



Chapter III

Sample and Methodology

The chapter orderly discusses the sample selection, the source of data, the definition of family firm, the identification of family firm, the description of control variables, the descriptive statistics, and the methodology of this research.

3.1 Sample Selection

The study uses Thai listed firms on the Stock Exchange of Thailand (SET). The firms must not be delisted during the time between periods of 2003-2008. This time period is suitable to this study because the data on corporate governance in Thailand have recently been reformed the past few years. Before the Asian Economy Crisis in 1997, the board structures of Thai firms were not regulated. There are many firms without independence directors. Thus, the data in that period are not convincing to study the determinants of board. Moreover, it extends the period of board structure period of study in Thailand (Uangudom, 2001), which conducted only in two years. The sample excludes financial firms, real estate investment trusts, insurance sectors, closed-end mutual funds, and the firms which data are not comprehensive. From these criteria, the study contains 384 firms, which consist of 2,110 firm years.

3.2 Sources of data

The financial data are taken from the DataStream and the SetSmart database. The ownership data are collected from the SetSmart database. This database provides the information of shareholders whose shareholding is at least 0.5 percents of the total. The list of directors and management teams are taken from the SetSmart database, company's website, and annual reports. The list of company founder creates from the paper of prospectus at the department of business development, ministry of commerce. The list of company founders has the full name of the founder and 6 members who are the co-founder of the company, the list of the founding shareholder, and the date of establishment. The data on the ownership of the holding company are collected from the Brooker (2003).

3.5 Definition of Family Firm

Family identification is the primary concern in this research. Anderson and Reeb (2003) define the family firms as the fractional equity ownership of the founding family and (or) the presence of family members on the board of director. They focus on founder and founder's descendant presence and involvement within the firm regardless of the threshold level. For example, if the descendants of the founder hold only 1 percents of the equity, the firm is defined as family firm. They address the approach by creating dummy variable that equals to one when founding families hold share in the firm or when founding family members are present on the board of directors. Nevertheless, the ignorant of the magnitude of the control from family member has broadened the definition of family firm.

The minimum ownership threshold was introduced by Villalonga and Amit (2006) to control the magnitude of control levels from the family firm. The definition of family firm is followed Anderson and Reeb (2003) that the founder or a member of his or her family by either blood or marriage is an officer, director, or the owner of at least 5% of the firm's equity, either individually or as a group. Moreover, their findings show that different definitions of a family firm can have significant impacts on their results. For example, the complicated definition that the family is the largest vote holder, has at least 20% of the votes, one family officer and one family director, and is in 2nd or later generation will reduce proportion of family firm in the sample from 37% (using Anderson and Reeb (2003)'s definition) to 7% and OLS regression coefficients change sign from positive to negative at 5% significant level. Another example of family firm definition is Mishra, Randoy, and Jensen (2001). They measure founding family control by: (1) a binary variable that equals to 1 if the CEO is founder or relative of founder, (2) percentage of the ownership of founding family (10 percents threshold), and percentage of directors that are members of the founding family (10 percents). The family variable equals 1 if the firm satisfies at least one of the three indicators above.

From these three papers, they capture the firms that have been influenced by family presence thru the ownership and management. The threshold might be different from one another but the general concepts are still the same. In this paper, family firms are defined by the family's

ownership and presence of family member on board of director of the firm as suggest by previous papers. However, it is possible that family that controls the company may not be the founder of the company. This type of family firm can be called non-founding family firm. Yet there is no clear argument that the non-founding family firm has different characteristic than founding family one.

3.6 Identification of family firm

The family firms in this paper are both founding and non founding family firms. Founding family firms are ascertained by the approach of Villalonga and Amit (2006), which I have discussed above. The founder lists are created by the hand collecting process of the prospectus documents from the department of business development in Ministry of Commerce. The documents show the lists of 7 people who requested to set up the company, and the list of shareholder of the first time that the company started its business. Because of the sample in this study are listed firms, I track back the company history before they were listed in the Stock Exchange of Thailand. The list of shareholders and board of directors from 2003 to 2008 are taken from SetSmart database.

For non founding family firm identification, high level of ownership is used to identify the high level of family control while the presence of family member on the board of directors is investigated in lower level of family ownership. The 25 % level is used to define the controlling shareholders in Thailand, which stated by the Stock Exchange of Thailand. With this threshold level, it ensures the control of the family over the firm. Under the Public Limited Companies Act, at this level of shareholdings, a shareholder has sufficient voting power to have significant influence on the firm in the following manners. Firstly, a controlling shareholder can nullify any corporate decision. Secondly, a controlling shareholder can demand to inspect the business operation and the financial condition of the company, as well as the conduct of the board. Thirdly, a controlling shareholder can call an extraordinary general meeting at any time. Fourthly, a controlling shareholder can submit a motion to the court demanding for the dissolution of a company if he thinks that further company operations will bring only losses, and

that the company has no chance of recovery (Stock Exchange of Thailand, 1997, 1998; Wiwattanakantang, 2001).

The identification begins from the collection of the firm's ownership and list of the major shareholders that provided by the Stock Exchange of Thailand from the SetSmart database. First step is to classify nonfamily block holder such as government controlled and institutional controlled firms. The company is hold by the government agency more than 25 % of the equity will be classified as government controlled company. The company is hold by financial institutional firms more than 25% of the equity will be classified as institutional controlled firms. Financial institutional firms are defined as bank, insurance, institution, and fund. Government agency and financial institution are special block holders that are highly regulated by their policies. When there are high levels share holding from these two organizations in any companies, the company surely is not a family firm. Thus, these firms are defined as institutional owned firm and government controlled firms.

Second step is to classify founding family firm from major shareholders who are individual. If the founder or a member of his or her family by either blood or marriage is a director, or the owner of at least 5% of the firm's equity, either individually or as a group, they will be defined as founding family firm. Third step is to define non founding family firms. If more than one major shareholder with same surname or related by blood or marriage collectively hold more than 25% of the equity, the company will be defined as non founding family firm. Alternatively, if more than one major shareholder with the same surname or related by blood or marriage collectively hold more than 10% of the equity and at least one family member has a position on the board of director, the company will be defined as non founding family firm. The 10% level criterion is followed the approach of Mishra, Randoy, and Jenssen (2001), which is higher than the threshold of Villalonga and Amit (2006). The high percentage of the ownership ensures the significant control of family to the firm.

Forth step is to classify the family firm from the major shareholders who are holding companies. Most holding companies are not listed in the stock exchange; thus, the exact ownership level is hard to define in these companies. Nevertheless, there are the studies of

family name that involves with business from the Brooker Group. If the major shareholder is holding company, which can be identified the family controlled by these two sources hold more than 25 % of the equity, the company will be defined as non founding family firm. Alternatively, if the major shareholder is holding company, which can be identified the family controlled, hold more than 10% of the equity, or at least one family member has a position on the board of director; the company will be defined as non founding family firm.

The companies that do not meet these four criteria will be classified as nonfamily firm. Diagram 1 shows the process from ascertain founding family firm to non founding family firm conclusively.

3.3 Control variables

Control variables in this study are classified into three groups, which are board characteristics, firm performance, and CEO characteristic. Table 1 summarizes the definition of variables used in this study.

3.3.1 Board Characteristic

The dependent variables in this study are board size, proportion of board independence, and the presence of CEO who has COB position. The board size is determined by the number of directors at the end of the year. The proportion of board independence is the ratio of the number of independence and audit committee directors to the board size. The presence of CEO who has COB (Chairman of the board) position defines by dummy variable, indicating 1 if the CEO has the chairman of the board of the directors.

3.3.2 Firm Characteristic

The control variables for firm characteristics that relate to the board structure are as following. Firm size is the natural log of the market value of the equity as the end of the year. Crutchley, Garner, and Marshall (2004) argue that larger firms demand more outside directors to reduce the significant agency problems. Firm age is the number of the year since the

incorporation. The year established obtain from the Ministry of commerce in the paper of prospectus. Segment is the number of the business segment the firm involves. Rose and Shephard (1997) show that diversified firms operate in multiple segments tend to be more complex. Leverage is the total debt divided by total asset. Klein (1998) shows that firm with high leverage depend on external resources to a greater extent of advising requirement. These four variables are the benchmark for the degree of advisory and monitoring demand from the board of directors.

Free cash flow is the operating cash flow less the dividends divided by the total assets. Free cash flow represents the opportunities for private benefits. Jensen (1986) suggests that free cash flow generates agency conflicts, as management has incentive to use it for private benefits rather than to create shareholder wealth. There are two variables to measure for the cost to outsiders of monitoring the firms' manager. Stock variance is the variance of the monthly total stock return measure of the 12 month period. The cost of monitoring expect to increase with the volatility of the firm's stock price, this is because it represent background uncertainty about the firm's prospects and performance. Thus, it is difficult to judge manager's performance. Market to book is the natural log of the market value of equity plus book value of liability then divided by the total asset. Firms with high log market to book tend to have significant growth opportunities, which are more costly for outsider to monitor and verify than when the asset is in place. The performance variable is lag (ROA). Lag (ROA) is calculated by the earning before income taxed and depreciation and amortization expense (EBITDA) divided by the total asset of pervious year end. Performance of the firm might be the reasons of the changes in board director. Lag (board size and independence) is the board size and proportion of independent board of pervious year end. Board size and independence is believed to have relationship. The board size or independence of the current period usually determines by the previous period. Thus, reduce the endogeneity from omitted variable, I use lag (independence) as instrumental variable to test board size, and lag (board size) as instrumental variable to test the proportion of independent.

3.3.3 CEO characteristic

CEO ownership is measured by the proportion of the firms' currently outstanding shares that CEO owned in percentage. CEO ownership accounts for the monitoring cost variable. However, Demsetz and Lehn (1985) and Himmelberg, Hubbard, and Palia (1999) assert that the CEO can hold a large ownership stake to mitigate the agency problem that arises from a costly monitoring environment. The CEO ownership might not directly increase the cost of monitoring, but it is endogenous correlation to monitoring costs, make it an acceptable proxy for the costs.

3.4 Descriptive Statistic

This section discusses the sample, firm types, statistical summary, and univariate analysis of this study.

3.4.1 Firm type

The characteristic of the companies in the sample are presented in Table 2. It shows the number of companies in the sample classified by industry and firm type. The industry grouping follows the classification of the Stock Exchange of Thailand. The observations of 2110 from 2003-2008, they shows that 42 percents are founding family firms, 28 percents are non founding family firms, 3 percents are stated controlled firms, 3 percents are institutional controlled firms, and 24 percents are nonfamily firms. The founding family firms of 42 percents implies that founding family firms are present more in Thailand than in the finding of Villalonga and Amit (2006) of the U.S, which found 37 percents in their samples. Majorities of the firms in this study are in real estate, service, and industrials sectors. The industries that contain the highest family firms (both founding family and non founding family) are agriculture and services. Table 3 shows the number of the firms in each industry and each year. There are 298 companies in 2003, 326 companies in 2004, 358 companies in 2005, 368 companies in 2006, 379 companies in 2007, and 384 companies in 2008. It shows that new firms that entered the market were mostly family firms. For example, there was 38.59% of founding family firms and 26.85% of nonfounding family firms in 2003. Just two year after there was 43.02% of founding family firms and 28.49% of nonfounding family firms in 2005. There were switching behavior in ownership that affects the firm identification during the 6 years; however, they are small group. Government controlled

and institutional controlled firms are mostly stable over the period of the study. In summary, the sample concludes that total of family firms are about 66-73 percents, government controlled and institutional controlled are about 6 percents, and nonfamily firms are about 21-28 percents during 2003-2008.

3.4.2 Statistical Summary

The sample consists of 2,110 firm-year observations. Table 4 presents statistical summary of board structure and firm and CEO characteristics. The mean of board size is 10.82 members, with proportion of independent directors of 0.32. These numbers are not similar to the studies in other markets. Coles, Daniel, and Naveen (2008) find the median of board size is 10; the proportion of outsiders is 0.8. Huson, Parrino, and Starks (2001) find that the median of board size is 12, with median of outsider fraction of 0.79. Mishra, Randoy, and Jenssen (2001) find that in Norway the mean of board size is 6.6, with the mean of outsider fraction of 0.58. The fraction of outsiders is relatively small than those studies. From this finding, it shows that Thailand employ less service from independent directors.

The companies in the sample are not only small or start-up companies. The average number of year since a firm was set up is 29.01 years. The sample includes both large companies and small size companies. The average natural log firm equity is 21.34. For 87% of the firm-year observation the firm operates in one business segment, which implies that Thai firms are non-diversified firms. The mean of leverage is 0.48 and the mean free cash flow is 0.04. The mean of stock variance is 0.13. The mean of ROA is 0.12. The mean of leverage and stock variance of this study are higher than of the sample of Coles, Daniel, and Naveen (2008) while the mean ROA is slightly lower. Mean of CEO ownership is 5.64 percents which are much higher than Denis and Sarin (1999) and Bhagat and Black (2001) samples. Thus, it shows that Thai and US market's firm characteristics are different.

3.4.3 Univariate analysis

Table 4 shows the board characteristic of each type of firm and the univariate analysis. The analysis starts by comparing the characteristics and board structures between family and nonfamily firm. Last column of Table 4 presents the different in mean of family and nonfamily sample using the two sample unequal variance t-statistical tests to provide an initial assessment of our hypothesis. It indicates that board size is 0.66 higher for family firms compared with nonfamily firms statistically significant at 1 % level (10.95 versus 10.29, t-stat. = 4.88). The difference of proportion of outsiders in family and nonfamily firm shows statistically insignificant. (0.32 versus 0.32, t-stat. = -0.64). These results are inconsistent with Hypothesis 1 and 2 that family firm has smaller board size and less proportion of outsiders than nonfamily firm. The different in mean of dual role in family and nonfamily firm shows the statistically significant at 1 % level (0.19 versus 0.10, t-stat. = 5.03). This is consistent with Hypothesis 3 that the CEOs of family firms have dual role more than those of non family firms. The univariate analysis only shows the result of different in board structure, it do not give us insights on what are the determinants of these differences. However, the empirical results have shown the results against two of my hypotheses that family firm have larger board size, and the proportion of independent board directors are the same. To further investigate in the determinant of these different in board structures, the multiple variables regression models are conducted in the next chapter.

3.7 Methodology

The panel data methods are used to test the hypotheses on board structure between each type of sample, which are family, government controlled, financial institutional controlled and nonfamily firms. To test the determinants of board structure, the variables are grouped into two groups by the theories of scopes of operation and monitoring agency cost. This method allows us to exploited information in both the cross-sectional and time-series of the data. Chow test are conducted to test the structural tests between the all observation samples and other four groups to the difference of each coefficient of the main regression sub samples.

3.7.1 Family firms have smaller board size than nonfamily firms

The panel data regressions include three determinants variables from scope of operation theory and four variables of monitoring theory. From the scope of operation theory, the diversified firm and large firms operate in multiple segments; thus, the CEO seeks the advisory from the board of directors. Firm size is the natural log of the market value of equity. Segment is the number of business segments in the firm. Firm Age is number of year that the firm has been operated until 2008. Firm Size is related with number of external contracting relationship; thus, it is also positively related to the board size and board of independence. Segments are the number of business which the firm report in 56-1 form.

From the monitoring and agency problem theory, free cash flow defined as ratio of operating cash flow less preferred and equity dividend payment to total asset. It accounts for the monitoring need to the management team; it show positive relationship to the board size. Market to book and stock and return variances are represented the background of uncertainty about the firm's prospect and difficulty to judge the manager performance, which increase the cost of monitoring. CEO ownership decreases private benefits to insiders by aligning their incentives with those of the shareholder, which expected to be negatively related to board size and board independence (Raheja, 2005). Thus, stock variance represents the difficulty of monitoring the management team, and CEO ownership create hardship for the independence directors to get the firm information, this suggests the negative relation to board size and board independence (Harris and Raviv, 2008).

To test the hypothesis 1, I perform following regression below:

$$\text{Board size} = \alpha + \beta \text{SP} + \mu \text{MA} + \Omega \text{Controls} + \varepsilon \quad (1)$$

Where, Board size = Number of board directors at the end of year

SP = Scope of Operation variables; firm size, firm age, number of segments, leverage

MA = Monitoring and agency cost variables; free cash flow, stock variance, CEO ownership, market to book

Other Controls = lag (ROA), lag (independence)

Five samples are used to test this regression, which are sample of total sample, family, government controlled, institutional controlled, and nonfamily firms. The whole sample data regressions run on board size to confirm the result of Field, Karpoff, and Raheja (2007) on board structure hypotheses. From their findings the scope of operation variables should be positively to the board size. Free cash flow is also positive to board size, while market to book of equity, return variance, and CEO ownership are negatively related to board size. The government controlled and institutional controlled firms are special regulated itself the board structures of these firms might be difference from other nonfamily firms.

Because the family firms have less agency problem and monitor the management team better than nonfamily firms, the coefficient of monitoring and agency cost variables of family firms should be smaller than non family firms.

3.7.2 Family firms have less proportion of independent directors than the nonfamily firms

To test hypothesis 2, I perform the same regression method with the first hypothesis which tested from the five samples. The proportion of outsiders can be explained by following regression equation:

$$\text{Proportion of independent directors} = \alpha + \beta \text{SP} + \mu \text{MA} + \Omega \text{Controls} + \varepsilon \quad (2)$$

Where, Proportion of independent directors = Ratio of total number of independent and audit directors to total number of board directors at the end of the year

SP = Scope of Operation variables; firm size, firm age, number of segments, leverage

MA = Monitoring and agency cost variables; free cash flow, stock variance, CEO ownership, market to book

Other Controls = lag (ROA), lag (board size)

From the finding of previous study, the scope of operation variables and free cash should be positively related to proportion of independent directors. Stock variance, CEO ownership and market to book should be negatively to proportion of independent directors.

Family firms are expected to have less proportion of independent directors as they have lower agency problem and better monitoring. Moreover, they may have higher cost in transferring information for family member to the outside directors. Family members, who are insiders, can provide better firm specific information as suggested by Jansen and Fama (1983). Thus, I expect that coefficient of agency problem variable in the sample of family firm is smaller and the coefficients of monitoring cost variables are more negative than nonfamily firm sample significantly.

3.7.3 CEOs of family firms have dual role more than those of non family firms

Dual role is dummy variable, indicating if the CEO also is the chairman of the board of the directors. CEO ownership is variable that can explain the CEO with the dual role position. Because family firm gives trust and believe in the CEO they choose or the CEO is family member, the CEO in family firms tend to have position as the chairman of the board more than the non family firm. The dual role increase leadership in the board, which helps the CEO to make decision on the company operation faster, which benefit to the corporate performance. The regression to test this hypothesis is as following:

The regression to test the hypothesis³ is by using logistic regression below:

Logistic function:

$$\text{Dual Role} = e^z / (e^z + 1)$$

$$\text{Where, } z = (\alpha + \beta \text{CEO ownership} + \mu \text{Control variables} + \varepsilon) \quad (3)$$

CEO ownership = Proportion of the firms' outstanding shares owned by the CEO

Control variables = lag (ROA), firm Size, firm Age, leverage, and stock variance

The logistic regression will be tested in three samples, which are total sample, family firms sample, and nonfamily firms sample. The positive coefficient implies the variables increase the possibility of outcome while the negative coefficient means that the variables decrease the

possibility of outcome. The interaction terms of dummy family with CEO ownership are expected to provide higher possibility of outcome.

3.7.4 Robustness Check

The equation 1 and 2 will run using various regression types. The OLS regressions will be conducted in all regression. The fixed effects and weighted least square (GLS) are also will be computed to compare the results of the OLS. Chow tests are conducted to test whether the coefficients among different sample groups are significantly different. Wald test are conducted to test the differences of specific coefficients by running all variables in the same model using dummy variables and interaction terms.

Diagram 1
Identification of family firms

Family firm in this study are both founding family and non founding family firms. Founder list is collected from prospectus document from Ministry of Commerce. The process starts from tracking major shareholder. First step is to separate the government controlled and institutional controlled out of the sample, it happens when state agency or financial institutional hold at least 25% of the firms' equity. Financial institutional are financial firms, bank, insurance, funds, and trusts. Second step is to check the descendants' presence in the ownership of more than 5% to identify the founding family firms. Non founding family firm defines the firm with more than one major shareholder with same surname or relative by blood or marriage collectively hold at 25% or 10% with one member on the board. Forth step is to identify the major shareholders, which are holding company. The ownership of holding family is taken from the Brooker group. If the family controlled holding company hold at least 25% or 10% with one member on the board, the firm define as non founding family firm. Family firm are both founding and non family firm. The left over sample will be defined as nonfamily firm.

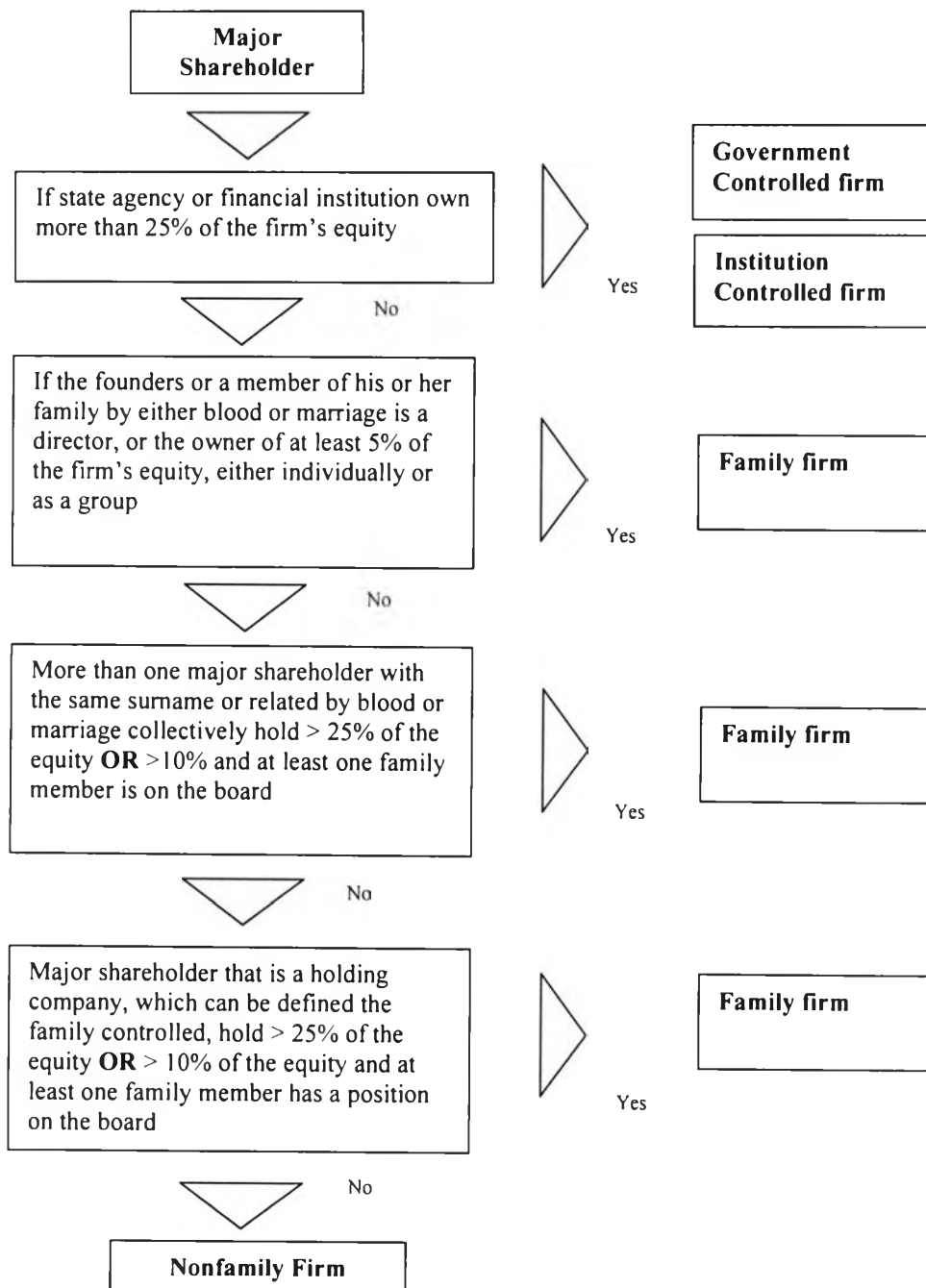


Table 1
The description of control variables used in the study

Variable	Description
<i>Board Characteristic</i>	
Board size	Total number of board directors at the end of the year
Proportion of independent director	Ratio of total number of independent and audit directors to total number of board directors at the end of the year
Dual Role	Dummy variable, indicating if the CEO also is the chairman of the board of the directors
<i>Firm Characteristic</i>	
Firm age	Number of years since incorporation until 2008
Firm size	Natural log of the market value of equity as of each fiscal year end
Segment	Number of business segment
Leverage	Ratio total debt to total asset
Free cash flow	Ratio of operating cash flow less preferred and equity dividend payment to total asset
Stock Variance	Variance of the firms' monthly total return
Market to Book	Natural log of the ratio of market value of equity plus book value of liability to total asset
Lag(ROA)	The return on assets in previous year period
Lag(independence)	The ratio of outsiders in previous year period
Lag(board size)	Number of board directors in previous year period
<i>Ownership</i>	
Family Firm	Firm which is defined as founding family and non founding family firms
Founding family firm	Firm which the founders or a member of the family by either blood or marriage is a director or the owner of at least 5% of the firm's equity, individually or as a group
Non Founding family firm	Firm which is collectively hold by more than one individual major shareholder with the same last name or related by blood or marriage at least 25 percents of the firm's equity or at least 10 percents and at least one family member presence on the board of director. Firm which major shareholder is a holding major shareholder company that can be defined the family controlled, hold > 25% of the equity or at least 10 percents and at least one family member presence on the board of director
Government controlled firm	Firm which is hold by the government agency at least 25 percents of the firm's equity
Institutional controlled firm	Firm which is hold by the financial institution at least 25 percents of the firm's equity
Non Family firm	Firm which is not family, government controlled, and institutional controlled firm
<i>CEO characteristic</i>	
CEO ownership	Proportion of the firms' outstanding shares owned by the CEO

Table 2

Number and Percent of Family and Nonfamily firms 2003-2008 by SET's industry (n=384 firms, 2110 firm years)

Founding family firm is the firm which the founder or a member of his or her family by either blood or marriage is a director, or the owner of at least 5% of the firm's equity, either individually or as a family is the firm which more than one person with the same surname or related by blood or marriage collectively hold > 25% of the equity or >10% and at least one family member is on the board. Government controlled and institutional controlled firm are the firm which state agency or financial institutional hold at least 25% of the firms' equity. For the precise identification methods, please see in the diagram 1.

Industry Description	Family Firm		Nonfamily Firm								Total	Total (%)
	Founding family firm	%	Non founding family firm	%	Government controlled firm	%	Institutional controlled firm	%	Nonfamily firm	%		
Agriculture and Food	124.00	52.10	85.00	35.71	0.00	0.00	2.00	0.84	27.00	11.34	238.00	11.26
Technology	82.00	42.27	44.00	22.68	0.00	0.00	16.00	8.25	52.00	26.80	194.00	9.18
Resources	19.00	14.29	20.00	15.04	33.00	24.81	4.00	3.01	57.00	42.86	133.00	6.29
Services	165.00	35.41	183.00	39.27	18.00	3.86	13.00	2.79	87.00	18.67	466.00	22.05
Industrials	187.00	51.09	66.00	18.03	5.00	1.37	11.00	3.01	97.00	26.50	366.00	17.32
Consumer product	102.00	43.40	83.00	35.32	0.00	0.00	0.00	0.00	50.00	21.28	235.00	11.12
Real estate and Construction	211.00	44.05	108.00	22.55	0.00	0.00	18.00	3.76	142.00	29.65	479.00	22.67
Total	890.00	42.18	589.00	27.91	55.00	2.61	64.00	3.03	512.00	24.27	2110.00	100

Table 3

Number and percentage of family and nonfamily firms from total observations

Founding family firm is the firm which the founders or a member of his or her family by either blood or marriage is a director, or the owner of at least 5% of the firm's equity, either individually or as a group. Non founding family is the firm which more than one person with the same surname or related by blood or marriage collectively hold > 25% of the equity or >10% and at least one family member is on the board. Government controlled and institutional controlled firm are the firm which state agency or financial institutional hold at least 25% of the firms' equity.

Year	Firm Type/ Industry	Agric. and Food	Technology	Resources	Services	Industrials	Consumer product	Real estate Construction	Total	Total (%)
2003	Founding family	19	11	1	24	19	16	25	115	38.59
	Non founding family	13	6	2	26	11	13	9	80	26.85
	Government controlled	0	0	6	1	1	0	0	8	2.68
	Institutional controlled	1	2	0	3	1	0	3	10	3.36
	Nonfamily	5	8	8	14	14	9	27	85	28.52
	Total	38	27	17	68	46	38	64	298	100
2004	Founding family	20	12	3	27	23	15	25	125	38.34
	Non founding family	14	7	3	29	12	13	15	93	28.53
	Government controlled	0	0	5	3	0	0	0	8	2.45
	Institutional controlled	1	2	0	3	1	0	3	10	3.07
	Nonfamily	4	9	9	14	17	10	27	90	27.61
	Total	39	30	20	76	53	38	70	326	100
2005	Founding family	21	15	4	29	34	15	36	154	43.02
	Non founding family	15	7	4	30	10	14	22	102	28.49
	Government controlled	0	0	5	3	1	0	0	9	2.51
	Institutional controlled	0	3	1	2	3	0	3	12	3.35
	Nonfamily	4	7	8	15	17	9	21	81	22.63
	Total	40	32	22	79	65	38	82	358	100
2006	Founding family	23	15	4	29	36	18	39	164	44.57
	Non founding family	14	8	2	34	11	14	18	101	27.45
	Government controlled	0	0	5	3	1	0	0	9	2.45
	Institutional controlled	0	3	1	1	2	0	3	10	2.72
	Nonfamily	3	8	11	13	17	8	24	84	22.83
	Total	40	34	23	80	67	40	84	368	100
2007	Founding family	21	15	4	27	37	19	42	165	43.88
	Non founding family	14	8	3	32	10	14	20	101	26.86
	Government controlled	0	0	6	4	1	0	0	11	2.93
	Institutional controlled	0	3	1	1	2	0	3	10	2.66
	Nonfamily	5	9	10	17	17	7	24	89	23.67
	Total	40	35	24	81	67	40	89	376	100
2008	Founding family	21	14	3	29	38	19	40	164	42.71
	Non founding family	15	9	6	32	12	15	26	115	29.95
	Government controlled	0	0	6	4	1	0	0	11	2.86
	Institutional controlled	0	3	1	3	2	0	3	12	3.13
	Nonfamily	5	10	11	14	15	7	20	82	21.35
	Total	41	36	27	82	68	41	89	384	100

Table 4

Descriptive Statistics

Means, standard deviations, and test of differences in mean between family, government controlled, financial institutional and nonfamily firms in their board characteristics, and firm characteristic. For the precise firm identification methods, please see in the Diagram 1. Board data and financial data are taken from the SetSmart data base. Board size is the number of board members at the end of the year. Proportion of independent directors is the ratio of independence directors to board size. Dual role is the proportion of observations that CEO also holds the chairman of the board position. Firm size is the natural log of the market value of equity as of each fiscal year-end. Firm Age is the number of the years since the firm incorporate. Segment is the number of the business segment. Leverage is the ratio of total debt to total asset. Free cash flow is the ratio of operating cash flow less preferred and equity dividend payments to the book value of asset. Stock Variance is the variance of the stock's monthly total return. Market to book ratio is the natural log of the ratio market value of equity plus book value of liability then divided by the total asset. ROA is the ratio of earnings before interest, taxes, depreciation, and amortization to book value of assets. CEO ownership is the percentage of the firm's shares hold by the CEO. The sample comprises 2,110 firm-year observations from 384 firms listed in the Stock Exchange of Thailand during 2003-2008. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels, respectively.

		Observation	Board size	Outsiders (%)	Dual Role (%)	Firm age	Firm size	Segment	Leverage	Free cash flow	Stock Variance	Market to book	ROA	CEO own. (%)
All Firm	Mean	2110.00	10.82	0.32	0.16	29.61	21.34	1.18	0.48	0.04	0.13	0.10	0.12	5.64
	Std Dev.		2.92	0.09	0.37	23.49	1.68	0.54	0.95	0.11	1.82	0.53	0.46	11.37
	Maximum		25.00	0.74	1.00	103.87	27.69	6.00	29.13	0.58	54.38	4.19	1.16	67.34
	Minimum		5.00	0.12	0.00	0.07	15.94	1.00	0.00	-0.99	0.00	-1.71	-1.73	0.00
	Skewness		0.99	0.79	1.86	2.16	-3.28	4.22	24.04	-0.92	22.64	1.40	3.69	2.73
	Kurtoness		4.94	4.17	4.47	7.05	38.33	25.54	646.00	10.34	590.61	8.92	20.45	10.99
Family Firms (a)	Mean	1479.00	10.95	0.32	0.19	29.62	21.15	1.19	0.43	0.04	0.15	0.08	0.12	7.90
	Std Dev.		2.95	0.09	0.39	23.12	1.53	0.57	0.23	0.11	2.05	0.52	0.11	12.90
	Maximum		25.00	0.71	1.00	103.93	26.83	6.00	2.46	0.54	54.38	4.19	0.73	67.34
	Minimum		5.00	0.12	0.00	0.07	16.49	1.00	0.00	-0.99	0.00	-1.71	-0.73	0.00
	Skewness		1.13	0.75	1.61	2.22	-2.26	4.20	0.68	-0.83	21.30	1.31	-2.05	2.73
	Kurtoness		5.29	4.09	4.47	7.35	33.24	24.83	6.45	11.03	506.70	8.71	20.59	10.99
Founding Family Firms	Mean	890.00	10.44	0.33	0.20	27.88	21.07	1.12	0.45	0.03	0.06	0.09	0.12	10.23
	Std Dev.		2.48	0.09	0.40	21.75	1.49	0.42	0.23	0.10	0.64	0.49	0.09	14.43
Non Founding Family Firms	Mean	589.00	11.73	0.31	0.16	32.23	21.28	1.28	0.41	0.05	0.28	0.07	0.12	4.37
	Std Dev.		3.39	0.09	0.36	24.85	1.59	0.73	0.23	0.12	3.13	0.54	0.12	9.10

Table5 (continued)

	Observation	Board size	Outsiders (%)	Dual Role (%)	Firm age	Firm size	Segment	Leverage	Free cash flow	Stock Variance	Market to book	ROA	CEO own. (%)	
Nonfamily Firms (b)	Mean		10.29	0.32	0.10	30.59	21.42	1.13	0.63	0.02	0.07	0.13	0.09	0.39
	Std Dev.	512.00	2.64	0.10	0.30	25.15	1.26	0.44	1.89	0.13	0.75	0.55	0.16	1.49
	Maximum		20.00	0.71	1.00	103.79	26.44	5.00	29.13	0.58	15.60	3.37	1.16	12.11
	Minimum		5.00	0.13	0.00	0.07	15.94	1.00	0.05	-0.78	0.00	-1.05	-1.74	0.00
	Skewness		0.67	0.80	2.64	1.99	-4.64	4.44	12.59	-0.98	21.71	1.68	3.51	5.23
	Kurtoness		3.76	4.16	7.96	6.11	38.49	29.28	170.77	8.67	484.86	9.55	18.99	33.27
Institutional Controlled Firms	Mean	64.00	10.34	0.31	0.08	31.15	22.04	1.13	0.43	0.03	0.38	0.06	0.44	0.31
	Std Dev.		3.19	0.09	0.27	22.51	1.73	0.38	0.20	0.09	2.76	0.23	2.54	1.31
	Maximum		23.00	0.60	1.00	100.66	25.79	3.00	0.75	0.22	20.86	2.55	20.44	0.10
	Minimum		5.00	0.15	0.00	12.84	18.35	1.00	0.04	-0.26	0.00	-0.87	-0.13	0.00
	Skewness		1.04	1.12	3.14	1.99	0.11	3.11	-0.17	-0.69	7.81	1.74	2.73	6.04
	Kurtoness		5.52	5.36	10.88	5.74	2.14	12.56	2.02	4.42	62.01	8.84	9.18	42.50
Government Controlled Firms	Mean	55.00	13.35	0.39	0.07	18.68	24.67	1.29	0.50	0.07	0.01	0.13	0.16	0.00
	Std Dev.		1.83	0.11	0.26	14.24	1.53	0.63	0.17	0.07	0.01	0.15	0.10	0.00
	Maximum		15.00	0.66	1.00	50.53	27.69	3.00	0.89	0.28	0.08	1.19	0.42	0.00
	Minimum		9.00	0.20	0.00	0.06	20.67	1.00	0.18	-0.09	0.00	-0.38	-0.07	0.00
	Skewness		-0.74	0.61	3.29	0.79	-0.18	1.96	-0.01	0.83	2.46	0.49	3.77	0.00
	Kurtoness		2.24	3.18	11.28	2.70	2.64	5.38	2.76	4.31	10.82	2.84	17.82	0.00
Diff in Means	(a)-(b)		0.66***	0.00	0.09***	-0.97	-0.27***	0.06**	-0.20***	0.02***	0.08	-0.05*	0.03***	7.51***
	t-stat.		4.88	-0.64	5.03	-0.76	-3.09	2.14	-2.32	2.87	1.23	-1.89	3.18	21.98