0.36)	(0.25)	(0.38)
PC					0.040**
					(2.55)
CPPCC					0.010
					(0.73)
Party				0.009	
				(0.62)	
Observations	756	756	756	756	756
R-squared	0.07	0.18	0.19	0.19	0.19

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.
All specifications include provincial and industry dummies.

Table 2.3: OLS Regressions Examining the Impacts of Family Control on the Firm Performance (ROE)

	Dependent variable: ROE				
	(1)	(2)	(3)	(4)	(5)
≥2 relatives are shareholders	-0.026*	-0.020	-0.020	-0.020	-0.025
	(1.66)	(1.23)	(1.19)	(1.20)	(1.49)
Firm's attributes					
Total assets(log)		-0.019***	-0.019***	-0.019***	-0.022***
		(3.53)	(3.50)	(3.48)	(3.72)
Leverage		0.007	0.007	0.007	0.006
		(0.50)	(0.49)	(0.49)	(0.42)
Firm age		0.003	0.003	0.003	0.003
		(1.49)	(1.43)	(1.37)	(1.43)
Owner's human capital					
Education			0.001	0.001	0.001
			(0.23)	(0.27)	(0.23)
Age			0.000	0.000	0.000
			(0.28)	(0.34)	(0.01)
Owner's political variables					
Former cadre			0.007	0.007	0.006
			(0.38)	(0.42)	(0.35)
PC					0.061***
					(2.86)
CPPCC					0.000
					(0.00)
Party				-0.005	
				(0.29)	
Observations	750	750	750	750	750
R-squared	0.08	0.10	0.10	0.10	0.11

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.
All specifications include provincial and industry dummies.

Table 2.4: OLS Regressions Examining the Impacts of Family Control on the Firm Performance (ROE)

	Dependent variable: ROE				
	(1)	(2)	(3)	(4)	(5)
≥2 relatives are directors	-0.007	-0.001	0.000	0.000	-0.004
	(0.38)	(0.06)	(0.00)	(0.00)	(0.20)
Firm's attributes					
Total assets(log)		-0.017***	-0.018***	-0.018***	-0.021***
		(3.34)	(3.39)	(3.36)	(3.73)
Leverage		0.002	0.002	0.002	0.002
		(0.14)	(0.15)	(0.15)	(0.16)
Firm age		0.003	0.003	0.003	0.003
		(1.53)	(1.38)	(1.34)	(1.51)
Owner's human capital					
Education			0.002	0.002	0.002
			(0.61)	(0.61)	(0.59)
Age			0.001	0.001	0.001
			(0.70)	(0.68)	(0.48)
Owner's political variables					
Former cadre			0.004	0.004	0.002
			(0.23)	(0.24)	(0.09)
PC					0.064***
					(2.99)
CPPCC					-0.013
					(0.76)
Party				-0.001	
				(0.07)	
Observations	755	755	755	755	755
R-squared	0.08	0.10	0.10	0.10	0.11

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.
All specifications include provincial and industry dummies.

Table 3.1: OLS Regressions Examining the Impacts of Institutional Environment on the Performance of Family Firms (ROA)

By groups	Dependent variable: ROA					
	Financial Marketization		Market Intermediaries		Producer Protection	
	>median	≤median	>median	≤median	>median	≤median
	(1)	(2)	(3)	(4)	(5)	(6)
≥2 relatives are shareholders	-0.010	-0.028	-0.032*	-0.007	-0.024	-0.002
	(0.64)	(1.37)	(1.74)	(0.41)	(1.22)	(0.12)
Local economic level						
Per capita GDP (log)	0.018	0.011	0.016	0.033	0.031	0.031
	(0.99)	(0.30)	(0.76)	(1.28)	(1.53)	(1.46)
Firm's attributes						
Total assets(log)	-0.028***	-0.012*	-0.022***	-0.011	-0.029***	-0.014**
	(3.51)	(1.94)	(3.00)	(1.28)	(3.28)	(2.35)
Leverage	-0.064**	-0.137***	-0.100***	-0.073	-0.057*	-0.104**
	(2.11)	(2.95)	(3.31)	(1.61)	(1.85)	(2.51)
Firm age	0.002	0.003	0.004	0.001	0.006**	-0.002
	(0.76)	(1.08)	(1.38)	(0.28)	(2.21)	(0.93)
Owner's human capital						
Education	-0.004	0.004	-0.005	0.002	-0.005	0.005
	(1.10)	(1.15)	(1.26)	(0.62)	(1.14)	(1.51)
Age	-0.001	0.001	-0.001	0.001	-0.001	0.001
	(0.57)	(0.52)	(0.74)	(1.12)	(0.71)	(1.05)
Owner's political status						
Former cadre	0.027	-0.039*	0.014	-0.022	0.034	-0.035*
	(1.50)	(1.77)	(0.67)	(1.25)	(1.47)	(1.87)
PC	0.056**	0.027	0.046**	0.033	0.079***	0.005
	(2.32)	(1.29)	(2.09)	(1.41)	(3.00)	(0.26)
CPPCC	0.012	0.019	0.014	-0.005	0.036*	-0.009
	(0.62)	(0.92)	(0.71)	(0.24)	(1.70)	(0.53)
Party	-0.002	-0.001	-0.017	-0.005	-0.017	0.001
	(0.10)	(0.06)	(0.83)	(0.28)	(0.81)	(0.07)
Observations	473	277	403	347	376	374
R-squared	0.17	0.20	0.23	0.10	0.15	0.20

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

All regressions include industry dummies.

Table 3.2: OLS Regressions Examining the Impacts of Institutional Environment on the Performance of Family Firms (ROA)

By groups	Dependent variable: ROA					
	Financial Marketization		Market Intermediaries		Producer Protection	
	>median	≤median	>median	≤median	>median	≤median
	(1)	(2)	(3)	(4)	(5)	(6)
≥2 relatives are directors	-0.000	0.017	-0.015	0.018	-0.032	0.034
	(0.02)	(0.49)	(0.77)	(0.93)	(1.62)	(1.42)
Local economic level						
Per capita GDP (log)	0.018	0.006	0.017	0.022	0.031	0.024
	(1.00)	(0.17)	(0.81)	(0.82)	(1.63)	(1.24)
Firm's attributes						
Total assets(log)	-0.022***	-0.017**	-0.023***	-0.005	-0.026***	-0.013**
	(3.07)	(2.39)	(3.14)	(0.84)	(3.28)	(2.22)
Leverage	-0.077**	-0.133***	-0.091***	-0.100**	-0.039	-0.136***
	(2.58)	(2.90)	(2.80)	(2.20)	(1.33)	(4.82)
Firm age	0.001	0.002	0.003	-0.000	0.008***	-0.004**
	(0.51)	(0.68)	(1.12)	(0.01)	(2.79)	(1.97)
Owner's human capital						
Education	-0.005	0.005	-0.006	0.001	-0.004	0.004
	(1.30)	(1.27)	(1.44)	(0.42)	(1.01)	(1.24)
Age	-0.001	0.002	-0.001	0.002*	-0.001	0.002*
	(0.58)	(1.28)	(0.73)	(1.95)	(0.79)	(1.78)
Owner's political status						
Former cadre	0.019	-0.024	0.008	-0.006	0.028	-0.024
	(1.04)	(1.12)	(0.38)	(0.33)	(1.24)	(1.24)
PC	0.042**	0.033	0.042*	0.029	0.068***	0.019
	(1.98)	(1.51)	(1.89)	(1.41)	(3.03)	(0.99)
CPPCC	0.005	0.022	0.018	-0.021	0.032*	-0.012
	(0.29)	(1.06)	(0.96)	(1.20)	(1.71)	(0.65)
Party Membership	0.018	-0.006	-0.000	0.011	0.000	0.010
	(0.97)	(0.25)	(0.00)	(0.62)	(0.02)	(0.51)
Observations	481	275	415	341	384	372
R-squared	0.17	0.20	0.23	0.11	0.14	0.27

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

All regressions include industry dummies.

Table 3.3: OLS Regressions Examining the Impacts of Institutional Environment on the Performance of Family Firms (ROE)

By groups	Dependent variable: ROE					
	Financial Marketization		Market Intermediaries		Producer Protection	
	>median	≤median	>median	≤median	>median	≤median
	(1)	(2)	(3)	(4)	(5)	(6)
≥2 relatives are shareholders	-0.018	-0.025	-0.045*	0.001	-0.021	-0.016
	(0.84)	(1.09)	(1.75)	(0.06)	(0.78)	(0.78)
Local economic level						
Per capita GDP (log)	0.007	0.052	0.014	0.044	0.030	0.030
	(0.37)	(1.31)	(0.64)	(1.44)	(1.47)	(1.52)
Firm's attributes						
Total assets(log)	-0.027***	-0.013*	-0.028***	-0.009	-0.029***	-0.011*
	(3.29)	(1.74)	(3.44)	(1.01)	(3.27)	(1.72)
Leverage	0.006	0.042	0.031	-0.010	0.007	0.018
	(0.44)	(1.17)	(0.86)	(1.24)	(0.42)	(0.70)
Firm age	0.003	0.003	0.006**	0.001	0.005*	0.001
	(1.26)	(1.13)	(2.01)	(0.39)	(1.83)	(0.21)
Owner's human capital						
Education	0.001	0.004	0.001	0.003	-0.002	0.006*
	(0.25)	(0.89)	(0.31)	(0.69)	(0.40)	(1.74)
Age	-0.000	0.000	-0.000	0.001	-0.000	0.001
	(0.30)	(0.24)	(0.09)	(0.72)	(0.25)	(0.45)
Owner's political status						
Former cadre	0.024	-0.025	-0.006	0.006	0.029	-0.021
	(1.09)	(0.99)	(0.24)	(0.24)	(1.15)	(0.91)
PC	0.085***	0.027	0.090***	0.033	0.138***	-0.012
	(2.62)	(0.94)	(2.70)	(1.15)	(3.94)	(0.48)
CPPCC	-0.010	0.006	0.007	-0.020	0.019	-0.026
	(0.39)	(0.28)	(0.31)	(0.75)	(0.74)	(1.16)
Party membership	-0.015	-0.013	-0.033	-0.007	-0.026	-0.002
	(0.61)	(0.58)	(1.28)	(0.32)	(1.02)	(0.09)
Observations	473	277	403	347	377	373
R-squared	0.08	0.08	0.14	0.07	0.11	0.07

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

All regressions include industry dummies.

Table 3.4: OLS Regressions Examining the Impacts of Institutional Environment on the Performance of Family Firms (ROE)

By groups	Dependent variable: ROE					
	Financial Marketization		Market Intermediaries		Producer Protection	
	>median	≤median	>median	≤median	>median	≤median
	(1)	(2)	(3)	(4)	(5)	(6)
≥2 relatives are directors	-0.005	0.016	-0.024	0.020	-0.029	0.019
	(0.23)	(0.47)	(0.88)	(0.91)	(1.10)	(0.69)
Local economic level						
Per capita GDP (log)	0.014	0.035	0.022	0.028	0.039**	0.022
	(0.74)	(0.77)	(1.05)	(0.87)	(1.98)	(1.08)
Firm's attributes						
Total assets(log)	-0.021***	-0.017*	-0.027***	-0.002	-0.026***	-0.011
	(2.88)	(1.92)	(3.42)	(0.30)	(3.24)	(1.55)
Leverage	0.001	0.055	0.024	-0.012	0.004	0.015
	(0.07)	(1.43)	(0.82)	(1.32)	(0.25)	(0.56)
Firm age	0.003	0.003	0.005*	0.001	0.007**	-0.001
	(1.16)	(0.93)	(1.79)	(0.33)	(2.49)	(0.44)
Owner's human capital						
Education	0.002	0.004	0.001	0.002	0.000	0.006
	(0.58)	(0.94)	(0.28)	(0.59)	(0.09)	(1.60)
Age	-0.000	0.001	0.000	0.001	-0.000	0.001
	(0.01)	(0.81)	(0.01)	(1.14)	(0.02)	(0.67)
Owner's political status						
Former cadre	0.011	-0.007	-0.015	0.020	0.017	-0.013
	(0.50)	(0.31)	(0.65)	(0.88)	(0.69)	(0.55)
PC	0.081***	0.036	0.096***	0.031	0.132***	0.002
	(2.64)	(1.17)	(2.98)	(1.11)	(4.01)	(0.07)
CPPCC	-0.022	0.005	0.007	-0.046**	0.015	-0.042*
	(0.94)	(0.21)	(0.30)	(2.03)	(0.62)	(1.86)
Party Membership	-0.015	-0.024	-0.029	-0.003	-0.020	-0.008
	(0.60)	(1.01)	(1.08)	(0.13)	(0.80)	(0.31)
Observations	481	274	416	339	386	369
R-squared	0.08	0.08	0.14	0.07	0.12	0.08

Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

All regressions include industry dummies.