

The Ownership Structure, Capital Structure and Performance of
Thai Firms

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To my parents,
especially my mom who wanted to see her children have a good
education.

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All errors remain my own.

List of Publications

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Abstract

This study investigates the ownership and capital structure of Thai firms. Additionally, the study examines the influence of the ownership structure and corporate governance on the capital structure policy and performance of Thai firms. The data sample is based on 270 non-financial companies listed in the Stock Exchange of Thailand in 1996. The firms in the sample account for 97.08 percent of the capitalization of non-financial companies traded in the Stock Exchange of Thailand.

Overall individuals appear to have the highest share of Thai firms' equity. Individuals hold approximately 54 percent of all shares. Domestic corporations are the second largest share-holding group. They hold 25.76 percent of the outstanding shares. Domestic financial institutions hold less than 10 percent of the shares. When corporate shareholders are grouped together with their controlling shareholder, firms are, however, not as widely held as these statistics show. In contrast, in 82.59 percent of the firms, the largest shareholder holds the controlling block, defined as the shareholdings of at least 25 percent of the outstanding shares. In most of the firms the controlling shareholders do not use more complex ownership structures, such as cross-shareholdings and pyramidal ownership to control the firms. Only 21.27 percent of the firms are controlled via pyramid structure and cross-shareholdings.

The controlling shareholders do not merely own the firms but also participate in managing them. The results show that about 70 percent of the firms with at least one controlling shareholder, the controlling shareholder appear in the top management positions as well as the boards of directors.

The existing ownership structure of Thai firms indicates that the traditional agency problem, the conflict of interests between managers and outside shareholders, is not the main problem. The agency conflicts can be controlled by large shareholders. Instead, the agency problem between the controlling shareholders and managers, on one hand, and minority shareholders and other stakeholders such as creditors, on the other hand appears to be more severe. Since the controlling shareholders have voting power and are involved in management, they may obtain private as well as monetary benefits that are not generally available to outside shareholders.

The agency conflicts between controlling shareholders and other stakeholders are analyzed by comparing the performance of firms with controlling shareholders with that of firms with

no controlling shareholder. The empirical evidence, however, is against the hypothesis that controlling shareholders have negative influence on the firm's value. Univariate analysis shows that firms with controlling shareholders do not have significant power performance than that of firms with no controlling shareholder. In fact, results from multivariate analysis indicates that firms with controlling shareholders have superior ROA than firms with no controlling shareholder. In addition, further investigation shows that when performance is measured by ROA, foreign investors-controlled firms display significantly different performance than firms with no controlling shareholder.

The analysis also casts doubt on the argument that controlling shareholder involvement in management has a negative effect on the performance. The univariate and multivariate analyses suggest that the ROA of firms managed by their controlling shareholder is lower than that of firms where controlling shareholders do not participate in management.

Regarding the effectiveness of the existing corporate governance mechanism on performance, the results show that performance is positively related to the presence of financial institutions. The results suggest that domestic financial institutions may monitor the firms. Size of the board of directors is negatively associated with performance, which indicates that larger board reduces communication among members.

The relationship between the performance of firms and levels of managerial ownership differs depending to the characteristics of managers. The relation between the stakes held by top managers who are also the firms' controlling shareholders is uniform. However the ownership of managers who are not the firms' controlling shareholder is non-linearly related to the performance measure, ROA. The results show a significant positive-negative relationship between the non controlling shareholder-managers ownership and performance, which are in line with the developed economies based studies.

With respect to the firms' financing structure, the sources of financing of Thai firms come mainly from external funds. Internal funds account for only 9.33 percent of total assets. The largest sources of external financing are stock issuance and short term and long term debt. The empirical results indicate that taxes, bankruptcy costs, agency costs and information costs are important factors in the Thai firm's financing decisions. Non-debt tax shields, profitability and investment opportunities have negative effects on debt-equity ratio. The results are consistent

with the tax based model and the pecking order theory.

The analysis shows that ownership and control mechanisms have significant effects on the financial structure. Firms that have the government as major shareholder are more levered, probably because the borrowing is secured by the government. Firms that are associated with well-known business groups have lower debt ratio. The results indicate that the problem of information asymmetry may be less severe. The presence of non-financial foreign investors is associated with lower debt ratio. This finding may reflect that foreign shareholders monitor the firms. Firms that have controlling shareholders included in management appear to have higher debt levels. The controlling shareholder-and-managers may adopt high debt ratio to inflate their voting power.

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Keywords: Capital Structure, Ownership Structure, Corporate Governance, Performance, Agency costs, Board of Directors, Thailand.

Chapter 1

Introduction

This thesis examines the ownership structure, capital structure, and performance of listed Thai firms. The structure of corporate ownership matters because it determines the incentives and motivation of shareholders related to all activities and decisions occurring in the firm. In economic terminology, the ownership structure effects the agency costs, and hence the firm's value (Berle and Means (1932) and Jensen and Meckling (1976)).

In the neoclassical microeconomic framework, market prices play a crucial role in allocating resources efficiently. On the consumption side, consumers and investors make their decisions so as to maximize their utility through an appropriate allocation of their consumption over various goods and over time. On the production side, managers on behalf of the firm's shareholders make investment and production decisions to maximize profits, or the firm's value. In a well-functioning market, market prices are a signal for production and consumption decisions. Resources are allocated to the most efficient uses. Hence the firm's value maximization implies also social welfare maximization.

Unfortunately, the real economy does not fit the one modeled in this framework. There are many impediments that cause inefficiency. Imperfect information, agency conflicts and market imperfections, such as transaction costs, taxes, regulations cause economic agents to make decisions that are not optimal. Here I focus on an agency perspective. And it is the agency problem that bring attention to the theory of ownership and capital structure of the firm (Jensen and Meckling (1976)).

In a firm that is not run by an owner who owns 100 percent of the firm's shares, the agency

problem may exist. In principle, managers as agents are expected to maximize the firm's value for their principals, the shareholders and creditors. However, there is no guarantee that management always pursues activities that enhance corporate value or shareholders' wealth since they do not bear 100 percent of the costs. In other words, managers may use corporate assets to obtain private benefits that are detrimental to the interests of other stakeholders of the firms. Managers may expropriate wealth for their own benefits in several ways, such as cash out the firm's assets, consuming perks, choosing capital structure, investment and dividend policies to meet their own consumption demands, and expanding the firm sub-optimally. Thus, the existence of the agency problems is potentially harmful to the owners of the firm, which in turn has negative effect on the efficiency and the economy's welfare.

The traditional agency framework suggests that the seriousness of the agency problem decreases with managerial ownership. The agency costs can be limited if managers have high ownership because they have to bear the costs of private benefit consumption in proportion to the shareholdings (Jensen and Meckling (1976)). The managerial opportunism can also be constrained by monitoring from other shareholders. However shareholders with small stakes are likely to free-ride on monitoring since they have to bear individually all the costs of monitoring activities while obtaining benefits in proportion to the shares they hold. In contrast, a large shareholder with large stock holdings gains a larger fractions of the benefits of monitoring, so the benefits tend to crowd-out the costs.

There are, however, other factors that control the agency costs, including capital structure and other corporate control mechanisms, such as monitoring by the board of directors, market for corporate control and takeovers. Debt financing helps improve management's investment incentives, by causing managers to be more critical in choosing investment projects (Jensen (1986)). *This in turn effects the firm's performance.*

Over the past decade, numerous developing countries have undergone rapid transitions in their economic environment. In particular the rapid development of financial markets has caused changes in corporate ownership as well as capital structure. The number of companies that went public have increased. These companies once were closely held by families and used internal financing and bank borrowing. After going public, both ownership and financing structure would change. The issues such as how the ownership structure of public companies is set up

in the present environment, how concentrated the ownership is and how companies choose financing policy have therefore become relevant. These issues are important since there exists another agent in the firms, namely the public, who have to bear any agency costs created by management and controlling shareholders.

It is commonly thought that listed companies in developing economies are controlled by families. Yet, empirical studies relating to this topic are very few. To name a few, Khanna and Rivkin (1999) find that the majority of companies listed in the Bombay Stock Exchange are associated with diversified business groups that are controlled by families. In a similar manner, in South Africa, 50 percent of the capitalization of the Johannesburg Stock Exchange is controlled by only six business groups (Barr et al. (1996)).

Thailand offers an interesting setting regarding this topic. Traditional Thai firms, as in most developing countries, are owned, managed and controlled by individuals, families, and their partners. The source of capital is typically the owner-manager's capital, supplemented by bank borrowing if necessary. Recently the rapid development of the Thai economy and financial market has provided enough incentive for some of the privately owned firms to become public. The founding families were willing to share the risk and profits of their firms probably because they expected to grow faster with external financing during the beginning of 1990s. The number of firms that went public increased more than 5 times over the past 10 years; in 1986, ninety two companies, in 1990, hundred and fifty nine, in 1993 three hundred and forty seven and in 1996 four hundred and fifty four companies. The set up of the off-shore market, the BIBF (Bangkok International Banking Facilities) in 1993 made it easier for Thai firms to access foreign sources of funding. As a result, over the past decade, the ownership structure and the capital structure of Thai firms must have changed greatly. Up to date, there has not been enough research on this topic.

The dissertation analyses companies listed in the Stock Exchange of Thailand in 1996. The data sample consists of 270 non-financial companies. Description about the data is explained in detail in Chapter 2.

The dissertation begins the analysis by examining the ownership structure of Thai firms (Chapter 3). This is to find out the very basic but important issue: who owns and controls Thai firms. More specifically, the objective is to provide answers to the following questions. Are

there any large shareholders with high voting right? In other words, is it common for a firm to have a controlling shareholder? Who are the large shareholders? Do families really control Thai firms? Do banks, financial institutions, the government, foreign corporations, or other widely held corporations have big stakes?

In addition, I investigate how the ownership is organized. Specifically, I examine if the controlling shareholders simply hold companies' stocks directly, or they hold the shares via pyramid companies like South African conglomerates (Barr, et al. (1995)), or as cross-shareholdings like the Japanese Keiretsu and the Korean Chaebol (Fukao and Morita (1997), and La Porta, et al. (1999)). The pattern of shareholding does matter because the shareholdings such as pyramidal shareholdings and cross-shareholdings facilitate concentrating ownership without losing voting control. Without using dual-class share structures, which are prohibited in Thailand, a shareholder can control a firm by holding only a small fraction of the shares via pyramidal shareholdings and cross-shareholdings (Bebchuk et al. (1998)).

Next I examine whether controlling shareholders participate in management or if they merely control the voting power. In corporate governance terminology, to what extent is ownership and control separate. Examining these issues enables us to determine the severity of the agency problems in Thai firms.

The cross-sectional evidence on 270 listed companies confirms priori belief. That is, the ownership structure of Thai firms is concentrated. In a typical firms, the largest shareholder holds on the average 42.64 percent of the outstanding shares. An average shareholdings of the top five shareholders is 65.35 percent of the shares. Put differently, if we use the definition of having 25 percent shareholding as a controlling shareholder (defined by the Stock Exchange of Thailand), about 80 percent of the firms in the sample have at least one controlling shareholder. The majority of these controlling shareholders are indeed families.

Since the classic publication of Berle and Means (1932), the *Modern Corporation and Private Property*, studies in corporate finance literature have focused on corporations where ownership is dispersedly held by small shareholders. However, recent studies, including this study, are telling different story. Dispersedly held corporations that are describes in the model of Berle and Means (1932) are actually less common in countries outside the US and UK. Even in other developed countries, concentrated ownership structure is more universal. Specifically about 64

percent of large firms in the 27 most richest countries have controlling shareholders (La Porta et al. (1999)). Except Japan, controlling shareholders are dominated by families, who are often the firms' founders or their descendants. For example, families control 20.5 percent of German corporations (Franks and Mayer (1997)), 16 percent of Belgian corporations (Renneboog (1996)). In Italy, most of the public corporations are controlled by a single shareholder who holds majority voting rights (Zingales (1994)). In Japan, in contrast, companies are owned by banks and other corporations (Prowse (1992) and Kojima (1997)).

In most cases, controlling shareholders do not just hold concentrated ownership in the firms, but they are involved in the management (e.g. La Porta et al. (1999)). The evidence indicates that in most countries the relevant issue is not the conventional agency conflicts between hired management and outside minority shareholders. The agency problem between a controlling shareholder on one hand, and outside shareholders, and other stakeholders including, creditors and employees, on the other hand is more serious (La Porta et al. (1999)). This problem is severe in the firms where the controlling shareholders are also in management teams, and in the countries where the legal protection and enforcement of laws are poor (La Porta et al. (1998, 1999)). This new version of the agency problem has been a recent focus of academic research (Bebchuk et al. (1998), La Porta et al. (1999), Chung and Kim (1999), and Gomes (1999)). Not much has been understood, however.

The problem of controlling shareholders' expropriation of minorities became a central issue in Thailand after the 1997 economic crisis. There were at least two big scandals relating to this issue. First, the controlling shareholder and the founder of NakonThon Bank, the Wang Lee family, sold out almost all of their shares in the Bank when the Bank was in financial distress and about to be under control of the Bank of Thailand. They utilized inside information to cash out their shares in the bank, while minority shareholders were left out holding their shares with the value of 1/100 Bath per share (Krung Thep Turakit (July 16, 1999), p. 1). Second is the case of Thai Modern Plastic. The Panamaneechot family, who owned and ran the company to financial distress, diverted the company's funds by transferring more than one-third of the company's foreign borrowings (up to US 50 million) to the family's accounts and their privately owned companies. The company was not only over-borrowing, but also hid its real financial status from its lenders. When the company defaulted, about sixty creditors were owed a combined debt of

US 130 million, which was more than four times than the debt that the company disclosed to its creditors (Far Eastern Economic Review (September 16, 1999), p. 57-8).

In the case of Korea, the fear of controlling shareholders expropriating corporate assets led to efforts to limit ownership concentration by the Korean government (Chung and Kim (1999)). The Korean securities law puts a limit on shareholding by an individual or family. Specifically, a group of families cannot hold more than 51 percent of a company's voting shares. In addition, the aggregate shareholdings by minority shareholders have to be at least 40 percent (Chung and Kim (1999)). Extensive research on this issue is needed in the case of Thailand if the Thai policy makers would adopt similar policy as in Korea.

I investigate empirically whether controlling shareholders effectively expropriate corporate resources and consume private benefits that is detrimental to the firms' operating profits in Chapter 4. If this is the case, firms with controlling shareholder should display poor performance than firms with no controlling shareholder.

The agency costs between controlling shareholders, and outside shareholders in the firms with controlling shareholders, and the agency costs between management and outside shareholders in the firms with no controlling shareholder may be controlled by some internal and external corporate governance mechanisms. Following previous studies, the corporate governance mechanisms are self-constrained by management from holding ownership in the firms, monitoring by financial institutions, and monitoring by the board of directors. In Chapter 4, I extend the investigation to see if the potential corporate governance mechanisms exist in Thai firms, namely managerial ownership, the monitoring by domestic and foreign financial institutions, the monitoring by the board of directors, are effective.

In Chapter 5, I analyze the capital structure of Thai firms. Deciding how much debt and equity to employ in a firm's financing structure is among the most basic policy choices confronting the firm. In an imperfect market, the decision over debt-equity choices are important since it affects the firm's value or performance. Capital structure affects performance because it affects the payments of interests, the probability of financial distress, and the agency costs arise in the firm.

The capital structure theory suggests that in choosing debt-equity ratio, firms should rebalance various costs and benefits associated with debt and equity financing. That is, firms are

able to select an optimal capital structure. Theory concerning the optimal capital structure can be divided into three main categories: the tax based theory, the signaling theory and the agency cost theory.

First, the tax based model hypothesizes that firms choose their debt-equity ratio by trading off the benefits from tax reduction on interest payments against the costs of financial distress due to accumulating more debt.

However in the firms where individuals who supply capital do not run the firms themselves, there exist 2 types of asymmetric information problems. The first problem arises when there is adverse selection. The controlling managers may possess some information that is unknown to outside investors. In such cases the financing method can serve as a signal to outside investors. Facing information asymmetry between inside and outside investors, firms end up having a financial hierarchy. First they try to use their retained earnings, and then move to riskless debt when their internal fund runs out. Equity is issued only when firms have no more debt capacity (Myers (1984) and Myers and Majluf (1984)).

The second problem due to information asymmetry is the principal-agent conflict. Managers (and controlling shareholders) who do not own 100 percent of the firm may be opportunistic. They have incentives to operate the firms in their own interests since they do not bear all the costs. One way to avoid the agency costs of equity, the firm can use debt financing to discipline managers (Jensen (1986), and Stulz (1990)). However debt financing creates other agency costs. Jensen and Meckling (1976) argue that managers on behalf of the existing shareholders are likely to expropriate wealth from their debt-holders by conducting asset-substitution behavior. That is, they may invest in risky projects because if unsuccessful, the costs will be shared. But if successful, the existing shareholders will capture the gain.

On the other hand, Myers (1976) argues that firms with heavy debt may have to pass up their value-increasing projects merely because they cannot afford to pay their current debt. Therefore in choosing their debt-equity level, firms should trade off between the agency costs of debt and the agency costs of equity. That is, firms whose managers hold high equity ownership, or firms with a concentrated ownership structure are likely to have fewer agency problems, and hence there is no need to issue high debt.

In Chapter 5, I analyze the debt-equity choices of Thai firms base on these three capital

structure theories. Additionally, I provide evidence on Thai firms' financing structure by presenting an balance sheets aggregation of all firms in the sample. Such findings can be provide better understanding about the capital structure of Thai firms to policy makers. The results may be used to guide practitioners in considering about trade-offs among different capital structure choices.

Chapter 2

Data

2.1 Data sources

This study uses firm-level data for non-financial companies listed in the Stock Exchange of Thailand in 1996. There were 363 listed companies in 1996. But due to data incompleteness, I was not able to include all companies in the sample. The companies that do not have a complete record on the variables included in the models or their accounting periods is not from January 1 through December 31, 1996 were excluded. I ended up with having a sample set containing 270 firms. The mean market value of equity of the 270 companies in the sample accounts for 97.08 percent of the market value of all non-financial companies listed in the Stock Exchange of Thailand.

The data were collected from multiple sources. The equity ownership, member of the board of directors, share prices, number of shares outstanding, years of incorporation and accounting data obtained directly from the Stock Exchange of Thailand and from the I-SIMS database produced by the Stock Exchange of Thailand. Except data on ownership, the data used are as of the end of 1996. For ownership data, the database provides the ownership information at different time for different companies over the period from January 1 through December 31, 1996. To check if it is appropriate to use this database, I examined ownership patterns over the past five years. The ownership structure appears to be indeed stable. There were very few cases of changes in control over companies, measured by changes in major shareholders. Hence using the ownership database should not introduce serious bias to the analysis.

The equity ownership database includes shareholdings that are higher than 0.5 percent.

The ownership here means voting rights associate with numbers of shareholdings. In fact voting rights are equal to cash flow rights since the Thai corporate charter does not allow firms to issue shares apart from one-share-one-vote rule. Supplemental information on equity ownership, in particular lists of each firms' affiliates and their share stakes are collected manually from the data base of the library of the Stock Exchange of Thailand and the Ministry of Commerce.

Information about family relationships among members of the boards of directors and shareholders is obtained from company files available at the library of the Stock Exchange of Thailand. This information is part of the information disclosure requirements of the the Stock Exchange of Thailand on listed companies. The company files provide the past five years ownership patterns, lists of the top ten largest shareholders and their relationships. Additional references for ownership structure and family relationships, especially those affiliated with business groups are obtained from the Thai newspaper, Than Setthakij (various issues), Manager Information Services (1996), Pornkulwat (1996), Suehiro (1989), and Pipatseritham (1981).

The data is cross-sectional because it is difficult to obtain data on ownership patterns, especially ownership patterns of corporate shareholders. The limited availability of ownership data makes it impossible at the present to construct a proper panel containing cross-sectional and time-series data, which are likely to yield richer findings.

Before proceeding further, a caveat must be noted about the data. The study is based on the data of 1996, about 6 months before the financial crisis occurred. Results based on accounting data obtained from this study may not reflect the normal situation for Thailand. Nonetheless bearing the above in mind, the study does provides an understanding of corporate ownership structure, corporate finance, and governance in emerging markets.

2.2 Sample description

This section describes the characteristics of the companies in the sample. Table 2.1 shows the number of companies in the sample by industry. The industry groupings are the same as those of the Stock Exchange of Thailand.

Table 2.2 presents descriptive statistics for companies in the sample. In general, companies in the sample are not just small or start-up companies. The average number of years since a firm was set up is 21.02 years.

The sample includes both large companies and smaller size companies. The book values of total assets vary from 179,785 million Baht to the minimum of 325.82 million Baht, with the mean and median values of 7,140.71 million Baht and 2,428.76 million Baht, respectively. Sales revenues vary from a maximum of 107,273.01 million Baht to a minimum of 11.31 million Baht, with the the mean and median values of 3,531.52 million Baht and 1,544.03 million Baht, respectively. The market value of equity presents a similar picture. The mean market value of equity of companies in the sample is 4,485.53 million Baht, with the median value of 926.94 million Baht.

The ranking of companies in Thailand, published by Management Information Service (1996b) shows that our sample includes large companies. Management Information Service (1996b) lists the 2000 largest companies in Thailand in 1994. Both listed and non-listed companies are included. This source of information is used because there is no information available for 1996. It is the closest data available to 1996. The rankings based on 1994 data probably do not provide exact information for the companies in our sample. Nevertheless, the rankings do help to understand the characteristics of companies in our sample.

Table 2.3 shows that 22 companies in our sample appear in the 100 largest companies in Thailand in 1994. About 35.56 percent of companies in the sample are among the largest 500 companies in Thailand. Approximately 77.78 percent of our sample or 210 companies are in the top 2000 companies.

Further examination shows that our sample also includes companies that are affiliated with big business groups. Sixty seven companies that belong to the 23 business groups in our sample, accounting for 24.81 percent of the sample (see the definition of business group in Chapter 3.

2.3 The Stock Exchange of Thailand: Background

This section provides brief background of the development of the Stock Exchange of Thailand, based on the Stock Exchange of Thailand (1995, 1997a 1997c).

The Stock Exchange of Thailand was formally established in 1974 and started trading on 30 April 1975. The setup of the stock exchange in part of the Second National Development Plan (1967-1971). Trading in the stock market was not active until the end of the 1980s (Table 2.4 and (Table 2.5).

Table 2.1: Companies in the Sample: Classified by Industries

This table presents characteristics of companies in the sample, classified by industries. The sample consists of non-financial companies listed in the Stock Exchange of Thailand in 1996.

Industry	No. of firms
Agribusiness	28
Building Materials	29
Chemicals and Plastics	11
Commerce	12
Communication	10
Electrical Products and Computer	9
Electrical Components	5
Energy	5
Entertainment and Recreation	6
Food and Beverages	20
Health Care Services	12
Hotel and Travel Services	9
Household Goods	5
Machinery and Equipment	5
Packaging	16
Printing and Publishing	9
Property Development	29
Pulp and Paper	5
Textile	20
Transportation	6
Vehicles and Parts	8
Others	11
Total	270

Table 2.2: Descriptive Statistics for the Sample

The sample consists of 270 non-financial companies listed in the Stock Exchange of Thailand in 1996. Accounting data is for consolidated companies, obtained from the Stock Exchange of Thailand.

	Mean	Median	Max	Min
Book value of total assets	7,140.71	2,428.76	179,785	325.81
Sales revenue	3,531.52	1,544.03	107,273.01	11.31
Market value of equity	4,485.53	926.94	118,930.5	47.20
Number of years incorporated	21.02	17	120	2

Note: Values are in million Baht.

Table 2.4 present the stock market capitalization as a proportion to the GDP. Market capitalization or the market value of companies is used to measure the size of a stock market. Market capitalization is measured as equity price at the last trading day of a year multiplied by the outstanding shares. The market capitalization has been under 10 percent of the GDP over the period 1975-1986. The market value of the listed companies compared to the GDP rises rapidly since the latter half of the 1980s, from 14.34 percent in 1988, to 35.79 percent in 1991. In 1993, the market capitalization is 104.89 percent, more than the country GDP. However, the market capitalization relative to the GDP becomes smaller after 1993. At the end of 1996, the market capitalization is 55.54 percent to the GDP.

The same picture emerges from looking at number of listed companies (Table 2.5). The number of listed companies that listed common stocks were less than 100 over the period 1975-1986. The number of listed companies started to grow rapidly after 1987. There are 136 listed companies in 1988. In 1990, the number of listed companies are 209, increased about 53.67 percent in 2 years. The number of listed companies grows to 347 and 454 in 1993 and 1996, respectively. Over one decade (from 1986-1996), the number of listed companies increases approximately 410 percent.

Securities traded in the Stock Exchange of Thailand are ordinary shares, preferred shares, unit trusts, warrants, debentures and convertible debentures. Trading of ordinary shares, however, has dominated other securities. For example, at the end of December 1996, there are 454 ordinary shares, 71 unit trusts, 40 warrants, 9 preferred shares, 5 debentures and 1 convertible debenture being traded (Table 2.5).

Table 2.3: Ranking of Companies

This table presents the number of companies in the sample that fall into the 6 levels of rankings of the 2000 largest companies in Thailand. The rankings are based on total revenue of all companies in Thailand in 1994, published by Management Information Service (1996b). Total revenues include sales and other revenues. Top 100 means the top 100 largest companies. Top 100 - 200 means the top 101 - 200 companies. Top 2000 means the top 2000 largest companies.

Ranking	Total revenue (Million Baht)	No. of firms in the sample	As percentage of firms in the sample
Top 100	4,314.84 - 65,853.96	22	8.15
Top 100- 200	2,604.41 - 4,314.84	21	7.78
Top 200 - 500	1,240.6 - 2,604.41	53	19.63
Top 500 - 1000	639.14 - 1,240.6	65	24.07
Top 1000 - 1500	399.89 - 639.14	26	9.63
Top 1500 - 2000	285.25 - 399.89	23	8.52
Top 2000	285.25 - 65,853.96	210	77.78

Table 2.4: Market Capitalization to GDP: 1976-1996

Market capitalization is measured as equity price at the last trading day of a year multiplied by the outstanding shares. GDP is measured at current price.

Year	Capitalization/GDP (%)
1975	1.85
1976	2.15
1977	4.89
1978	6.93
1979	5.10
1980	3.73
1981	2.99
1982	3.48
1983	3.76
1984	4.87
1985	4.88
1986	6.87
1987	11.20
1988	14.34
1989	35.51
1990	28.10
1991	35.79
1992	52.46
1993	104.89
1994	90.82
1995	85.16
1996	55.54

Source: Stock Exchange of Thailand (1997a), and Bank of Thailand (various issues).

Table 2.5: Number of Listed Companies: 1976-1996

This table presents number of companies listed in the Stock Exchange of Thailand. Listed companies are classified according to types of securities, namely common stocks, preferred stocks, unit trusts, convertible bonds, debentures, and warrants.

Year	Common stocks	Preferred stocks	Unit trusts	Debentures debentures	Convertible Debentures	Warrants
1975	21	2	0	3	1	0
1976	25	2	0	4	1	0
1977	38	2	1	4	1	0
1978	59	3	2	7	0	0
1979	66	3	3	6	0	0
1980	74	3	3	5	0	0
1981	74	3	3	5	0	0
1982	74	3	3	5	0	0
1983	74	3	3	5	0	0
1984	92	3	4	0	0	0
1985	93	3	4	0	0	0
1986	89	3	4	2	0	0
1987	104	4	5	12	0	0
1988	136	4	5	20	0	0
1989	170	8	5	32	3	0
1990	209	8	5	31	7	1
1991	270	8	6	25	8	1
1992	305	10	15	18	8	3
1993	347	10	22	17	6	6
1994	389	9	61	11	3	21
1995	416	9	69	11	1	32
1996	454	9	71	5	1	39

Source: Stock Exchange of Thailand (1997a)

Chapter 3

The Equity Ownership Structure

Abstract

This chapter examines the ownership structure of listed Thai firms in 1996. The ownership structure is concentrated. In 82.59 percent of the firms in the sample, the largest shareholders are also controlling shareholders. The controlling shareholders are mainly families. Foreign investors form the second largest group of controlling shareholders. Most of the controlling shareholders use a simple ownership pattern to control the firms. Only in 21.27 percent of the firms, the controlling shareholders employ pyramid structures, and cross-ownership structures to control the firms. The controlling shareholders do not just control the votes. In approximately 70 percent of the firms in the sample, the controlling shareholders are involved in the firms' management as officers and directors.

In this chapter, I first review the Thai Corporate Law related to ownership structure and the legal protection to shareholders (Section 3.1). The general picture of the ownership structure of Thai firms are described in Section 3.2. In Section 3.3, definitions used in calculating ownership is defined. Section 3.4 provide the evidence on who are the owners of Thai firms, how the ownership is organized and in which extent the ownership and management are separated. Section 3.5 is the summary and conclusion.

3.1 Legal protection of shareholders

This section reviews shareholder rights in Thailand ¹. Public companies are governed by the Public Limited Companies Act B.E. 2535 (A.D. 1992) and the Securities and Exchange Act B.E. 2535. The organization that supervises and oversees the stock market is the Securities and Exchange Commission (SEC). This section reviews the shareholder legislations related to the following issues, ownership disclosure, voting rights, the board of directors, shareholder meetings, shareholders legal protection, and dividend.

First, the ownership disclosure legislation, listed companies are obliged to disclose their top ten major shareholders as well as their shareholdings. Furthermore notification to the Stock Exchange of Thailand is obligatory if there is any change in an ownership position of more than 10 million Baht in value, or more than 0.5 percent of the company's paid-up capital. The notification must be done within 3 working days. The listed companies are also required to declare the shareholdings of the companies' stakes by their management teams as well as their relationship. The management team includes directors, executive directors, managers, employees at the level of department manager or above, persons in other titles who have the power to manage the company, and persons with whom the company has entered into a contract conferring to them the right to manage the company, in whole or in part.

Second, voting right legislation, listed companies are prohibited from issuing non-voting shares, low and high voting shares or any types of shares that do not follow the one-share one-vote rule.

Third, the board of director legislation, the members of the board must not be less than 5, with at least 2 independent directors. Independent directors are defined as agents who are not

¹This section is based on Stock Exchange of Thailand (1997a, 1997c, 1998), Setsatien (1992) and Sersansie and Nimmansomboon (1996)

related to the company's major shareholders and are not employed by the company and its associated companies as regular employees or advisors. In addition, independent directors must not hold directly or indirectly more than 0.5 percent of the outstanding shares, .

In voting for a director, the Stock Exchange of Thailand allows the cumulative voting principle. In this case, a shareholder's voting rights is equal to the number of shares she holds multiplied by the number of directors being elected. In principle, a shareholder may use the votes in favor of a person. Therefore, it is possible for a shareholder with small stakes in the company to put her representatives on the board of directors. Compared to non-cumulative voting rule, the cumulative voting principle gives more power for minority shareholders to place their representatives on the board (La Porta et al. (1998)).

Forth, shareholder meeting legislation, an annual ordinary meeting of shareholders has to be organized within four months after the last day of the company's fiscal year. A shareholder must show up in person or authorize a representative to attend the meeting to be able to vote. Unlike in some countries, e.g. the US., UK., Australia, Canada, and Hong Kong (La Porta et al. (1998)), shareholders cannot vote by mail.

A shareholder may call for an extraordinary shareholders' meeting. The percentage of shares needed for a shareholder to be able to do so is 20 percent. Compared to other countries, the ownership level to call for an extraordinary shareholders' meeting in Thailand is rather high. (La Porta et al. (1998) shows that the mean value of the ownership levels to call for an extraordinary shareholders' meeting of 49 countries around the world is 11 percent.) The lower the fraction of shares required, the higher the opportunity for small shareholders to arrange a meeting to challenge the power of the management team, and hence the more the interests of small shareholders are protected (La Porta et al. (1998)).

In general, a majority rule is applied in any corporate decision except in the following cases: increases and decreases of the equity capital, issuing corporate bonds, changes in the acts of incorporation, merger and acquisition, making, amending or terminating a contract relating to selling, transferring leasing of the company's assets. In these cases, a super-majority of 75 percent of the voting rights is required.

Fifth, legal mechanism used to protect shareholders against opportunistic activities of management is the following. If a director's activity causes damage to the company, a shareholder

or a group of shareholders holding at least 5 percent of the paid-up capital have the legal right to direct the company to claim compensation. If the company fails to take such an action, the shareholder can ask the court to claim compensation or stop the action on behalf of the company.

To nullify any corporate decision, 20 percent of share capital is needed. With this level of shareholding, a shareholder or a group of shareholders has the right to investigate a company's financial status, business operation and inspect the board of directors' conduct.

A shareholder with at least 10 percent of shareholding has the right to submit a motion to the court for the company's liquidation if i.) management fails to act in accordance with the provisions relating to payments of stock issuance and transferring of ownership, ii.) the number of shareholders is less than 15, and iii.) the company is in financial distress and has no possibility of recovering.

Finally, regarding to dividend legislation, dividend payment has to be approved by the shareholder meeting. A company cannot pay out dividends from other sources except its profits. Dividends cannot be distributed if the company still has an accumulated loss. In addition, dividends cannot be paid if the company's retained earnings are less than 10 percent of the registered capital. The Law requires that the company must allocate to the company's reserve at least 5 percent of its annual net profit less accumulated losses carried forward from the previous period until the retained earnings reach the amount of at least 10 percent of the registered capital.

3.2 The ownership structure: General picture

Table 3.1 describes the general picture of the ownership structure of Thai firms. The shareholdings of each group of investors are calculated in the following manner. I first aggregated shares held by non-individual investors namely, banks, investment trusts, security and insurance companies, domestic corporations, government, and foreigners. To obtain stakes held by individual investors, I aggregated the stakes held by these non-individual investors and then subtracted this amount from one hundred. Because the database identifies shareholders whose stakes are above 0.5%, the stakes held by individuals are overstated. Stakes held by the other investors are, however, understated. Even with this weakness, the evidence does not give a wrong picture of the ownership structure. Further evidence will be shown later to support this conclusion.

Table 3.1 reveals that Thai firms are owned in the highest proportion by individuals. Specifically, individuals hold 54% of the outstanding shares. Domestic corporations emerge as the second largest group of shareholders, accounting for 25.76%. Among the corporate shareholders, holding companies' stakes are 4.77%.

Shares held by financial institutions are relatively low. Domestic banks, investment trusts, security companies and insurance companies together hold less than 10 percent of the outstanding stocks. With respect to banks, Thai banks do not hold large shares of Thai firms, even though banks in Thailand are quite active in accumulating and supplying funds. Over all domestic banks hold about 1.43% of the outstanding shares.

The government, represented by the Ministry of Finance, other state enterprises, and financial institutions owns, 0.79% of total shares. Foreign investor on average hold 12.3% of outstanding shares. Foreign investors can be classified into 2 groups: foreign financial institutions who engage in portfolio investment, and multinational firms and individual investors who engage in direct investment.

By considering this general evidence, the Thai firms seem to be widely held with individuals and corporations as major shareholders. However as I will show later, these investors do not hold merely small stakes in the firms. Ownership of Thai firms is concentrated in the hands of wealthy families.

Comparing the pattern of Thai equity holdings with the share-holdings in other countries will give better understanding of the Thai ownership structure. Here I present the corporate ownership of four developed countries, namely Japan, Germany, the United States, and the United Kingdom as references. The comparison with countries in emerging markets is also interesting. But I could not find similar research.

The equity holdings of the four countries are presented in Table 3.2. The ownership information of the four countries is from 1992 data, while Thai data from 1996 is used. Even though the data are not from the same year, the comparison is still interesting. Considering the aggregate shareholding pattern, the Thai ownership structure may look similar to both the capital market based countries (the United States, and the United Kingdom) and to the bank-oriented countries (Japan and Germany). However closer examination leads to the conclusion that the Thai ownership structure is far different than that of either group of developed countries.

Table 3.1: Percentage of Outstanding Corporate Equity Held by Investors

This table presents mean percentage of shares held by various investors. Data sample contains 270 non-financial firms listed on the Stock Exchange of Thailand in 1996.

Investor	Mean Percentage of Shares
Banks	1.43
Investment Trusts	1.55
Security and Insurance Companies	5.32
Domestic Companies	25.76
Individuals	54
Government	0.79
Foreigners	12.3
Total	100

Table 3.2: Ownership Structure of listed companies in Japan, Germany, U.S. and U.K. in 1990-91

Investor	Japan	Germany	U.S.	U.K.
Banks	25.2	8.9	0.3	0.9
Pension funds	0.9	0	24.8	30.4
Insurance Companies	17.3	10.6	5.2	18.4
Investment Companies	3.6	0	9.5	11.1
Domestic Companies	24.7	39.2	0	3.6
Individuals	23.4	16.8	53.5	21.3
Government	0.6	6.8	0	2
Foreigners	5	17.7	6.7	12.3
Total	100	100	100	100

Source: Adapted from Kester (1992), Table 4, p. 33.

First the high corporate shareholdings are similar to the patterns in Japan and Germany. In Japan and Germany, the corporate shareholdings are cross-shareholdings within industrial groups (for Japan see Sheard (1994), Kojima (1997), for Germany see Schneider-Lenné (1994), Gordon and Schmid (1996) and Franks and Mayer (1997)). In Thailand, corporate shareholdings are between companies in the same *family* groups. Second individuals are the largest shareholders in Thailand, which is true also in the United States. However the pattern of shareholdings is totally different. While individuals in the United States hold small stakes, Thai individual shareholders do not. In many cases, they are major shareholders. I will elaborate on this issue in the following section.

The major characteristic that is different from the developed countries is that the weight of the financial sector's equity holdings of Thai corporations is very small. This evidence is different from banks in Japan and Germany. By comparison, Japanese banks hold 25.2% and Germany banks hold 8.9%. This is surprising since it is well documented that the Thai financial market is dominated by banks. There are two plausible reasons why Thai banks do not hold high equity. The first reason may stem from legal restrictions. Banks are barred by law from holding high equity. Commercial banks in Thailand are subject to a Commercial Bank Act that limits them to hold other firms' stocks only up to 20% of their own equity. In addition, a bank's maximum equity holdings in a company is limited to 10% of the company's total outstanding shares. Approval from the Bank of Thailand is needed otherwise.

The second reason may be due to the way Thai banks and other financial institutions developed. Most of the big financial institutions especially banks are controlled, or in some cases established, by the wealthy families or conglomerates. Financial institutions and banks have been used as tools to gather and provide capital to finance the growth of the groups' businesses as well as facilitate business transactions, rather than being used to control companies (Pipatseritham 1981)).

The inactive role of financial institutions in holding firms' shares may also be due to the characteristics of the Thai capital market and financial sector. The Thai capital market, by its nature, is still in the early stage of development. It just started to grow since the latter half of 1980s, and grew very rapidly in the first half of the 1990s. As a consequence financial institutions are relatively small in size, have less capital, and experience in portfolio investment.

In sum, the major shareholders of Thai firms are individuals, and corporations. This general picture, however, does not reveal whether Thai firms are held by shareholders with small or large stakes of the firms. In next section, we will investigate how big the stakes held by each type of investor (the concentration of ownership) and who the largest shareholders are.

3.2.1 Ownership concentration

This section provides information on the concentration level of ownership of Thai firms. Following previous studies, ownership concentration is measured by the percentage of shares held by the largest shareholder, the three largest shareholders and the five largest shareholders. The higher fraction of shares held by these large shareholders, the higher the level of ownership concentration is. This information is summarized in Table 3.3. The entries of the largest shareholder and the three largest shareholders are subdivided into three main investor groups. The three main investor groups are individuals, domestic and foreign corporations and financial institutions. Financial institutions include domestic and foreign banks, security companies and insurance companies.

Since corporate shareholders, in many cases, are companies in the same group. Put it differently, these companies have the same ultimate shareholders. Therefore, it is more meaningful to aggregate these companies as one entity. Specifically, in calculating the stakes owned by corporate shareholder, I use two criterion. In Method (a), companies that have the same ultimate shareholders are aggregated as an entity. A firm X is said to be an affiliated company of a family Y, if members of Y family, and its affiliates hold in combination more than 25% of X's shares. As discussed in Section 3.1, at this level of ownership, a shareholder is a firm's controlling shareholder or ultimate shareholder.

In Method (b), a group's corporate shareholders are not aggregated. An *Entity* is merely another firm. Method (b) is introduced for comparison (since aggregating the stakes held by affiliated firms that are not held 100% by the controlling shareholders overstates the real equity votes).

With respect to individual shareholders, individuals with the same family name as well as their immediate families are aggregated as a single shareholder.

Table 3.3 indicates the high degree of ownership concentration. Considering first the results

applying method (a), corporate shareholders dominate other groups of investors in importance as large block-holders. The average holding of the largest corporate shareholders is 24.65%, and the mean combined stake of the three largest corporate shareholders is 29.75%. Individual shareholders or families are the second largest group of block-holders. On average the largest individual shareholder holds 21.26% of the shares. The maximum shareholding held by the largest individual shareholder reaches 92.53%. The three largest individual shareholders or families own 27.56% of outstanding equity.

The results using method (b) are a little different from the results using method (a). Corporations do not dominate individuals in being the largest shareholder. However they are more or less as important. While the largest individual holds 20.56% of the firm, the largest corporation's fraction is 20.03%. Further the top three individual and corporate shareholdings are 27.56% and 27.87%, respectively.

Among the three groups, domestic and foreign financial institutions are the smallest block-holders. The largest institutional holdings are 4.98%, using method (a) and, 4.96% using method (b) respectively. And the average shareholdings of the three largest financial institutions are 8.91% in both methods of calculation.

The high degree of concentration of ownership is further emphasized when we look at the mean percentage of shares held by the top five shareholders. Here I present the ownership of the five largest shareholders as a whole. In calculating the ownership of the five largest shareholders, again two methods are used. In method (a), corporate shareholders with the same controlling shareholders, and their controlling shareholders are represented as one single shareholder. In method (b), a shareholder is simply a group of family, or a corporation. The fraction of shares held by the five largest investors is 65.78% and 62.2%, using method (a) and method (b) respectively. The maximum holding is 98.26% and the minimum is 20.84%.

To sum up, the evidence shows that Thai firms are not widely held by shareholders holding small fraction of the firms' shares. Shareholding by the largest shareholder alone accounts for 24.65%, on the average. The ownership is concentrated in the hands of corporate and individual shareholders.

Up to this point, I have been using the standard method commonly used in the developed countries to describe the ownership patterns of Thai firms. It does not seem to be appropriate

Table 3.3: Ownership Concentration

This table presents mean summary statistics of the ownership of the largest shareholder, the three largest shareholders and the five largest shareholders.

In aggregating the ownership, individuals who have the same family name are aggregated as a single unit. In (a), firms that have the same ultimate shareholder are aggregated as one entity. In (b), an entity is merely another firm.

	Mean	Median	Maximum	Minimum
<hr/> <i>Largest shareholder</i> <hr/>				
Individual	21.26	14.47	92.53	0
Corporation (a)	24.65	20.59	86.82	0
Corporation (b)	20.03	17.68	65.43	0
Financial institution (a)	4.98	3.98	33.88	0
Financial institution (b)	4.96	4.03	33.88	0
<hr/> <i>Three largest shareholders</i> <hr/>				
Individuals	27.67	19.95	98.26	0
Corporations (a)	29.98	29.64	96.98	0
Corporations (b)	27.87	27.17	75.31	0
Financial institutions (a)	8.91	8.00	37.73	0
Financial institutions (b)	8.9	8.00	37.73	0
<hr/> <i>Five largest shareholders</i> <hr/>				
Five largest shareholders (a)	65.78	66.72	98.26	20.84
Five largest shareholders (b)	62.2	63.03	98.26	20.84

since in many cases a family or individual controls a company via holding the company's stocks using its name as well as its affiliated companies. These two types of shareholders should be combined as one entity to represent shareholdings of a single family. More specifically, in order to investigate who are the real owners of Thai firms, it is important to search for the firms' ultimate shareholders or controlling shareholders. Thereafter, ultimate shareholders and controlling shareholders will be used interchangeable.

3.3 Definition of controlling shareholder

In order to find out who are the ultimate owners of Thai firms, we first have to define how a shareholder can control or be an owner of a firm. Following the Stock Exchange of Thailand, a shareholder is a controlling shareholder or ultimate owner of a firm if he owns directly or indirectly more than 25 percent of the firm's shares. 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 (see Section 3.1). First, a controlling shareholder

can nullify any corporate decisions. Second, 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. Third, a controlling shareholder can call an extraordinary general meetings any time. Forth, a controlling shareholder can submit a notion 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.

Direct ownership means that an individual (or a family) holds shares in his own name. Members of a family are treated as a single shareholder on the assumption that they vote as a coalition. Members of a family include those who have the same family name and close relatives as well as relatives of in-laws of the family. Although there were cases of fighting for controlling power within a family, here I do not take this topic into consideration.

In the case of indirect ownership, or when a firm's shares are held by a company or through a chain of companies, I search for the ultimate owner (controlling shareholder) of the last company. This indirect ownership is defined in the same way as La porta, et al. (1999). An individual or a family B indirectly controls x percent of company 1 if: i.) B directly holds more than 25 percent of shares of company 2, which directly holds x percent of company 1; or ii.) B directly controls company 3 which in turn controls company 2, which directly holds x percent of company 1. The chain of controlling of a firm could be many layers. Here we do not place a limit to the number of companies in this control chain as long as each of the companies has controlling power over the next one.

Firms that do not have an ultimate controlling shareholder, a shareholder of more than 25 percent voting rights, are defined as firms without controlling shareholder. Firms that are owned by a corporation as well as financial institution that have no controlling shareholder also fall into this category.

I classify ultimate owners into 4 groups: an individual or a family, the Thai government, foreign investors, a group of more than one individual or family. Government control is considered separately because the government's purpose in controlling firms may be the country's welfare. Sometimes government ownership may help to serves political objective, that goes against the public interests (Shleifer and Vishny (1994)).

I separate firms that are controlled ultimately by more than one individual or family as a

separate category. The reason is that the seriousness of agency problems and contractual costs of a firm that is controlled by more than one group of shareholders might not be the same as those with one controlling shareholders. Since there exist other large shareholders in the firms, they might monitoring each other, resulting in lower agency costs.

For foreign corporate shareholders, I do not search for the ultimate control of their parent companies. So it can be the case that firms that have foreign corporations as their controlling shareholders and hence defined as foreign-controlled firms may be actually widely-held firms if their parent companies in the home based countries are dispersedly owned. Fortunately the fraction of such firms is small, as will be shown in next section.

3.4 The controlling shareholders of Thai firms

We will first have a brief look at who are the largest shareholders of Thai firms. Table 3.4 reveals that out of 270 companies, 197 companies, or 72.96 percent of the sample, have an individual or a family as their largest shareholder. The second group who appear as largest shareholders are foreign investors. There are 46 companies in this group or 17.04 percent of the sample. These foreign investors are 23 corporations, and the rest 23 are individuals. There are 13 companies, or 4.81 percent of the firms that are owned by companies, which are controlled ultimately by more than one individual or family. The number of these ultimate shareholders ranges from two to six. The Thai state appears to be the largest shareholder in 9 companies, or 3.33 percent of the companies in the sample. There are only 5 companies that have the largest shareholder as public corporations, which have no ultimate shareholder. Among five of them, the largest shareholders of two companies are widely held financial institutions, and the others are other public corporations.

Panel B shows summary statistics of ownership of the largest shareholders of all firms in the sample. The largest shareholders hold big stakes in the firms. The percentage of outstanding shares held by the largest shareholders ranges from a minimum of 5.92 percent to a maximum of 92.53 percent, with a mean of 43.31 percent.

We have seen that the largest shareholders hold big stakes of the firms. It is then interesting to examine the number of companies with and without controlling shareholder. Table 3.5 presents the number of firms that have controlling shareholders. Out of 270 firms, 223 firms or

Table 3.4: The Largest Shareholder

This table identifies the largest shareholder of each firm. Information includes the ownership level. Firms are classified into each category according to their controlling shareholders. Controlling shareholder is a shareholder whose ownership of the firm's shares directly and indirectly exceeds 25 percent. Companies without a controlling shareholders are classified as widely held corporations. Direct ownership means that an individual holds shares in his own name. An individual or a family B indirectly controls x percent of company 1 if B directly holds more than 25 percent of shares of company 2, which directly holds x percent of company 1. The chain of controlling of a firm could consist of many layers. *More than one group of shareholder* stands for firms that are owned ultimately by more than one group of shareholders.

Panel A: Identification of the Largest Shareholder

Type of shareholders	Number of firms	Percentage
An individual or a family	197	72.96
Government	9	3.33
Foreign investors	46	17.04
More than one group of shareholder	12	4.81
Widely held corporations	5	2.85
Total	270	100.00

Panel B: Summary Statistics of the Ownership of the Largest shareholder

Mean	43.31
Median	44.12
Standard deviation	17.59
Maximum	92.53
Minimum	5.92

82.59 percent of the firms have ultimate owners. Only 47 firms or 17.41 percent of the firms have no single shareholder holds more than 25 percent of the firms' shares. The ownership information reveals that there exist not only firms with one controlling block but also firms that are controlled by more than one group of shareholder. The percentage of this type of firms is 10 percent. The shareholdings of these firms can be classified into 2 groups; firms with two groups of controlling shareholders (5.19 percent), and firms that are owned ultimately by more than one family (4.81 percent of the firms in the sample).

The number of firms that are controlled by a single family is the highest. Single family-controlled-firms account for 57.41 percent of firms in the sample. The number of family-controlled firms are in fact higher if we also add firms that are controlled by more than one family (4.81 percent of the firms). In addition, families also appear in the two controlling blocks category. In 17 firms that have two controlling blocks, 14 firms have families as one of their controlling shareholders. These families either control the firms together with another family (5 firms), or with foreign investors (10 firms). So in total 183 firms or 67.78 percent of the firms are controlled by families.

The second largest group of controlling shareholders are foreign investors. There are 35 firms that are foreign-controlled, or 12.96 percent of the firms. If we include foreign controlled firms that appear in the more than one controlling shareholder category, then there are 49 firms, or 18.15 percent, that have foreign investors holding controlling votes. However 31 cases, or 11.48 percent of the firms are controlled by foreign corporations, for which I do not have information of their ultimate owners. These foreign corporations are for example, the Mitsui group (Japan), Asahi Glass Corporation (Japan), and Berli-Jucker corporation (Netherlands).

The next group of investors that has a controlling stake in Thai firms is the Thai government. The government controls 5 firms, or 1.85 percent. The State agencies who play the role of shareholders are the Ministry of Finance, the State-owned banks, namely Krung Thai Bank, Thai Military Bank, and Industrial Finance Corporation of Thailand (IFCT), State-owned financial companies, namely Krungthai Thanakij, and State enterprises, namely Petroleum Authority of Thailand.

In sum, Thai firms are dominated by non-dispersedly held firms. They are controlled by families and to a lesser extent by foreign investors, and the government.

Table 3.5: Identification of Controlling Shareholders

Firms are classified into each category according to their controlling shareholders. A controlling shareholder is a shareholder who owns at least 25 percent of the firm's shares, directly or indirectly. Companies without a controlling shareholder are classified as companies with no controlling shareholder. Direct ownership means that an individual holds shares in his own name. An individual or a family B indirectly controls x percent of company 1 if B directly holds more than 25 percent of shares of company 2, which directly holds x percent of company 1. The chain of controlling of a firm could be many layers. Companies with more than one controlling shareholder are companies that are owned ultimately by more than one group of shareholder.

Type of controlling shareholder	Number of firms	Percentage
<i>With one controlling shareholder</i>	223	83.59
An individual or a family	155	57.41
Government	5	1.85
Foreign investors	35	12.96
<i>With more than one controlling shareholder</i>	28	10.37
<i>With no controlling shareholder</i>	47	17.41
Total	270	100.00

Before leaving this issue, there is one point worth noting here about the shareholdings of financial institutions. Widely held financial institutions as well as those under the control of the wealthy families do not hold controlling votes of Thai firms in our sample. The highest shareholding by financial institutions is 19.87 percent, while average shareholdings is 4.98 percent (Table 3.3). The inactive role of financial institutions in holding firms' shares supports our previous findings.

Next we will investigate the size of the stakes these controlling shareholders hold. Table 3.6 contains the ownership of controlling shareholders. I define the ownership of controlling shareholders into three levels: between 25-50 percent, majority (between 50-75 percent), and super-majority ownership (more than 75 percent). Panel A shows the number and proportion of firms according to this classification. The ownership of firms that have two controlling blocks are an aggregation of the two owners' shareholdings.

In 223 firms where controlling shareholders exist, the controlling shareholders in 103 firms hold shares between 25-50 percent. These firms are 40 percent of the firms in the sample. The controlling shareholders in 110 firms have majority ownership, and in 14 firms have super-majority ownership. If we look at these firms as a fraction of 270 firms in our sample, the firms with majority ownership and super-majority ownership account for 45.93 percent. Among firms that have ownership above the 50 percent level, about 30.74 percent of the firms are owned by

families.

With respect to the ownership of foreign controlling shareholders, in 35 foreign-controlled firms, 16 firms have majority holdings, and 19 firms have controlling blocks between 25-50 percent. These account for 5.93 percent and 7.04 percent of the firms, respectively. The Government ownership, however, is concentrated between 25-50 percent. Specifically, in 4 out of 5 government-controlled firms, the government's shares are between 25-50 percent. Only one firm has super-majority ownership.

Panel B presents summary statistics of the ownership of the controlling blocks. The average ownership of the controlling shareholdings of all types of ultimate owners are above 40 percent. The median of holdings, except of the State, are also 40 percent up. The mean ownership of firms with two controlling shareholders is 60.51 percent, with median 58.89 percent.

There is two issues worth noting about controlling shareholders who are families. First, among the family-controlled firms, there exists a group of firms where a family has significant influence over the firms. That is, a family holds majority shareholdings. Even if a family does not have an absolute majority votes, the family has sufficient power to control management if the family owns at least 25% of the company's shares and there exists no other shareholder who owns more than 5% in the firm. Note that according to the Thai Public Limited Companies Act, B.E. 2535, by owning at least 5% of the shares, a shareholder can influence the management of the firm (Satsien (1996)). For instance, a shareholder with at least 5% of the share may bring an action of a director that causes damage to the company to the court to claim compensation on behalf of the company. Hence a shareholder can effectively control a firm if there is no other shareholder who owns at least 5% of the company's shares.

There are a 94 companies or 34.81% of the firms in the sample that are controlled by a single family. Typically management control of these companies is highly concentrated in the hands of the members of founding family.

Second, among family-controlled companies, there are number of companies that are associated with business groups. Using wealth holding by families as a base, we can classified business groups into 2 categories: very wealthy business groups and less wealthy business groups. Being very wealthy means that they are among the thirty five largest groups of Thai companies in Thailand, according to their assets in 1979, as listed in Pipatseritham (1981).² With this defi-

²As far as I know, there is no recent study that gives information about assets of non-listed companies.

Table 3.6: The Ownership of Controlling Shareholders of Thai Firms.

This table presents the ownership level of controlling shareholders. Firms are classified into each category according to their controlling shareholders. A controlling shareholder is a shareholder whose ownership of the firm's shares directly and indirectly exceeds 25 percent. Firms with more than one controlling shareholder are either those that are held ultimately by a group of shareholders or those with two controlling blocks. Ownership of firms with more than one controlling shareholder is an aggregation of the controlling shareholders' shareholdings. The percentage column is calculated as the proportion of firms that fall into each category divided by the total number of firms in the sample (270 firms).

Ownership	Between 25-50%		Between 50-75%		More than 75%	
	Number of firms	(%)	Number of firms	(%)	Number of firms	(%)
<i>One controlling shareholder</i>	96	35.56	92	34.07	8	2.96
An individual or a family	72	26.67	76	28.15	7	2.59
Government	5	1.85	0	0.00	1	0.37
Foreign investors	19	7.04	16	5.93	0	0.00
<i>More than one controlling shareholder</i>	3	1.11	19	7.04	6	2.22
<i>Total</i>	99	36.67	110	40.74	14	5.19

	Mean	Median	Max	Min
<i>One controlling shareholder</i>				
An individual	51.04	50.46	92.53	25.13
Government	43.62	37.94	80.01	26.58
Foreign investors	46.03	48.00	66.66	25.00
<i>More than one controlling shareholder</i>	60.51	58.89	90.38	25.00

nitition, firms in the sample can be classified into ten groups. The names of the ten groups, their controlling shareholders, and their business area in are presented in Table 3.7. There are 26 firms or 9.63% of firms in the sample belong to the ten business groups.³

The less wealthy business groups are the groups that were among the hundred largest business groups in 1979, and survive to the present. Since many of the groups keep their companies private, there are only 13 business groups that control companies in our sample. Excluding the ten business groups, the rest are namely, Laohathai, Pornprapha, Phenchart, Chonwicharn, Yip In Tsoi, Uachukiat, Photirattanangkun, Osathanukhro, Kanasut, Asakun, Darakanon, Liaophairat, Srfuengfung, Wiriyaprapaikit, Wattanawekin, and Sriwikorn.

Ownership of the ten groups is concentrated by using holding companies (Pipatseritham (1981)). A holding company is a company that is set up for the purpose of controlling other companies in the group. The shareholdings in a group's holding companies are very concentrated in the hands of their founders and family members or close relatives (Pipatseritham (1981)). These holding companies together with the group's affiliated companies typically are major shareholders of the group's other affiliated companies. The establishment of holding companies is used also for tax reduction of the founders' families, since corporate tax rates in Thailand are lower than personal tax rates on dividend (Pipatseritham (1981)).

3.4.1 Are firms with no controlling shareholder really widely-held?

In this section, I investigate the ownership of 47 firms that are classified as firms with no controlling shareholder. These firms, however, are not really dispersedly held by small shareholders in the same way as firms in the US. or UK. In contrast, the top shareholders of the 47 firms hold large blocks. But the size of the largest block is just less than 25 percent, our threshold of having a controlling shareholding. Put differently, the shareholdings of these firms are indeed concentrated. Here I measure ownership concentration by the ownership stake of the firms' largest shareholder. Results are presented in Table 3.8.

Panel A shows the average ownership of the largest shareholders of the widely held firms is 19.31 percent, with median 18.77 percent. The maximum shareholding, however, reaches 62.42 percent. The minimum holding is 5.92 percent.

Pipatseritham (1981) and Suehiro (1989) both provide a ranking of companies based on 1979 accounting data.

³Note that Sri Krung Wattana group is a business group that is controlled by more than one family. I include Sri Krung Wattana because the group is well-known as a big business group in Thailand.

Table 3.7: List of the Thai Conglomerates

Group	Type of Business
Bangkok Bank group	Banking, finance, insurance, trading, textile, property development, agribusiness, food, health care services
Thai Farmer Bank group	Banking, finance, insurance, trading, textile, property, agribusiness, food, health care services.
Bank of Ayudhaya group	Banking, insurance, flour milling, shipping, property development agribusiness, construction materials, silo and warehouses
CP group	Agribusiness, agriculture, telecommunication, wholesale
Central group	Hotel, property development, trading, department store
Saha Union group	Textile, trading, finance, cosmetics, computer, electrical appliance, plastic, agriculture, footwear
Saha Pathanapibul group	Trading, textile, food products, consumer products, cosmetic products, property development
Siam Cement group	Banking, finance, insurance, cement, steel, property development, pulp and paper, glass, hotel
Sri Krung Wattana group	Agribusiness, agriculture, trading, food products, steel, chemical, shipping
Sun Hua Seng	Trading, agribusiness, agriculture, pulp and paper, shipping

Source: Pipatseritham (1981), and Management Information Service (1996).

Panel B provides further information on the distribution of the ownership. There are three companies in the sample where the largest shareholders hold the equity more than 25 percent. These three companies are owned by other public companies that do not have any ultimate shareholder.

Many of the firms with no controlling shareholder would be classified as non-widely held. If we relax the definition of controlling shareholdings from 25 percent to 20 percent. As noted before, a shareholder with such a stake has sufficient voting rights to have a significant influence on major corporate decisions. Then 19 firms from 47 dispersedly held firms will fall into the non-dispersedly held firms category. If we are looser on the definition of controlling shareholder, the proportion of dispersedly held firms is reduced further. For example, following the Stock Exchange of Thailand, a shareholder with 10 percent ownership is defined as a major shareholder. Then only 4 out of 270 firms can be titled as widely-held. Stated differently, 266 firms or 98.52 percent of the firms have at least one major shareholder.

If we use a holding of a 5 percent ownership stake as a definition of large shareholding as used for the US. based model by many studies (for example, Morck, Shleifer and Vishney (1988), Zeckhauser and Pound (1990)), then there are no real widely held firms in our sample. All firms have at least one shareholder with more than 5 percent shareholding.

3.4.2 The controlling mechanisms of Thai firms

In this section how firms exercise control is discussed. Specifically I will answer the following questions. Do controlling shareholders simply control firms directly, or indirectly via their privately owned subsidiaries or affiliated companies? I call this type of controlling *simple*. Even though Thai firms are not allowed to issue dual class voting or non-voting shares, other mechanisms can be used to separate cash flow claims from control rights, such as pyramidal ownership and cross-shareholdings. The shareholding mechanisms permit controlling shareholders having more control over the firms more than the proportion of their shareholdings.

Pyramidal ownership is the process of controlling via layers of companies. I define a pattern of shareholding as a pyramid in the same manner as La Porta, et al. (1998). Company Z is controlled through a pyramid if it is controlled by a *public company* Y, which is in turn controlled by a family X. Companies in the middle are required to be public companies. If

Table 3.8: The Ownership of the Largest Shareholders of Widely Held Firms. This table shows the shareholdings by the largest shareholder of 47 firms with no controlling shareholder. A controlling shareholder is a shareholder whose ownership of the firm's shares directly and indirectly exceeds 25 percent.

Mean	19.31
Median	18.77
Standard deviation	9.78
Maximum	62.42
Minimum	5.92

Ownership level	Number of firms	Percentage
0 – 5%	0	0.00
5 – 10%	4	8.51
10 – 15%	11	23.40
15 – 20%	14	29.79
20 – 25%	15	31.91
more than 25%	3	6.38
Total	47	100.00

company Y is privately owned by family X, we do not call this ownership structure a pyramid. The requirement is important in the case of Thai firms. If firms in the middle of the chain of control is privately owned by a family, the family then are not able to separate cash flow and control right. The following example should give better understanding.

Consider a simple case of the sequence of 2 companies, Y and Z. A controlling shareholder who holds more than 50 percent of a public company Y, which in turn holds 50 percent of company Z, has majority control over company Z. In this case, the controlling shareholder who actually holds only 25 (50*50) percent of shares in company Z can exercise full control over company Z. If companies in the middle of the chain of control is privately owned companies by a family, the separation of voting right and control is not applicable. An example of a pyramid structure is the ownership structure of South Africa's conglomerates (Barr, et al. (1995)).

Cross-shareholding is a mechanism for not only assuming effective control, disproportionate to ownership, but also to protect the power of the controlling shareholders. Comparing to pyramidal structure of control, the voting rights of cross-shareholding mechanism spread around companies in the chain of control rather than concentrated on a single shareholder (Be-

bchuk, et al. (1998)). The most famous example is the case of the Japanese *Keiretsu* where complicated cross-shareholdings between firms in the same group are created (Sheard (1994)). Cross-shareholding is defined in the same way as La Porta, et al. (1998). That is, company Z has cross-shareholdings if it also holds any shares of its corporate controlling shareholder, or other companies along the chain of control.

Table 3.9 shows how Thai firms are owned. Note that in Table 3.9, more than one investor category refers to i.) firms that have a single controlling block owned by two or more owners ultimately, and ii.) firms that have two controlling blocks. Surprisingly there are very few cases of complex ownership structure. Most of the firms that have controlling shareholders are controlled by the *simple ownership structure*. More specifically, out of 223 firms that have ultimate owners, 176 firms, or 78.92 percent are classified under the *simple ownership structure*.

The second most frequent type of control is controlling through pyramids. The number of firms that are controlled by a pyramidal ownership pattern is 40, which accounts for 17.94 percent of the firms with controlling shareholders. There are only 2 firms, that are classified as cross-shareholdings. Finally there are 5 firms or 2.24 percent of the firms that are controlled by more complex mechanisms, i.e., through pyramids and also through cross-shareholdings. Note that many of the firms that have a pyramidal structure and cross-ownership structure are also controlled partly via direct ownership by the controlling shareholders and their affiliated companies that are privately owned.

The incidence of complicated ownership structure is more often in family-controlled companies. Out of the 40 firms with pyramidal ownership, 28 firms are single-family-controlled, 7 are more-than-one-investors-controlled, 1 are the Government-controlled and 3 are foreign-controlled. Most of the firms that are controlled by other types of controlling shareholders, however, have a simple pattern of shareholdings. For example, 32 firms from 35 foreign-owned firms use a simple ownership pattern. For 28 firms that are controlled by at least two investors, 16 firms are controlled under the simple ownership structure, 8 firms use a pyramid structure, 2 firms have cross-shareholding and the rest 2 firms have both the incidence of pyramidal and cross-ownership structures.

Compared with the evidence of other countries, complicated ownership is not commonly used by Thai shareholders to control the firms. For example, in South Africa, the six con-

Table 3.9: Type of Controlling

This table presents how firms are owned. Firms are classified into each category according to their controlling shareholders. A controlling shareholder is a shareholder whose ownership the firm's shares directly and indirectly exceeds 25 percent. Three control mechanisms are defined: *simple*, *pyramidal ownership* and *cross-shareholdings*. First, when controlling shareholders control firms directly, or indirectly via their privately owned subsidiaries or affiliated companies it is called *simple* ownership. Second, pyramidal ownership is defined as follow. company Z is controlled through a pyramid if it is controlled by a *public company* Y, which is in turn controlled by a family X. Firms in the middle are required to be public firms. Third, company Z has cross-shareholdings if it holds shares of its corporate controlling shareholders. The "more than one controlling shareholder" category refers to firms that have a single controlling block ultimately owned by more than one shareholder, or firms that have two controlling blocks.

Type of shareholding	Simple (1)		Cross-shareholdings (2)		Pyramids (3)		Both (2) and (3)	
	Number of firms	%	Number of firms	%	Number of firms	%	Number of firms	%
An individual or a family	124	55.61	0	0.00	28	12.56	3	1.35
Government	4	1.79	0	0.00	1	0.45	0	0.00
Foreign investors	32	14.35	0	0.00	3	1.35	0	0.00
More than one controlling shareholder	16	7.17	2	0.90	8	3.59	2	0.90
Total	176	78.92	2	0.90	40	17.94	5	s2.24

glomerates which control 70 percent of total listed firms mainly use pyramidal ownership (Barr, et al. (1995)). In developed countries, La Porta, et al. (1998)) find that in the sample of the twenty largest firms from 27 rich countries, 26 percent of the firms that have ultimate owners use pyramidal ownership.

3.4.3 Examples of controlling mechanisms

In this section, I present examples of ownership patterns used by controlling shareholders to control the firms described in Section 3.4.2. The *simple ownership structure* in Figure. 3.1 shows an example of direct shareholding by a family. This kind of ownership pattern is the most straightforward. Shinnawatra Computer and Communication is owned directly by the Shinnawatra family who is also the founder of the firm. The Shinnawatra family control 50.22 percent of the firm's votes. Though the Shinnawatra family controls Shinnawatra Computer and Communication, none of the family members appear as officers or directors.

The next case is an example of controlling by direct and indirect ownership, another kind of the *simple ownership structure*. General Engineering is controlled by a holding company called Patawasu Holdings, with 25 percent of the votes (Figure. 3.2). Patawasu Holdings, however, is a holding company of the Chatikawanit family. The Chatikawanit family also holds 14.4 percent of General Engineering directly. Therefore overall the Chatikawanit family ultimately controls 39.4 percent of General Engineering. The Chatikawanit family does not only establish and control the company, but also participates in its management. One member of the family acts as the chairman of the board, and two members of the family are directors.

Another example of the *simple ownership structure* is the case of Italian-Thai Development (Figure. 3.3). Italian-Thai Development, however, has more complex ownership. The Kanasut family, one of the founders, owns 34.13 percent of Italian-Thai Development. But the Kanasut family controls more votes of Italian-Thai Development. The family controls 25.67 percent of Ital-Thai Holdings, which in turn controls 12 percent of Italian-Thai Development. Italian-Thai Holdings also controls 95.16 percent of Ital-Thai Industrial, another shareholder of Italian-Thai Development with 8.54 percent ownership. The Kanasut family is not the only one controlling shareholder of Italian-Thai Development. The Jaranachit family, also has controlling votes in the firm. The Jaranachit family holds 21.73 percent of Italian-Thai Development directly, and

Figure 3.1: Shinnawatra Computer and Communication

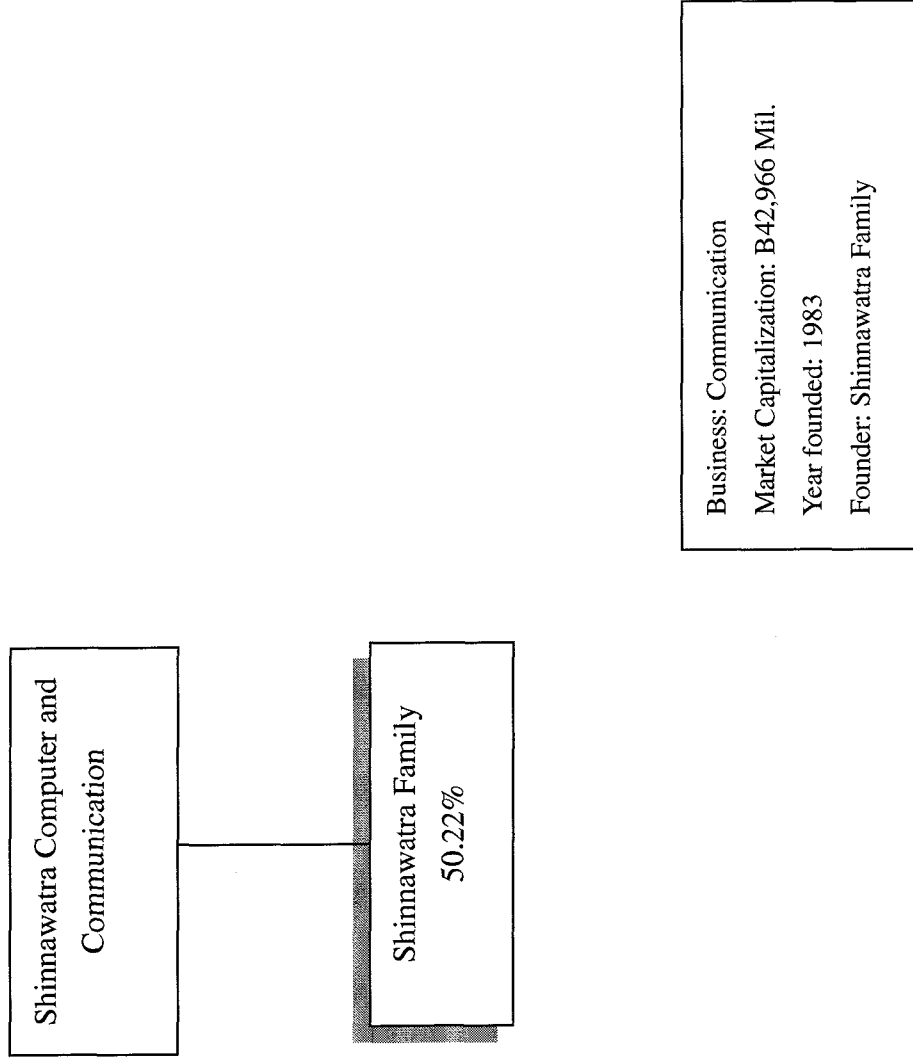


Figure 3.2: General Engineering

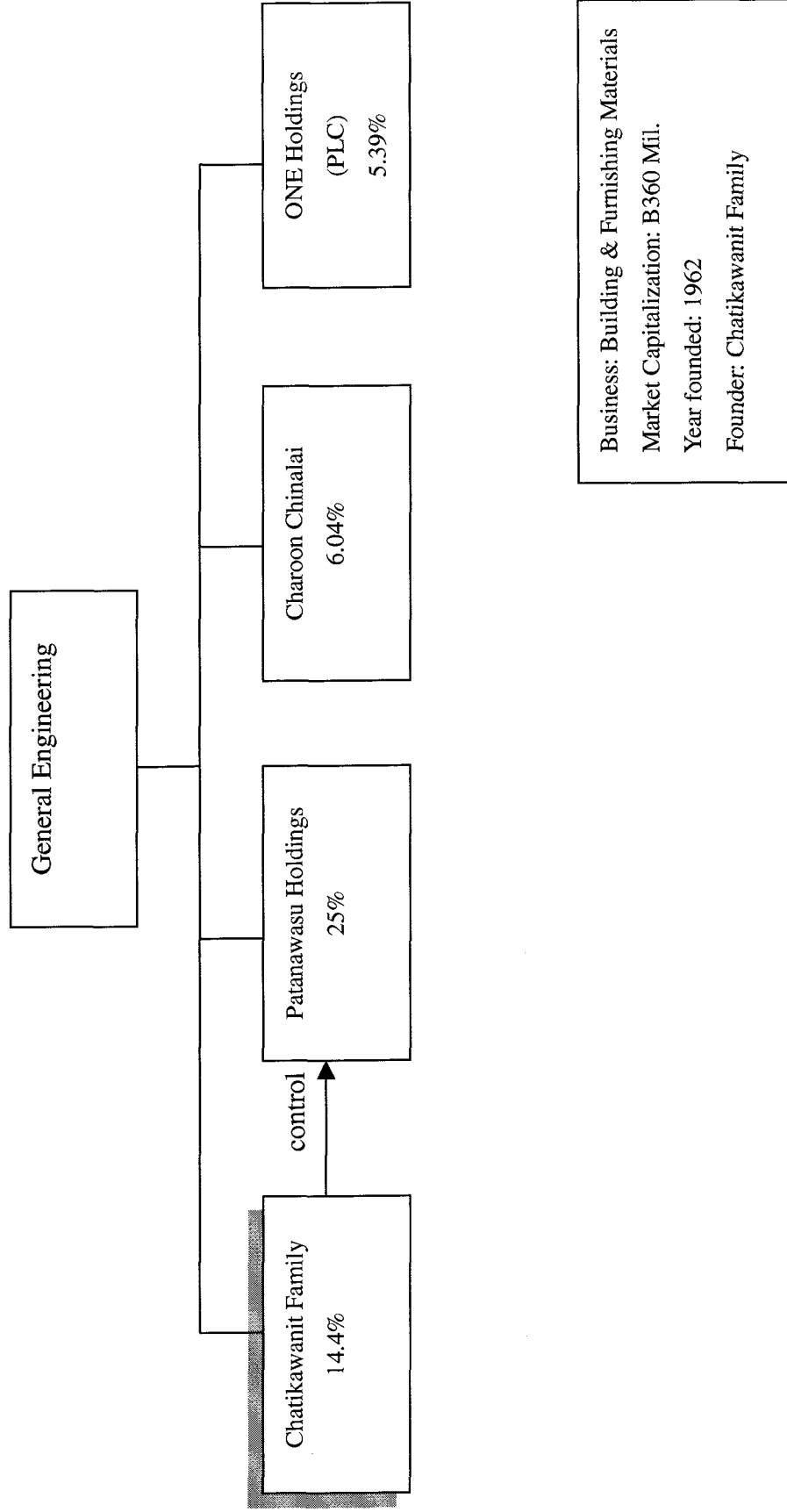
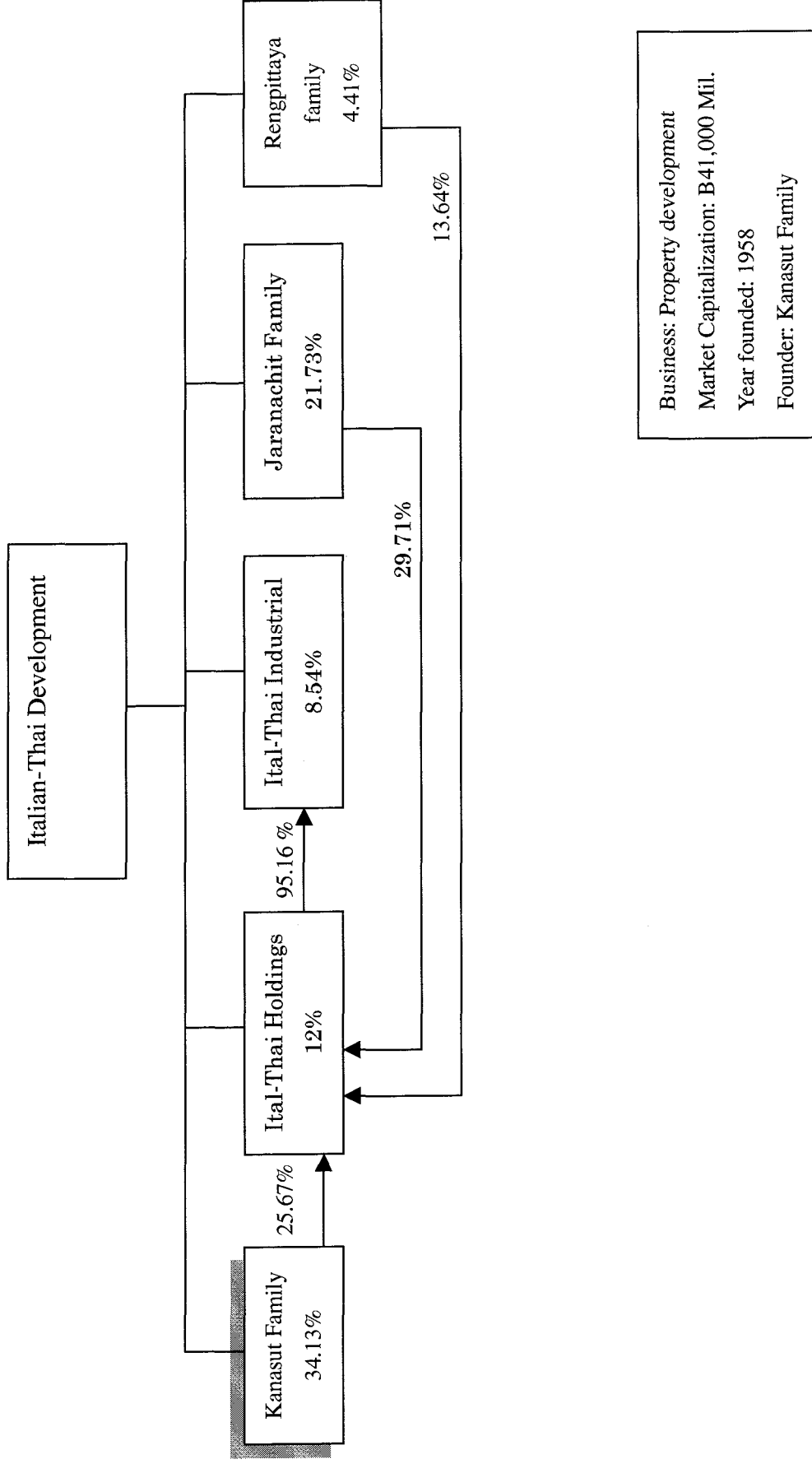


Figure 3.3: Italian-Thai Development



indirectly through controlling 29.71 percent of Ital-Thai Holdings' shares. However the Kanasut family and the Jaranachit family are actually considered as one family because they are related by marriage. One of the daughters of the Kanasut family is married to the Jaranachit family. Because both Ital-Thai Holdings and Ital-Thai Industrial are not publicly traded, the ownership structure of Italian-Thai Development is not a pyramid.

Metro System Corporation is an example of the companies that have one controlling shareholder but ultimately are controlled by a group of more at least two individuals or families (Figure. 3.4). The major shareholders of Metro System Corporation are Sri Krung Wattana (32.85 percent) and Sahapattanapoon (12.26 percent). Both Sri Krung Wattana and Sahapattanapoon are holding companies of Sri Krung Wattana group which is one of the Thai big business groups. This group is controlled by three families, namely the Laohathai family, the Setpornpong Family, and the Tangtrongsak Family. Since in this case it is not possible to specify fractions of shares of Metro System Corporation owned by the three families, I classify Metro System Corporation as having more than one ultimate controlling shareholder. The ownership structure is *simple* since its two major shareholders are not public companies.

An example of a firm that is controlled by two separate groups of shareholders is the Malee Sampran Factory (Figure. 3.5). The pattern of shareholdings of Malee Sampran Factory gives also an example of control through pyramid companies. There are two different groups of ultimate shareholders with controlling votes; the Kulapiyawaja family who is also the founder of Malee Sampran Factory, and the Chirathiwat family. Both families control Malee Sampran Factory indirectly via holding companies that appear in the first layer of the ownership structure of Malee Sampran Factory. That is, the Kulapiyawaja family controls 100 percent of the Bunmalee Food Processing, which in turn holds 36.03 percent in Malee Sampran Factory' shares. On the other side, the Chirathiwat family controls 49.58 percent of the publicly traded ABICO Holdings, which holds 41.1 percent of Malee Sampran Factory. The controlling mechanism of the Chirathiwat family is a pyramid since a listed company, ABICO Holdings, appears in the chain of control.

The final example is the ownership structure of International Cosmetics (Figure 3.6). The pattern of shareholding of International Cosmetics illustrates all the types of the controlling mechanisms defined in this study, namely direct holdings, indirect holdings, pyramidal holdings,

and cross-shareholdings. International Cosmetics is part of the Saha-Pathanapibul group which is one of Thai conglomerates. The founder of Saha-Pathanapibul group is the Chokwattana family. The Chokwattana family owns only 0.96 percent of International Cosmetics directly. However the Chokwattana family controls 20.08 percent of International Cosmetics indirectly by using the group's privately held holding companies. The other two large shareholders of International Cosmetics are Sahapathana Inter-Holdings, and Saha-Pathanapibul and WACOAL. All are controlled by the Chokwattana family directly and indirectly. These three corporate shareholders are publicly traded. Therefore the Chokwattana family owns more votes of International Cosmetics through pyramid companies namely WACOAL, Sahapathana Inter-Holdings, and Saha-Pathanapibul. In total, Chokwattana family controls 48.58 percent of International Cosmetics. International Cosmetics also holds 5.03 percent of Sahapathana Inter-Holdings and 4.44 percent of Saha-Pathanapibul. Hence this is also the case of cross-shareholdings.

3.4.4 Separation of control and ownership

We have seen that controlling shareholders exist in most of the Thai listed companies. The question raised here is whether these large shareholders merely monitor the firms described in the model for American firms, for example, Sheifer and Vishny (1986), Admati, Pfleiderer and Zechner (1994), Bolton and Thadden (1998a, 1998b), or whether they also participate in the firms' management. I, therefore, examine the number of firms where the controlling shareholders join management teams. Management is classified into two groups; officers and directors. An officer is someone who holds one of the following positions: chairman, honorary chairman, vice-chairman, president, vice-president, CEO or managing director. CEO and managing director are equivalent positions. Both names are widely used by Thai firms. A director is someone who is not an officer but is a member of the board of directors.

Panel A of Table 3.10 shows the evidence on how often controlling shareholders manage the firms. Out of 223 firms with controlling shareholder, the controlling shareholders of 157 firms, or 71.04 percent hold positions as officers. In 159 firms, the controlling shareholders participate in management as directors. This accounts for 71.95 percent of the firms with controlling shareholders.

Panel A also provides additional information on which type of controlling shareholders is

Figure 3.4: Metro System Corporation

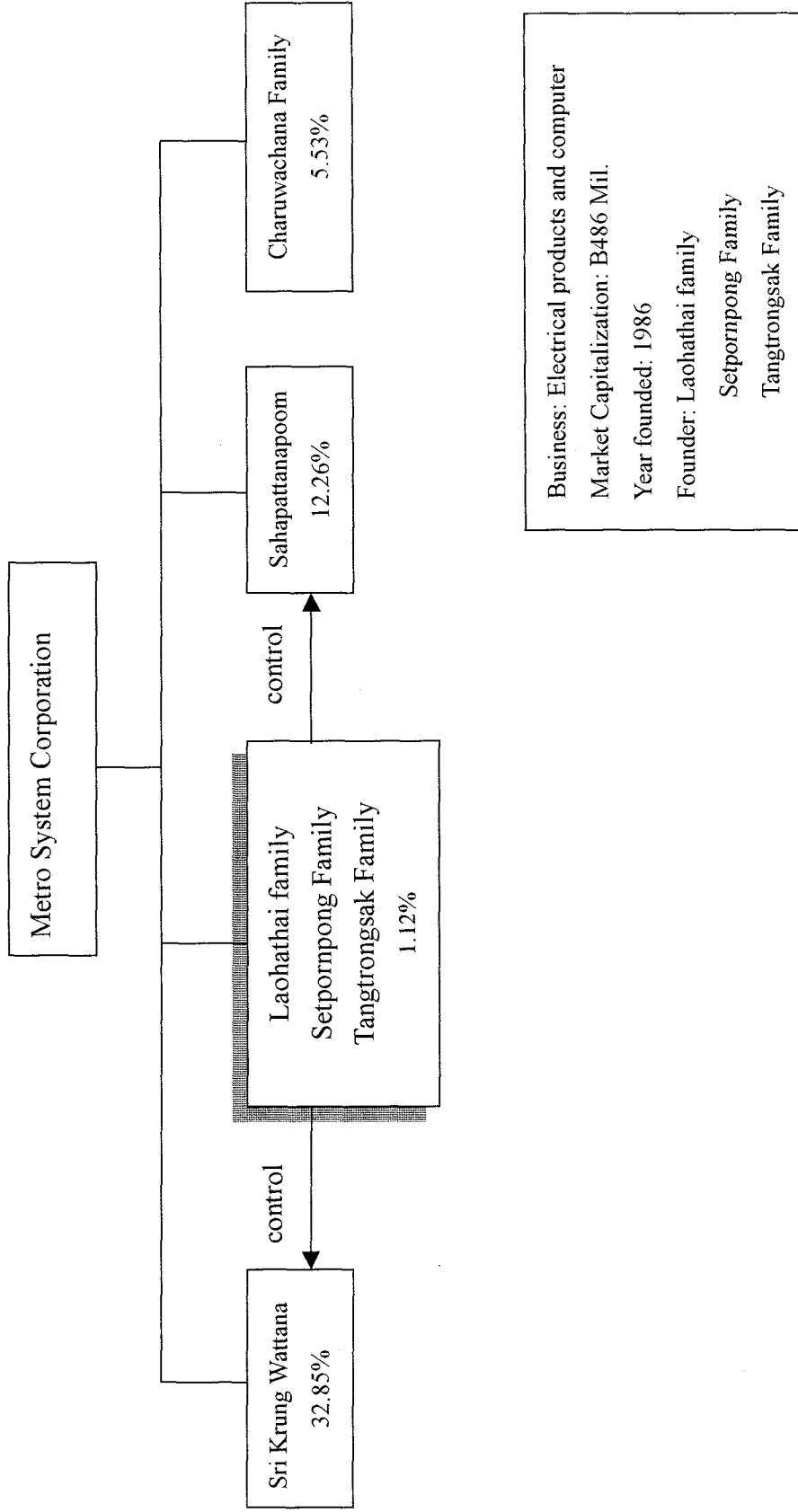


Figure 3.5: Malee Sampran Factory

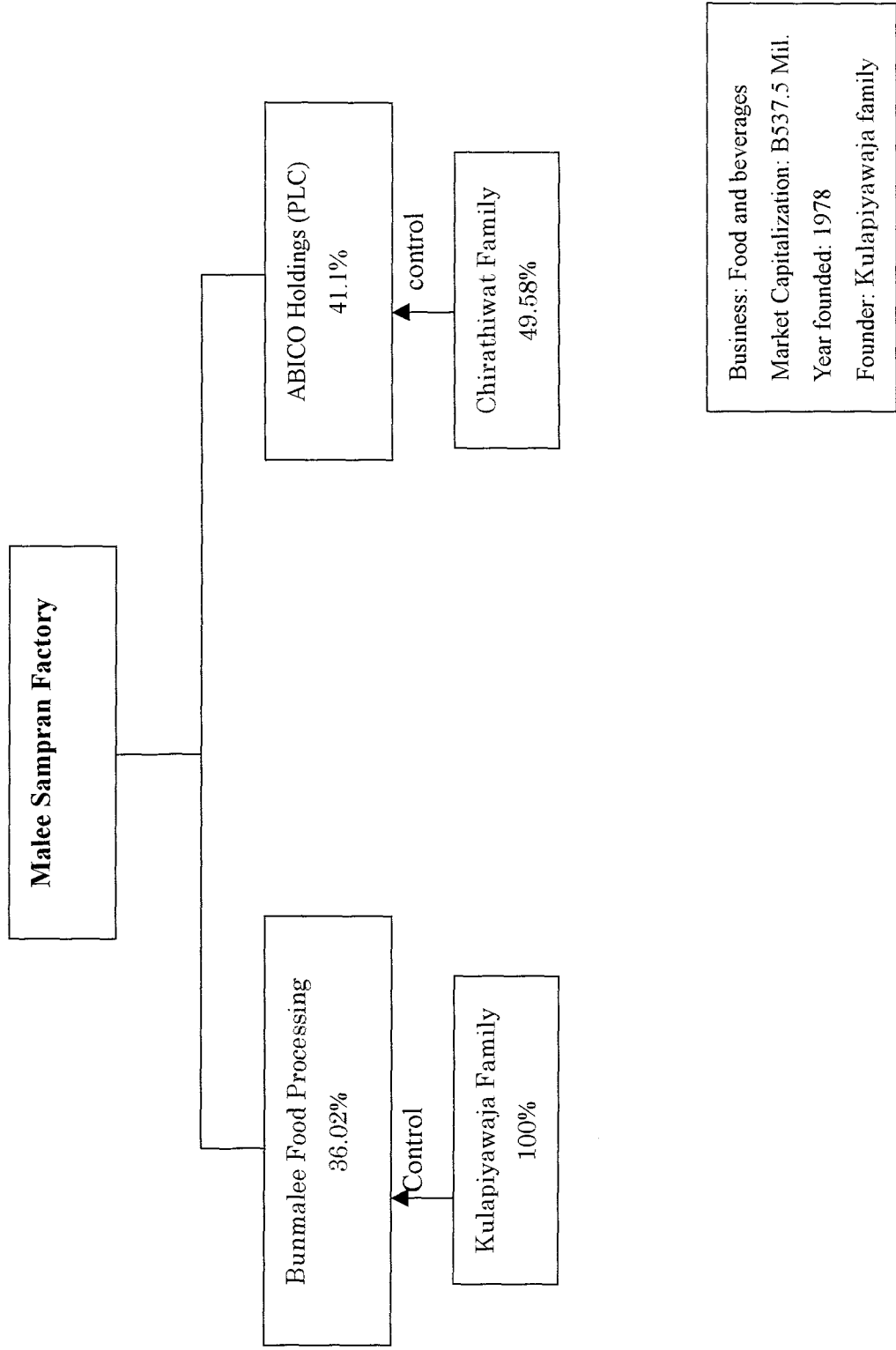
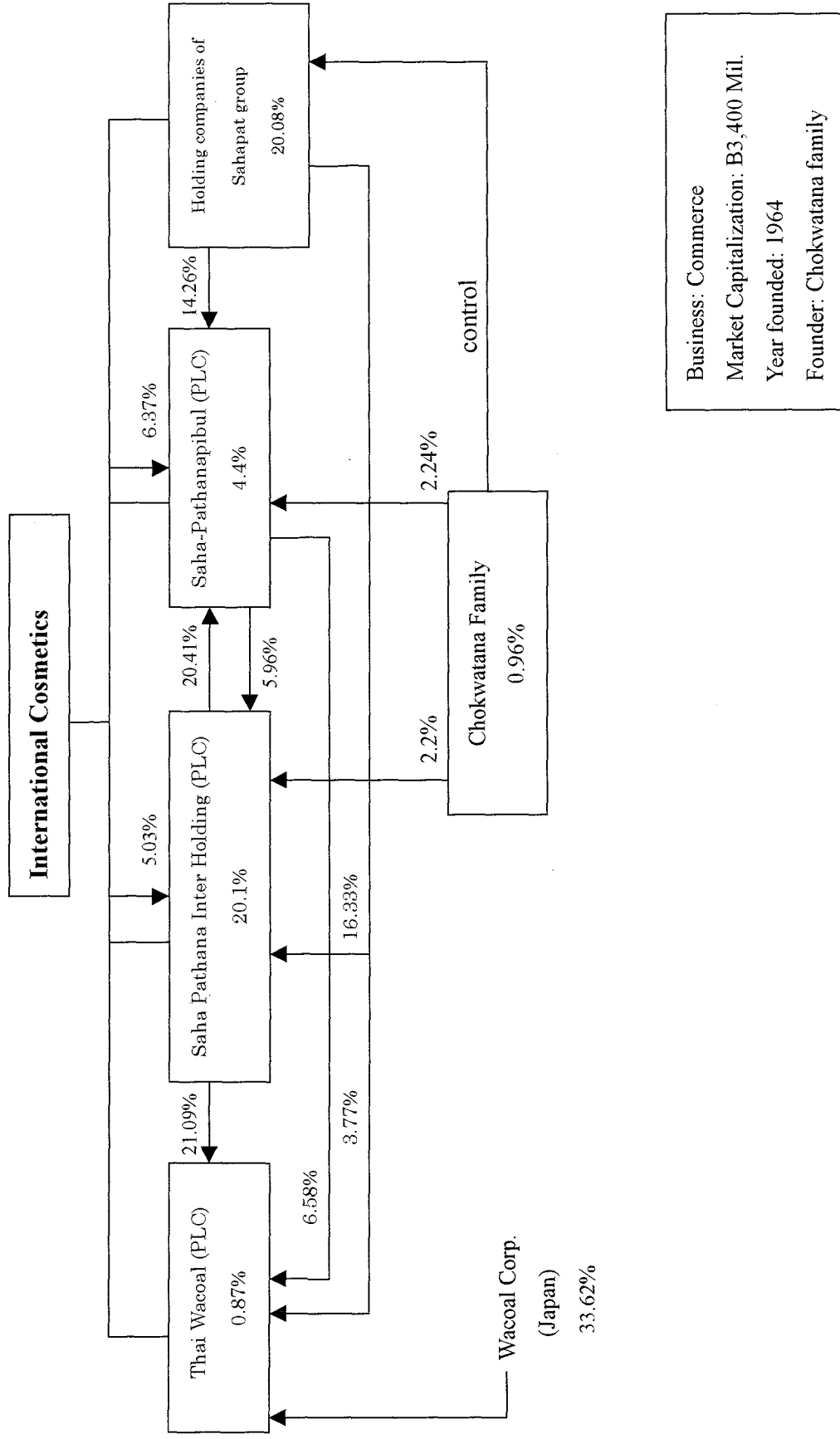


Figure 3.6: International Cosmetics



Business: Commerce
 Market Capitalization: B3,400 Mil.
 Year founded: 1964
 Founder: Chokwatana family

involved in management more often. One can see that in family-controlled firms the controlling shareholders appear more often among the top officers and directors. The incidence of family members' involvement in the management and control of firms is more than 75 percent of family-controlled firms. This is also the case for foreign-controlled firms that are ultimately owned by foreign individuals. All foreign-firms that are controlled by foreign individuals have family involvement in management. The evidence of Thai firms is similar to La Porta, Shleifer and Lopez-de-Silanes (1998). They find that 69 percent of family-controlled firms in rich countries are also family-managed firms.

A family in some firms does not hold just one position of top-executive level. Panel B of Table 3.10 presents summary statistics of this incidence. Specifically I examine how many positions of directors a controlling shareholder's family holds. The average positions that a family of controlling shareholder held is 1.97, with the median being 1. The maximum number of family involvement as directors is 7. This evidence is similar to the study of American firms with majority ownership by Denis and Denis (1994). They find that in 79 percent of the firms, more than two members of the controlling family appear among the top executive positions. Panel B further supports our argument that compared to other types of ultimate shareholders, families participate more often in the firms' management.

Table 3.11 and Table 3.12 provide the distribution of shares held by officers and members of the board of directors of companies in the sample, respectively. In both tables, Panel A presents the distribution of managerial ownership of the total 270 firms in the sample. Summary statistics of managers' shareholdings are also included. Panel B shows the distribution of managerial ownership of 223 firms with controlling shareholders, classified by types of controlling shareholders. Table 3.11 and Table 3.12 support our argument that the cash flow rights and control right are not well separated in Thai companies. The mean percentage ownership held by officers of 270 firms in the sample is 32.90, with median 38.56. The average shareholdings by directors is 36.41 percent, with median 41.06 percent.

In more than half of the companies, officers and directors have controlling ownership. More precisely, officers in 163 firms or 60.37 percent of 270 firms in the sample hold more than 25 percent of the firms' outstanding shares. In 177 firms or 65.56 percent of the firms in the sample, directors have controlling votes. Examining further, one can see that it is family-controlled firms

Table 3.10: Separation of Ownership and Management

Panel A shows the number of firms where the controlling shareholders are officers and directors. An officer is someone who holds one of the following positions: chairman, honorary chairman, vice-chairman, president, vice-president, CEO or managing director. A director is someone who is not an officer but is a member of the board of directors. Figures in the percentage columns are calculated as a fraction of firms where controlling shareholders exist (223 firms). Panel B provides information on how many positions a controlling family has in the firm's board of directors. Firms are classified into each category according to their controlling shareholders. A controlling shareholder is a shareholder who owns the firm's shares directly and indirectly exceed 25 percent. The "more than one controlling shareholder" category refers to firms that have a single controlling block ultimately owned by more than one shareholder, or firms that have two controlling blocks.

Panel A: Number and percentage of firms where the controlling shareholders are officers and directors

Type of controlling shareholder	Officers		Directors	
	Number of firms	(%)	Number of firms	(%)
An individual or a family	125	82.78	119	78.81
Government	0	0.00	0	0.00
Foreign investors	11	30.56	16	44.4
More than one controlling shareholder	21	75.00	24	85.7
Total	157	71.04	159	71.95

Panel B: Summary statistics of the number of directors on the board held by the firm's controlling shareholder(s)

	Mean	Median	S.D.	Max	Min
An individual or a family	1.97	2.0	1.63	7	0
Government	0	0	0	0	0
Foreign investors	0.58	0.00	0.79	3	0
More than one controlling shareholder	1.64	1	1.19	5	0
All firms with controlling shareholders (223 firms)	1.7	1.00	1.55	7	0

Table 3.11: The Distribution of Shares held by Officers

Panel A presents the distribution of officers' ownership of 270 firms in the sample. An officer is someone who holds one of the following positions: chairman, honorary chairman, vice-chairman, president, vice-president, CEO or managing director. Panel B shows the distribution of shareholdings of officers, classified by types of controlling shareholders. Firms are classified into each category according to their controlling shareholders. A controlling shareholder is a shareholder who owns the firm's shares directly and indirectly exceed 25 percent. Companies without an ultimate owner are classified as firms with no controlling shareholder.

Panel A: The distribution of officers' ownership of 270 firms		
Ownership level	Number of firms	Percentage
0%	65	24.07
0 – 5%	14	5.19
5 – 10%	7	2.59
10 – 15%	8	2.96
15 – 20%	7	2.59
20 – 25%	6	2.22
25 – 50%	77	28.52
50 – 75%	77	28.52
75 – 100%	9	3.22
Total	270	100.00
Mean		32.90
Median		38.56
S.D.		26.16
Maximum		92.53
Minimum		0.00

Panel B: The distribution of officers' ownership classified by type of controlling shareholders

Ownership level	A family	Government	Foreign Investors	More than one controlling shareholders	No controlling shareholder
0%	21	5	16	8	15
0 – 5%	3	0	4	0	7
5 – 10%	1	0	2	1	3
10 – 15%	1	0	1	0	6
15 – 20%	0	0	1	0	6
20 – 25%	1	0	0	0	5
25 – 50%	56	0	6	10	5
50 – 75%	65	0	5	7	0
75 – 100%	7	0	0	2	0
Total	155	5	35	28	47
Mean	44.06	0.00	16.63	34.15	10.94
Median	48.42	0.00	2.0	39.50	6.52
S.D.	23.43	0.00	22.47	27.25	12.42
Maximum	92.53	0.00	66.66	87.76	42.42
Minimum	0.00	0.00	0.00	0.00	0.00

that have high managerial ownership. Out of 163 firms where officers' ownership exceeds 25 percent, 128 firms are single-family-owned, 78.53 percent. This pattern of shareholding is also the same for directors' ownership of family-owned firms.

Management of firms with two or more controlling shareholders also have high stakes. Out of 28 firms of this type, number of firms that have officer and director ownership exceeding the 25 percent level are 19 and 23, respectively. In foreign-controlled firms, the mean value of shareholdings by officers and directors are 16.63 and 23.85 percent, respectively. As noted earlier, there are two types of foreign-controlling shareholders: foreign individuals and corporations. The evidence of managerial shareholdings in foreign-controlled firms come mainly from firms that are controlled by foreign individuals. Management of firms that are controlled by foreign corporations do not hold the firms' shares.

In sum, controlling shareholders do not merely control the firms via shareholdings. They are involved in running the firms in the top management positions. Only in about 30 percent of the firms that controlling shareholders do not appear as managers.

Table 3.12: The Distribution of Shares held by Directors

Panel A presents the distribution of directors' ownership of 270 firms in the sample. Directors are members of the board who are not officers. Panel B shows the distribution of shareholdings of directors, classified by types of controlling shareholders. Firms are classified into each category according to their controlling shareholders. A controlling shareholder is a shareholder who owns the firm's shares directly and indirectly exceed 25 percent. Companies without an ultimate owner are classified as firms with no controlling shareholder.

Panel A: The distribution of directors' ownership of 270 firms		
Ownership level	Number of firms	Percentage
0%	39	14.44
0 – 5%	16	5.93
5 – 10%	15	5.56
10 – 15%	7	2.59
15 – 20%	8	2.96
20 – 25%	8	2.96
25 – 50%	81	30.00
50 – 75%	85	31.48
75 – 100%	11	4.07
Total	270	100.00
Mean		36.41
Median		41.06
Standard Deviation		25.20
Maximum		92.53
Minimum		0.00

Panel B: The distribution of directors' ownership
classified by type of controlling shareholders

Ownership level	A family	Government	Foreign Investors	More than one controlling shareholders	No controlling shareholder
0%	11	5	13	4	6
0 – 5%	10	0	2	0	4
5 – 10%	2	0	2	1	10
10 – 15%	2	0	2	0	3
15 – 20%	0	0	1	0	7
20 – 25%	0	0	2	0	6
25 – 50%	52	0	4	15	10
50 – 75%	69	0	9	6	1
75 – 100%	9	0	0	2	0
Total	155	5	35	28	47
hline Mean	44.02	0.00	23.85	49.58	16.78
Median	50.81	0.00	11.34	42.90	15.01
S.D.	23.13	0.00	26.56	22.29	13.82
Maximum	92.53	0.00	71.49	82.08	54.42
Minimum	0.00	0.00	0.00	0.00	0.00

3.5 Summary

This paper examines the ownership structure of listed Thai firms. First, the degree of ownership concentration is high. In 42.64 percent of the firms, the largest shareholder owns the firm alone. Second, the largest shareholders in 82.59 percent of the firms in the sample are also controlling shareholders who own at least 25 percent of the votes. However there is not just one group of controlling shareholders in a firm. In 10.37 percent of the firms, there exist two or more groups of controlling shareholders. In addition, the controlling shareholders are mainly families. Foreign shareholders also appear to have controlling stakes, but in the lesser extent.

Third, in 47 firms or 17.41 percent of the firms that have no controlling shareholders, the firms are not actually dispersedly held. Simply looking at the percentage of shares held by the largest shareholder of these firms, there are only 4 firms where the ownership of the largest shareholder is less than 10 percent, the level of ownership of a major shareholder.

Fourth, the controlling shareholders in 78.92 percent of the firms with controlling shareholders use a simple ownership pattern to control the firms. They either own the firms' stakes directly, or indirectly via their privately owned holding companies and affiliated companies.

About 21.27 percent of the firms, the controlling shareholders control the firms through a pyramid structure and cross-shareholdings.

Fifth, the controlling shareholders do not just own the firms and probably monitor the firms as described in the US. and UK. based model. In about 70 percent of the firms with controlling shareholders, the controlling shareholders are involved in the firms' management as officers and directors. Furthermore on average the percentage of officers and directors' shareholdings are approximately 32.90 and 36.41 percent, respectively.

The analysis leaves one important issue of what determines the ownership structure unanswered. Whether the issue is relevant or not is not clear priori in the context of Thai firms. There are 2 strands of research related to this issue. On one side, Demsetz and Lehn (1985) argue that the firm's choice of ownership structure may be endogenously determined. The structure of corporate ownership is the outcome of rebalancing various costs and benefits of concentrated ownership and diffused ownership. In the context where large shareholder exists in the firm, Barr et al. (1995) and Gomes (1999) argue that stakes held by controlling shareholders are determined by the degree of agency problems arise in the firm. Firms with severe agency problems would have high concentrated ownership level because outside investors will not want to invest in such a firm.

However, since controlling shareholders have substantial discretion over their choice of shareholdings, it may not be that easy for outsiders to have significant effect on choosing a certain level of ownership. Therefore, it is not clear that actual ownership structures are determined endogenously (Hadlock (1998)). To date, empirical evidence based on firms with similar ownership structure as Thai firms do not support that ownership levels are optimally determined. Denis and Denis (1995) find that shareholdings of majority owned firms are not related to any firm's characteristics, but are associated the presence of the controlling shareholders in the firms' management teams. Their results do not support the argument that ownership level is set according to the agency costs. Whether ownership is determined endogenously inside the firm is ultimately an empirical question. This issue is, however, left for future research.

Chapter 4

The Effects of Ownership Structure and Corporate Governance on the Performance

Abstract

This Chapter examines the influence of ownership structure, and governance mechanisms on the performance of firms operating in Thailand. Firm performance is measured by ROA and Tobin's q . The results do not support the argument that controlling shareholders expropriate the wealth of non-controlling (outside) shareholders. Family-controlled firms do not perform poorer than firms with no controlling shareholder. When performance is measured by ROA, foreign-controlled firms display significantly different performance than firms with no controlling shareholder. The univariate and multivariate analyses suggest that the ROA of firms that are managed by their controlling shareholder is lower than that of firms that their controlling shareholders do not participate in management. Governance mechanisms that may constrain the controlling shareholders are the board of directors, the presence of domestic financial institutions among the shareholders.

4.1 Introduction

As shown in Chapter 3, the majority of Thai firms are owned by a group of shareholders with big stakes. These large shareholders do not only control the firms via shareholdings but also are involved in management. In a firm that is owned and controlled by a group of shareholders, the problem is not the conflict of interests between management and shareholders, a common issue in the more advanced economies. Managerial opportunism is likely to be constrained by controllers who have incentives to be active monitors because they hold a significant fraction of the firm. Controlling shareholders with highly concentrated ownership, however, are susceptible to serious discretion problems at the expense of minority shareholders as well as creditors (Shleifer and Vishny (1997), La Porta et al. (1999) and Bebchuk et al. (1998)). In particular, La Porta et al. (1999) argue that the degree of corporate resources' expropriation by controlling shareholders is much more serious in a firm where the controlling shareholders are also in management teams. The common practice of hiring family members into managerial positions as top executives or as company directors may not only give effective influence on the decisions of managers, but also block them from being monitored and disciplined from any corporate governance mechanisms.

The power to control a corporation gives a controlling shareholder use of corporate resources for their own interests while the minority shareholders and creditors bear the costs. These activities are for example, consuming perks, providing jobs to family's members, paying themselves excessive salaries, giving sweet deals to the companies they privately own, and setting dividend policy according to their investment and consumption plans. In addition, controlling shareholders may make investment decisions that yield them private benefits but are detrimental to the firm's operating performance (Bebchuk et al. (1998)). The net effect of controlling shareholders on performance, however, is established empirically. Up to date, evidence related to this issue is still limited. This chapter investigates empirically whether controlling shareholders effectively expropriate corporate resources and consume private benefits that have negative effects on the firm's value.

Controlling shareholder's opportunism, however, can be prevented by corporate governance mechanisms. Corporate governance mechanisms are the mechanisms that constrain self-interested management and corporate insiders in such a way that those who provide capital to corporations are protected (Shleifer and Vishny (1997)). Hence, in order to study the effects of

the existence of controlling shareholder, it is necessary to control for the corporate governance effect. Mechanisms that may control the agency conflicts in Thai firms include ownership by top management, monitoring by financial institutions and the board of directors and the firms' reputation. If the governance mechanisms are effective, we expect to see a positive relationship between the corporate governance mechanisms and performance. The results will provide an evidence on the effectiveness of corporate governance mechanisms in Thailand. From a more general perspective, the results will show whether corporate governance mechanisms in emerging economies are indeed as weak or underdeveloped as they are widely thought to be (e.g. Shleifer and Vishny (1997)).

The remainder of this chapter is organized as follows. Section 4.2 discusses the theoretical background of the study. It reviews how ownership and corporate governance may affect the performance of a firm. Section 4.3 presents an empirical approach and definition of all variables. Section 4.4 contains univariate and multivariate analysis. Section 4.4.4 addresses the causality effects between institutional ownership and performance. Finally a summary and conclusion are provided in Section 4.5.

4.2 Ownership structure, corporate governance and firm performance: Literature review

In this section, two areas of the literature that are relevant to the study are discussed. First, I review the literature on the agency problem created by controlling shareholders. Second, I present corporate control mechanisms that may constrain the controlling shareholders' discretion.

4.2.1 Controlling shareholders' discretion

The role of large shareholders in mitigating the free rider problem of monitoring a management team, and hence reducing the agency costs is clear theoretically (e.g. Shleifer and Vishny (1986) and Admati et al. (1994)). Shareholders with large stakes have incentive to bear monitoring costs because gains from investing in monitoring activities exceed the costs. However when ownership is concentrated, beyond a certain point, in one group of shareholders, especially families, the problem of large shareholders' expropriation of minority shareholders, employees as well as creditors may arise.

Here we focus on large shareholders with high stakes, that is controlling shareholders. The presence of controlling shareholders may be harmful to the firm's related parties because of the conflict of goals between the controlling shareholders and minority shareholders (Shleifer and Vishny (1997), La Porta et al. (1999) and Bebchuk et al. (1998)). Conflicts of interest between the controlling shareholders and other shareholders may arise because of differences in their risk tolerance and their time horizon (Demsetz and Lehn (1985)). In addition, substantial ownership of cash flow rights not only enables the controlling shareholders to conduct activities of their own interests, for example, to place and remove the management teams, but also insulates them from external corporate control mechanisms such as hostile takeovers and tender offers (Stulz (1988)).

In many cases, the controlling shareholders are also involved in running the firms. In this case, the controlling shareholders have significant power and discretion in the deployment of corporate assets. The controlling shareholders may pay out the companies' cash flows to themselves in several ways, including simply paying themselves excessive salaries and dividends, and giving top executive positions and board seats to their family members even though they are not capable (DeAngelo and DeAngelo (1985)). The controlling shareholders may transfer the companies' assets to the companies they own privately by providing them special deals, e.g., selling the companies' products at below-market prices (Shleifer and Vishny (1997)). The controlling shareholders can transfer companies shares to their own account at discount prices as happened in Korea (Chung and Kim (1999)). Other private benefits that the controlling shareholders can obtain are employing companies' assets as collateral for their personal bank borrowing and borrowing company funds for their personal purposes on favorable terms (Chung and Kim (1999)). The controlling shareholders may invest sub-optimally since the costs of the investment if it fails will be shared by the other investors (Jensen and Meckling (1976) and Bebchuk et al. (1998)). If the controlling shareholders adopt sub-optimal strategies, we expect to observe the firms under their control to perform poorly.

Previous empirical studies, though not extensive, are inconsistent with the hypothesis that the controlling shareholders use their voting power to exploit the firms' assets and expropriate minority shareholders, however. Holderness and Sheehan (1988) investigate companies listed on the NYSE and AMEX. Compared with companies where no shareholder holds more than 20

percent of the companies' common stock, companies with majority shareholdings do not pay out excess compensation. Furthermore companies with majority shareholdings do not mismanage corporate resources, as measured by advertising expenditures, research and development expenditures, and capital expenditures. In comparison with companies where no shareholder holds more than 20 percent of the companies' common stocks, companies with majority shareholdings do not have significantly lower accounting rates of return and the market measure of performance, Tobin's q .

Studies that focus on majority-controlled companies that are controlled by individuals, Denis and Denis (1994) also do not observe that these companies have significantly lower ROE, ROA and Tobin's q than non-majority controlled companies. The evidence that majority-controlled firms survive over time without being constrained by corporate governance mechanisms including, monitoring by the board of directors, capital market, large outside institutional and non-institutional shareholders is left puzzling, however.

Studies on non-U.S. companies also show similar results. Górriz and Fumás (1996) show that Spanish family-controlled companies do not underperform companies that are controlled by other corporations, banks and multinational companies. However their studies do not control for the possible effects of corporate governance mechanisms. In addition, the measure of the companies' performance are only accounting-based.

Using Indian data, Khanna and Palepu (2000) study companies that are associated with business groups. These companies are controlled by families and lack of transparency. Hence in these firms higher agency costs are hypothesized. Yet the empirical evidence reveals that performance of the business group-affiliates is not different from the performance of non-group companies. The group companies do not have inferior performance probably because they are constrained by plausible monitors, such as foreign institutions. Again the hypothesis that companies with controlling shareholders have poorer performance cannot be rejected.

The presence of controlling shareholders may not necessary be inefficient for the firm. DeAngelo and DeAngelo (1985) argue that by holding high stakes of the firm, insiders may solve the problems caused by asymmetric information between insiders and outside shareholders related to investment opportunities and managerial performance. For example, outside shareholders may have preference for investment projects that provide faster payoffs although their net present

values are lower than the investment projects that the controlling shareholders want to carry out. In addition, voting power held by insiders minimize chances of being blocked correctly or incorrectly by outside shareholders. Voting power may also encourage insiders to invest in firm-specific human capital. Otherwise, there is no incentive to invest since returns from such investment is lost if control were replaced by other management team.

Additionally, Fama and Jensen (1983) argue that family members provide good monitoring in family-controlled firms, resulting in low agency costs. Family members have incentives to monitor because their wealth, which includes pecuniary returns as well as non-pecuniary returns, such as benefits from having control over the companies are tied to the continuation of the companies. Monitoring and disciplining the management by family members may be efficient because of the close interaction of family members. In addition, the implicit contract among family members, like the responsibility toward the family, may discourage owner-managers from abusing their power and transfer corporate funds to themselves.

In a similar manner, DeAngelo and DeAngelo (1985) argue that the wealth generated from holding the companies' shares may discipline the controlling shareholder-managers, hence lead to the alignment of their interests to those of minority shareholders. Since wealth as well as private benefits of control are tied to the continuation of the firm, controlling shareholders directly bear the costs of their discretion. Hence they are unlikely to be short-sighted by cashing out corporate assets or pursuing strategies that decrease the firm's value.

4.2.2 Corporate governance mechanism in controlling the agency conflicts

Minority shareholders as well as other stakeholders can be protected against the controlling shareholders' discretion, or managerial discretion when a firm has no controlling shareholder, by various mechanisms. Potential governance mechanisms include legal protection, monitoring by large shareholders and creditors, managerial ownership, monitoring by the board of directors, and reputation (Shleifer and Vishny (1997), and Bebchuk et al. (1998)). In this study, I focus on managerial ownership, monitoring by financial institutions and the board of directors and the firms' reputation. In this section, the role of the governance mechanisms in limiting the agency costs is discussed.

Managerial ownership

There are two strands of theories relating to the effects of top management ownership on controlling the agency costs and hence a firm's value: the convergence of interest hypothesis and the entrenchment hypothesis.

The convergence of interest hypothesis is contended by Jensen and Meckling (1976). The traditional aspect of the agency cost theory suggests that managerial ownership aligns the interests of management and other stakeholders of the firm (Jensen and Meckling (1976)). Managers are more likely to become self-constrained and avoid consumption of perquisites as their ownership rises since they have to bear the costs of such activities in a proportion to their shareholdings. In other words, Jensen and Meckling (1976) hypothesize the positive and linear relation between top management's ownership and performance.

According to the entrenchment hypothesis, managerial ownership may not be monotonically related with the agency costs and hence performance. Demsetz (1983) and Stulz (1988) argue that beyond a certain level of ownership, top managers have sufficient voting power and tend to pursue their own interests without being pressured from outside corporate control. This managerial entrenchment argument suggests a negative relation between performance and managerial ownership.

Empirical studies, however, support both hypotheses. The most cited work in the literature is Morck et al. (1988). They find that the firm's value rises as managerial ownership increases from 0 percent to 5 percent, and falls from 5 percent to 25 percent. They argue that at the 5-25 percent level of ownership, managers tend to be entrenched and consume private benefits. There are extensive studies on this issue showing similar results, but with different turning points. A more recent study using the UK data, Short and Keasey (1999), finds that at the ownership level of 0 - 15.58 percent, performance rises with managerial ownership. When the ownership level is at 15.58 - 41.84 percent, performance falls as managerial ownership rises, and once managerial ownership rises beyond 41.84 percent performance and managerial ownership are positively related.

The empirical evidence on the non-linear relationship between ownership by top management and performance can be explained by combining the convergence of interest and the entrenchment hypotheses (see Morck et al. (1988) and Short and Keasey (1999)). That is, at low levels

of ownership, management has the incentive to pursue the firm's value maximization activities. At intermediate levels of ownership, management has enough control and is wealthy enough to exploit the firm to generate private benefits that are not available to outside shareholders (Shleifer and Vishny (1997)). However, at high levels of ownership, self-serving behavior detrimental to the firm's value declines as management owns a higher fraction of the firm's equity, and hence can not externalize the costs of their moral hazard.

Monitoring by large shareholders

Other large shareholders, individuals or institutions, may engage in corporate governance activities. They have incentives to assist monitoring because the benefits of monitoring are likely to outweigh the incremental costs (Shleifer and Vishny (1986) and Admati et al. (1994)). Empirical studies on the role of large shareholders in monitoring and disciplining the management is extensive, though the results are not conclusive. For example, McConnell and Servaes (1990) find a positive relation between institutional ownership and performance of U.S. firms. Khanna and Palepu (1999) detect the monitoring effects of foreign institutional ownership on Tobin's q using Indian data, but find no evidence of the effects of domestic institutional ownership.

Ownership also affects the firm's value indirectly. Kaplan and Minton (1994) find that large shareholders in Japanese firms have significant influence on the appointment of outsiders to the board of directors when a firm performs poorly. This is in order to oversee the firms and implement responses. Kang and Shivdasani (1995) present evidence that the presence of block shareholders increases the likelihood of non-routine management turnover in Japan. The same evidence in the case of U.S. firms is also observed by Denis et al. (1997).

Monitoring by the board of directors

Control by the board of directors is one of the most important internal control mechanisms of a firm. Internal control in a firm is delegated to the board of directors because it is difficult for minority shareholders to exercise control themselves. The legal authority of the board of directors is to hire, fire and set managers' compensation and to ratify and monitor important corporate decisions (Fama and Jensen (1983)). The role of the board in limiting the agency problem is by separating the control and management aspects of the decision process. That is,

the effectiveness of the board of directors in limiting the agency costs in the firm is determined by its independence, size and composition (John and Senbet (1998)). The degree of the board's independence or the alignment between the board and outside shareholder interests is presumed to increase if the board is not insider-dominated. For example, Weisbach (1988) finds evidence that in poorly performing firms, outside directors are more likely to remove CEOs than inside directors. Inside directors are less likely to challenge top management because their careers are tied with them.

The size of the board affects the way the board monitors management. Lipton and Lorsch (1992) and Jensen (1993) argue that the preferred size should be around eight or nine. Larger boards would make it more difficult for members to have effective discussions on managerial performance and slower down the decision making process. This argument is supported by Yermack (1996), and Eisenberg et al. (1998).

Reputation

Why should outside investors put their money in the companies that are mainly controlled by a group of shareholders? Since outside investors are worried that the controlling shareholders may abuse their power, the companies may not be able to attract outside capital. The attractiveness of the companies may be due to their reputation for managerial competence and moderation in extracting private benefits (e.g. Bebchuk et al. (1998), and La Porta et al. (2000)). Barr et al. (1997) find that the controlling shareholders of South African companies with good reputation do not need to retain high shareholdings while keeping control over their firms.

4.3 Empirical approach

Literature review previously, in particular, Shleifer and Vishny (1997), La Porta et al. (1999) and Bebchuk et al. (1998) suggest that controlling shareholders have voting power and are able to implement policies that benefit themselves while other stakeholders bear the costs. In addition, controlling shareholders that are involved in the top management levels are more entrenched. If the controlling shareholders consume higher perks or have any private benefits, for example, if they invest and expand the firms sub-optimally, then the performance of the firms where controlling shareholders exist should be lower compared to firms without a controlling

shareholder. From these arguments, I formulate two testable hypotheses regarding how firms with controlling shareholder differ from those without:

H1: Firms where a controlling shareholder exists display lower level of performance than firms without a controlling shareholder.

H2: Firms where the controlling shareholders are involved in top management display lower level of performance than firms where the controlling shareholders do not participate in top management.

To investigate this issue, I conduct both univariate and multivariate analyses. In a regression analysis, a measure for performance is regressed on the effects of different categories of controlling shareholders, governance mechanisms, firm characteristics and industry dummies.

4.3.1 Measurement of performance

In common with similar studies on the effect of ownership on firms' performance, the economic performance of firms is captured using two measures: the accounting data-based measure, ROA, and the market-oriented measure, Tobin's q . In order to measure total return accruing to equity holders, the return of assets, ROA, is defined as the ratio of earnings before taxes to total assets. That is, ROA measures management's ability and efficiency in using the firm's assets to generate operating profits.

Theoretically Tobin's q is defined as the ratio of the market value of a firm to the replacement cost of its assets. Due to data unavailability, I employ the simplified version of Tobin's q introduced by Perfect and Wiles (1994), and Chung and Pruitt (1994). This estimate of Tobin's q is documented to be highly correlated with the approach of Lindenberg and Ross (1981). Measure of Tobin's q is defined as follows:

$$q = \frac{\text{Market value of equity} + \text{Book value of total liabilities}}{\text{Book value of total assets.}} \quad (4.1)$$

The market value of equity is the number of outstanding shares multiplied by the 1996 year-end share prices.¹

¹Note that the market value of equity defined by Perfect and Wiles (1994), and Chung and Pruitt (1994) also includes the market value of preferred stocks. However since issuing preferred stocks is not common for Thai firms, I do not include this item in the equation. Overall there were only 9 preferred stocks listed in the Stock Exchange of Thailand in 1996. And only 2 firms in the sample issued preferred stocks.

As far as Thai firms are concerned, it is not clear which of the two alternative measures of performance is better. Theoretically Tobin's q is superior to accounting measures of performance because it provides the value of the firm intangible assets such as monopoly rents, goodwill, growth opportunities as well as superior managerial and entrepreneurial skills in comparison to the firm's replacement costs (Linderberg and Ross (1981)). The value of intangible assets are reflected in the firm's market value. However for Tobin's q to provide an accurate measure of performance, stock prices have to reflect the true value of the firm (Linderberg and Ross (1981)). As Khanna and Palepu (1999) pointed out, this implicit assumption may not be met in the case of emerging economies since the capital markets are illiquid and there is a lack of timely disclosure.

On the other hand, accounting data is not absolutely accurate in measuring the firm's true state for several reasons. Accounting measures of performance does not reflect the firm's intangible assets. In addition, there is also a bias associated with accounting standards, regarding to advertising expenses, depreciation costs and tax regimes (Wernerfelt and Montgomery (1988)). Discretionary reporting choices affect the level of earnings. Lastly, the accounting procedures are likely to vary according to industries (Benston (1985)).

4.3.2 Independent Variables

Controlling shareholders

The effect of the presence of controlling shareholders on performance is captured by a zero-one dummy variable, *The presence of controlling shareholder*. The variable *The presence of controlling shareholder* is given the value 1 if there exists at least one controlling shareholder in the firm, and zero otherwise. The definition of a controlling shareholder follows the one given in chapter 3. That is, a controlling shareholder is a shareholder who holds directly or indirectly at least 25 percent of the shares.

The effect of the presence of controlling shareholders on performance, however, may differ according to the types of controlling shareholders. As shown in chapter 3, controlling shareholders in Thai firms can be classified into 4 categories, namely individuals or families, a group of more than one controlling shareholder, foreign investors and the Thai government.

There are two opposite arguments associated with an individual or a group of family as a

controlling shareholder. On one hand, family is notorious for putting the interests of the family above the interests of other stakeholders of the firm. Due to immense voting power and frequent involvement in management, families can implement policies that benefit themselves and are detrimental to the firms' performance (La Porta et al. (1999)). On the other hand, since family relationships provides better alignment, family-owned firms should have lower agency costs (Fama and Jensen (1983) and DeAngelo and DeAngelo (1985)).

Agency problems and contractual costs of a firm that is controlled by more than one family might not be the same as those with one controlling shareholder. If there exists more than one large shareholder in a firm, the large shareholders may monitor each other, hence reducing the agency costs.

The agency problem that arises in foreign-controlled firms may be different from that of non-foreign controlled firms because (i) their controlling shareholders are geographically away from the country, and (ii) most of the firms that have foreign corporations as their controlling shareholders are run by professionals who own no stakes in the firms. However the agency problem may not be that serious. Otherwise, there would have been no MNEs investing around the world. The argument is supported by prior studies. For example, Boardman et al. (1997) (using Canadian data), and Majumdar (1997) (using Indian data) document that performance of foreign-owned firms is superior to that of domestic firms due to the possession of firm-specific advantages. However, foreign firms may display higher level of performance due to various investment promotion benefits obtained from the Thai government.

Government-controlled firms are considered separate entities because government-controlled firms are operating in monopoly or regulated duopoly markets, that may give rise to superior performance.

To analyze the effect of types of controlling shareholder on performance, dummy variables are employed to represent different types of controlling shareholders. The dummy variables are set to one for firms that have controlling shareholders, family-controlled firms, firms with more than one controlling shareholder, foreign-controlled firms and government-controlled firms, respectively. They are zero otherwise.

Controlling shareholder involvement in management

To investigate if companies where controlling shareholders are involved in management have serious managerial entrenchment, I include a dummy variable, *Involvement in management*. The variable *Involvement in management* equals one for firms where the controlling shareholders are involved in the top management positions namely officers and directors, and zero otherwise.

As discussed previously, the relationship between managerial ownership and performance may not necessarily be monotonic. More specifically, when a manager holds large stakes of the firm (in this case more than 25 percent), he gains significant control over the firm and may utilize this power to divert corporate resources to his own interests. Hence lower firm performance should be observed. However for managers who own a larger fraction of the firms' shares, the results of non-value maximization activities will be finally borne by themselves according to the proportion of their stake. Consequently, the interests of owner-managers and outside shareholders converge.

Following previous studies, the non-linear relation between managerial ownership and performance is captured by using the shareholdings of top management who are the firm's controlling shareholder (*Ownership of controlling shareholder-managers*) and the square of *Ownership of controlling shareholder-managers* (see McConnell and Servaes (1995), Short and Keasey (1999)). This methodology is adopted because the turning point where the relationship between the performance and ownership variables changes direction cannot be pre-determined. Differences in turning points may be attributable to corporate control mechanisms between countries (Short and Keasey (1999)).

4.3.3 Corporate governance covariates

Non controlling shareholder managerial ownership

Managers who are not the firm's controlling shareholder do not hold a high fraction of the shares. Typically the shareholdings per manager are between 0- 25 percent. The relation between the managerial ownership and performance is hypothesized in line with previous studies as follow. A lower stake gives incentive to managers to work to raise the value of the firm. But when managers hold higher portion of shares, they gain some control and may extract private benefits. That is, performance first rises with ownership, then falls as ownership increases.

In the same manner as the ownership by controlling shareholder-managers, the non-linear effect on performance of the ownership by managers who are not the firm's controlling shareholder is captured by the managers' shareholdings (*Ownership of non-controlling shareholder-managers*) and the square of *Ownership of non-controlling shareholder-managers*.

Financial institutions

In this section, I discuss the effect of large shareholders in monitoring firms. One of the potential monitors in Thailand are financial institutions. Financial institutions are classified into foreign and domestic institutions. Financial institutions in more advanced countries are documented widely in assisting monitoring, as well as disciplining the management and reducing the degree of managerial entrenchment (McConnell and Servaes (1990), and Denis et al. (1997)). The role of domestic financial institutions in providing adequate corporate governance is less noted, however. Khanna and Palepu (1999) argue that domestic financial institutions may not play a similar role as foreign institutions because (i) domestic institutions may not have expertise in performing active corporate control, (ii) they may have no incentives to invest in monitoring techniques, (iii) the market may be too small for them to gain excess profits, and (iv) costs of acquiring information in less advanced economies tends to be high because information disclosure rules are not well established.

Consistent with prior theory and empirical studies, the monitoring effects of financial institutions on the firm's value should increase with their ownership. The financial institutional shareholding is capture by two measures: *Foreign institutions* and *Domestic institutions*. They are defined as the aggregation of shareholdings of foreign and domestic financial institutions, respectively. Financial institutions include banks, financial companies, insurance companies and mutual funds, both government-owned and privately owned.

Board of directors

The effectiveness of monitoring by the board of directors is measured by the size of the board (*Board size*), and its composition (*controlling shareholders-dominated board*). Following Yermack (1996), and Eisenberg et al. (1998), the size of the board is defined as the log of the number of directors on the board. The log transformation is introduced to make the distri-

bution of the variable more symmetric. Based on the argument of Lipton and Lorsch (1992), and Jensen (1993), the board's activism declines as the size becomes larger since it increases communication problems among members, resulting in a decrease in the firm's value.

Controlling shareholders-dominated board is used to measure the quality of the board in conducting monitoring activity. As discussed earlier, the effectiveness of the board is presumed to increase when it consists of fewer inside directors. A board that is dominated by a family is thought to be less independent because it is likely that members of the board collude with each other as well as with top management to expropriate corporate assets.

Due to the high correlation between the number of positions a controlling shareholder and his family have in the board and managerial ownership, I use a zero-one dummy variable as a measure for the dependence of the boards. *Controlling shareholder-dominated board* takes the value 1 if the firm's controlling shareholder and his immediate family hold more positions in the boards than the median value of 20 percent. Otherwise it is zero.

Reputation

A dummy variable, *Business group* representing firms that are affiliated with business groups is introduced to control for the reputation effect. There are two opposite effects of *Business group* on performance. Due to the complexity of their organizational structure, these companies are likely to have higher agency costs than independent companies. The presence of cross-shareholdings among member firms causes the firms to be less transparent, and reduces the effectiveness of external corporate governance mechanisms (Khanna and Palepu (1999)). In addition, the ability of controlling shareholders to move the companies' funds across companies within the group without adequate disclosure increases the severity of the agency problem. Their connection with politicians and bureaucrats might insulate them from monitoring and interfering by outsiders.

However business groups may be profitable because they are more diversified, have superior access to foreign capital and technology (Khanna and Palepu (1999)). In the case of Thailand, close relationship with the bureaucracy provides investment opportunities and monopoly power over product markets.

Here I use the broader definition of business group. In order to identify business groups,

the ranking of the top hundred business groups according to the companies' assets in 1979, provided by Suehiro (1989) is employed.² Specifically business groups are defined as the business groups that were among the hundred largest business groups 1979, and the groups surviving to the present time. Since many of the groups keep their companies private, there are only 23 business groups that control companies in our sample. These business groups are namely Asakun, Chirathiwat, Choke Wattana, Chonwicharn, the Crown Property Bureau, Darakanon, Kanasut, Laohathai, Lamsam, Liaophairat, Osathanukhro, Phenchart, Pornprapha, Photirattanangkun, Rattanak, Sophonpanit, Srifuengfung, Sriwikorn, Uachukiat, Wang Lee, Wiriya-prapaikit, Wattanawekin, and Wongkusolkit.

Following the Stock Exchange of Thailand's definition, a firm is associated to a business group if the groups' controlling shareholders own more than 20 percent the firm's shares.

Firms' characteristics and industry effects

A firm's value may be affected directly or indirectly by factors related to the nature of the firm and its industry. To control for such effects, I introduce firm size, sales growth, age, fixed-asset ratio, and industry fixed effects.

Previous empirical studies document both a positive and negative relation between firm size and performance. One stream of research suggests that large firms may be more difficult to monitor due to a more complicated organizational structure. Large firms also tend to be more hierarchical and bureaucratic and less flexible in decision making (Williamson (1967)). If this is the case, we expect a negative relation between firm size and performance.

Another stream of research, however, suggests that firm size indicates more investment opportunities, economies of scale (Chhibber and Majumdar (1999)), and the ability to employ more skilled managers and employees (Himmelberg et al. (1999)). If this is the case, then we would expect a positive relation between the firm size and performance. I use the log of sales to measure firm size.

The percentage of annual change in sales, averaged over 1992-1996, is used to capture the effect of growth on the firm's performance. In markets where sales growth is high, there are possibilities for firms to make larger profits.

²As far as I know, this is the most recent source of information that can be used as a reference. Even though the ranking is not recent, the business groups defined here should not introduce any bias to the analysis. The 23 business groups are still well known at present.

Theoretically the relationship between age and performance is mixed. On one hand, the life-cycle effect suggests that older firms may have superior performance resulting from learning by doing. On the other hand, older firms may be less flexible in coping with rapid changes in market-oriented economies. They may also be more bureaucratic (Leech and Leahy (1991) and Chhibber and Majumdar (1999)). I use the log of the number of years since firms were set up as a measure, to scale down the variation in firm's age. To capture the capital intensity effect, I introduce the fixed asset ratio; the ratio of net property, plant and equipment to total assets. Capital intensive firms are thought to be less difficult to monitor compared to firms with more intangible assets. This suggests a positive relation between the fixed asset ratio and performance. However Thai firms are well known to have bought property for speculation during the bubble periods (1991-1997). This variable is thought to reflect a high proportion of investment in property. If this activity is not profitable, a negative relation with performance should be observed.

In order to remove variation from industry effects on the dependent variable, I include 21 industry dummy variables with agribusiness as the reference industry. The specification of the 21 industries follows the Stock Exchange of Thailand and can be referred from Chapter 2.

4.4 Results and analysis

4.4.1 Descriptive statistics

Table 4.2 presents summary statistics of firms' characteristics for 270 firms in the sample. Compared to firms without a controlling shareholder, firms that have controlling shareholders are much larger in size, measured by either total assets or sales. For example, the mean value of sales of the firms that have controlling shareholders is Baht 3,974.93 million, and the median value is Baht 1,707.24 million. The mean (median) sales of the firms that have no controlling shareholder are Baht 1,427.65 million (Baht 1,156.46 million).

Regarding other firms' characteristics namely age, sales growth and the fixed asset ratio, the differences between firms with and without controlling shareholders are not statistically significant.

Relative to firms with controlling shareholders, firms with no controlling shareholder have significantly higher aggregate domestic institutional ownership. The mean of the proportion of

Table 4.1: Description of Variables

Variable	Description
Dependent variables	
ROA	Ratio of profit before tax to total assets.
Tobin's q	Ratio of the market value of equity plus the book value of liabilities to the book value of total assets.
Independent variables	
Ownership variables	
<i>Presence of controlling shareholder</i>	Dummy variable, taking the value of 1 if the firm has a controlling shareholder.
<i>Family</i>	Dummy variable, taking the value of 1 if the firm has a controlling shareholder who is an individual.
<i>Government</i>	Dummy variable, taking the value of 1 if the firm has a controlling shareholder who is the government.
<i>Foreign investor</i>	Dummy variable, taking the value of 1 if the firm has a controlling shareholder who is foreign investor.
<i>More than one controlling shareholder</i>	Dummy variable, taking the value of 1 if the firm has more than one controlling shareholder.
<i>Involvement in management</i>	Dummy variable, taking the value of 1 if the controlling shareholder and his family are present among the firm's top management.
<i>Ownership of controlling-shareholder-managers</i>	Percentage of shares held by top management who are also the firm's controlling shareholders' families.
Governance variables	
<i>Ownership of non controlling-shareholder-managers</i>	Percentage of shares held by top management who are not the firm's controlling shareholder.
<i>Foreign institutional ownership</i>	Aggregate ownership of foreign institutions.
<i>Domestic institutional ownership</i>	Aggregate ownership of domestic financial institutions.
<i>Board size</i>	Log of the number of directors on the board.
<i>Controlling shareholders-dominated board</i>	Dummy variable, taking the value of 1 if the fraction of number of directors who came from the family of the firm's controlling shareholder is more than the median value of 20 percent.
<i>Business group</i>	Dummy variable, taking the value of 1 if the firm belongs to one of the 23 largest business groups.
Control variables	
<i>Size</i>	Log of annual sales.
<i>Sales growth</i>	Percentage change in sales, averaged over the period 1992-1996.
<i>Age</i>	Number of years since incorporation.
<i>Fixed asset ratio</i>	Ratio of net property, plant and equipment to total assets.

Table 4.2: Summary Statistics of Firms Characteristics

Firms are classified into 2 categories: firms with controlling shareholders and firms with no controlling shareholder. A controlling shareholder is a shareholder who owns at least 25 percent of a firm's shares, directly or indirectly. The summary statistics in this table are the mean and median of variables based on 1996 values. Total assets and sales are in millions of Baht, with an approximate exchange rate at the end of 1996 of one U.S.\$ equal to 26 Baht. *Board size* is measured by the number of directors on the board. Mean (median) differences are tested using the t-test and the Wilcoxon signed rank test. ***, ** indicate statistically significant differences when compared with the firms with no controlling shareholder at the 1 and 5 percent levels, respectively.

Variable	<i>All firms</i>	<i>With controlling shareholders</i>	<i>Without controlling shareholders</i>
	Mean (Median)	Mean (Median)	Mean (Median)
Assets (Baht million)	7140.71 (2428.76)	7752.09** (2428.87)***	4239.87 (2006.34)
Sales (Baht million)	3531.52 (1544.03)	3974.93*** (1707.24)***	1427.65 (1156.46)
Age of firms (years)	21.02 (17.00)	21.41 (17.00)	19.17 (17.5)
Sales growth	0.28 (0.16)	0.28 (0.16)	0.29 (0.16)
Fixed asset ratio	0.42 (0.39)	0.42 (0.39)	0.43 (0.40)
Ownership of controlling shareholder-managers (%)	34.54 (41.35)	41.82 (46.61)	- -
Ownership of non controlling shareholder-managers (%)	8.17 (1.33)	4.87*** (0.00)***	23.84 (22.05)
Foreign institutional ownership (%)	5.74 (2.60)	5.65 (2.65)	6.19 (2.09)
Domestic institutional ownership (%)	8.17 (5.11)	7.42*** (4.75)***	11.71 (9.15)
Board size	11.67 (11.00)	11.65 (11.00)	11.79 (11.00)
Number of firms	270	223	47

shares held by domestic institutions in firms with no controlling shareholder is 11.71 percent, with median 9.15 percent. In firms where controlling shareholders exist, the mean of the proportion of shares held by domestic institutions is 7.42 percent with median 4.75 percent. Foreign institutional ownership in firms with and without controlling shareholders does not show any difference that is statistically significant, however.

Regarding managerial ownership, the average level of shareholdings by controlling shareholder managers is 41.82 percent. In contrast, managers who are not from the family of the controlling shareholder do not hold high stakes. In total, the ownership of outside officers and directors in firms with controlling shareholders is 4.87 percent.

Controlling shareholders involvement in management varies according to the firm type as shown in Table 4.3 Out of 223 firms where a controlling shareholder is present, the controlling shareholder in 185 firms is involved in top management. This accounts for 82.51 percent. In family-controlled firms, the proportion of controlling shareholder involvement in management is 92.90 percent, whereas in firms with more than one controlling shareholder, it is 89.29 percent. In 45.71 percent of foreign-controlled firms, the controlling shareholder participates in management.

Summary statistics of the shareholdings of the controlling shareholder-manager are shown in Table 4.4. Panel A illustrates additional statistics of the shareholdings by the controlling shareholder-manager in the 223 firms with a controlling shareholder. This information is additional to Table 4.2. Panel B presents summary statistics of the shareholdings of the controlling shareholder-managers in the 184 firms where the controlling shareholders participate in management. The mean ownership of the managers who are also the firms' controlling shareholders is 50.35 percent, with median 50.31 percent. Table 4.5 shows descriptive statistics of ownership by managers who are not the firms' controlling shareholders. Panel A presents the statistics of all firms in the sample. The average (median) shareholdings of non-controlling shareholder managers for 270 firms in the sample is 8.17 percent (1.33 percent). The ownership of this type of manager is higher in the firms with no controlling shareholder. The mean (median) managerial ownership is 23.84 percent (22.05 percent). Compared to firms with no controlling shareholder, managers in firms with a controlling shareholder hold much smaller stakes. The average managerial ownership of firms with a controlling shareholder is 4.87 percent, with

Table 4.3: Controlling Shareholder Involvement in Management

This table shows the number of firms where controlling shareholders are involved in management as officers and directors. A controlling shareholder is a shareholder whose ownership of the firm's shares exceeds 25 percent. Firms with controlling shareholders are categorized into four groups according to the following types of controlling shareholders: family, government, foreign investor, and firms with more than one controlling shareholder.

	No. of		Involved		Not involved	
	firms	No. of firms	%	No. of firms	%	
Full sample	270	185	68.52	85	31.48	
Firms with controlling shareholder	223	185	82.96	38	17.04	
Family controlled firms	155	144	92.90	11	7.10	
Government controlled firms	5	-	-	5	100.00	
Foreign controlled firms	35	16	45.71	19	54.29	
More than one controlling shareholder	28	25	89.29	3	10.71	
Firms with no controlling shareholder	47	-	-	-	-	

median zero percent.

Panel B and Panel C of Table 4.5 show the managerial ownership statistics of firms where the controlling shareholders are involved and not involved in management, respectively. The mean managerial ownership of 185 firms where the controlling shareholders participate in management is 4.76 percent, with median ownership of zero percent. The mean ownership of managers of firms where the controlling shareholders are not involved in management is 5.41 percent.

4.4.2 Univariate analysis

Table 4.6 compares the performance of firms with and without a controlling shareholder. In addition, Table 4.6 also provides statistical references comparing performance of firms with different types of controlling shareholders, including individuals or families, the government, foreign investors and firms with more than one controlling shareholders, to performance of firms with no controlling shareholder. Note that hereafter the analysis is based on 269 observations. One observation in the original sample was dropped out because its ROA estimate was very extreme. This firm belonged to the group of firms with no controlling shareholder.

The average ROA of the firms with controlling shareholders is 4.65, compared to 3.98 percent

Table 4.4: Summary Statistics of Ownership by Controlling Shareholder-Managers

This table shows summary statistics of ownership of top management who is also the firm's controlling shareholder. Top management includes officers and directors. A controlling shareholder is a shareholder whose ownership of the firm's shares exceeds 25 percent. Firms with controlling shareholders are categorized into four groups according to the following types of controlling shareholders: family, government, foreign investor, and firms with more than one controlling shareholder. Panel A presents summary statistics of managerial ownership for the firms where a controlling shareholder exists. Panel B presents summary statistics of managerial ownership for the firms where the the controlling shareholder is involved in management.

Panel A: Firms where a controlling shareholder exists						
	No. of firms	Mean	Median	Std. Dev.	Min	Max
Firms with controlling shareholder	223	41.82	46.61	23.12	0	92.53
Family controlled firms	155	47.23	48.93	18.64	0	92.53
Government controlled firms	5	-	-	-	-	-
Foreign controlled firms	35	21.1	0	24.25	0	66.66
More than one controlling shareholder	28	45.18	44.91	23.69	0	87.76
Firms with no controlling shareholder	47	-	-	-	-	-

Panel B: Firms where the controlling shareholder is involved in management						
	No. of firms	Mean	Median	Std. Dev.	Min	Max
Firms with controlling shareholder	184	50.35	50.31	14.24	25.00	92.53
Family controlled firms	144	50.84	50.31	13.76	25.13	92.53
Government controlled firms	-	-	-	-	-	-
Foreign controlled firms	16	46.17	50.31	9.99	29.80	66.66
More than one controlling shareholder	25	50.21	50.31	18.88	25.00	87.76

Table 4.5: Summary Statistics of Shareholdings by Non-controlling Shareholder Managers
This table shows summary statistics of the percentage of shareholdings of top management who are not the firm's controlling shareholder. Top management includes officers and directors. A controlling shareholder is a shareholder whose ownership of the firm's shares exceeds 25 percent. Firms with controlling shareholders are categorized into four groups according to the following types of controlling shareholders: family, government, foreign investor, and firms with more than one controlling shareholder. Panel A presents summary statistics of all firms. Panel B presents summary statistics of the firms where the the controlling shareholder is involved in management. Panel C presents summary statistics of the firms where the the controlling shareholder is not involved in management.

Panel A: All Firms in the Sample

	No. of firms	Mean	Median	Std. Dev.	Min	Max
Full sample	270	8.17	1.33	12.46	0	58.39
Firms with controlling shareholder	223	4.87	0	8.37	0	42.98
Family controlled firms	155	4.91	0.55	8.52	0	42.98
Government controlled firms	5	1.31	0	2.93	0	6.56
Foreign controlled firms	35	6.95	2.6	9.49	0	38.95
More than one controlling shareholder	28	2.71	0	5.71	0	23.65
Firms with no controlling shareholder	47	23.84	22.05	16.3	0	58.39

Panel B: Firms where the controlling shareholder is involved in management

	No. of firms	Mean	Median	Std. Dev.	Min	Max
Firms with controlling shareholder	185	4.76	0	8.27	0	42.98
Family controlled firms	144	4.96	0.53	8.51	0	42.98
Government controlled firms	0	0	0	0	0	0
Foreign controlled firms	16	7.13	4.27	10.04	0	38.95
More than one controlling shareholder	25	2.09	0	4.18	0	15.82

Panel C: Firms where the controlling shareholder is not involved in management

	No. of firms	Mean	Median	Std. Dev.	Min	Max
Firms with controlling shareholder	38	5.41	0	8.97	0	31.23
Family controlled firms	11	4.21	0.55	9.3	0	31.23
Government controlled firms	5	1.31	0	2.93	0	6.56
Foreign controlled firms	19	6.79	0	9.28	0	22.75
More than one controlling shareholder	3	7.88	0	13.65	0	23.65

for firms with no controlling shareholder. The median value of ROA of firms with controlling shareholders is 4.41 percent, against 4.49 percent for firms with no controlling shareholder. The difference in both the mean and median values, however, is not statistically significant at the conventional levels for both the average and median values.

Next we will compare the performance of firms with different types of controlling shareholders and that of firms with no controlling shareholder. Family-controlled firms have a mean (median) ROA of 3.96 (4.19) percent, lower than the mean (median) ROA of the firms with no controlling shareholder. The difference, however, is not statistically significant.

Firms that have the government as their controlling shareholder have a mean ROA of 3.64 percent, not significantly lower than the average ROA for the firms with no controlling shareholder. In terms of the median ROA, government controlled firms outperform the firms with no controlling shareholder, 5.62 percent against 4.49 percent for the firms with no controlling shareholder. The difference is not significant, however. The mean ROA of firms with more than one controlling shareholder is 4.57 percent with median 2.67. The difference in both mean and median ROA of firms with more than one controlling shareholder and firms with no controlling shareholder is also not significantly different.

Among different types of controlling shareholders, only foreign controlled firms have significantly higher profitability than firms with no controlling shareholder. The mean and median ROA for foreign controlled firms are 7.89 and 7.43 percent, respectively, significantly higher than the mean and median ROA of 3.98 and 4.49 percent for the firms with no controlling shareholder.

In fact, the performance of foreign-controlled firms is also superior to that of family-owned-firms and firms with more than one controlling shareholder. The differences with respect to both the sample mean and median values of ROA are significant at conventional levels. While the mean value of ROA of government controlled firms is not significantly different from that of foreign controlled firms, the difference in median value is significant at the 5 percent level.

Regarding the comparison on the other performance measure, Tobin's q , the sample mean (median) values of Tobin's q for firms with controlling shareholders are 1.18 (0.98) against an average Tobin's q of 1.15 and median of 0.96 for firms with no controlling shareholder. When we compare the mean and median Tobin's q of firms with different types of controlling shareholders

Table 4.6: A Comparison of Performance: Firms with Controlling Shareholder versus Firms with no Controlling Shareholder

This table compares the performance of firms with and without controlling shareholders. A controlling shareholder is a shareholder whose ownership of the firm's shares exceeds 25 percent. Firms with controlling shareholders are categorized into four groups according to the following types of controlling shareholders: family, the government, foreign investor, and firms with more than one controlling shareholder. Performance is measured by ROA and Tobin's q . ROA, is defined as the ratio of earnings before taxes to total assets. Tobin's q is defined as the ratio of the market value of equity plus the book value of liabilities to the book value of total assets. Significance level refers to the difference of mean and median tests between firms with controlling shareholders, including the four groups of controlling shareholders, and firms without controlling shareholder. Mean differences are tested using the t-statistic from a parametric test. Statistical significance of the differences in median are based on the Wilcoxon signed rank test. *, **, and *** indicate statistically significant difference when compared with the firms with no controlling shareholder at the 10, 5 and 1 percent levels, respectively.

	Number of firms	ROA (%)		Tobin's q	
		Mean	Median	Mean	Median
Full sample	269	4.53	4.45	1.18	0.98
Firms with controlling shareholders	223	4.65	4.41	1.18	0.98
Family controlled firms	155	3.96	4.19	1.18	0.97
Government controlled firms	5	3.64	5.62	1.65	0.98
Foreign controlled firms	35	7.89***	7.43***	1.12	0.98
Firms with more than one controlling shareholder	28	4.57	2.67	1.15	0.96
Firms without controlling shareholders	46	3.98	4.49	1.15	0.96

to that of firms with no controlling shareholder, there is no evidence that firms with any type of controlling shareholder perform significantly different from firms with no controlling shareholder. This result holds also when we compare the performance of firms from different categories.

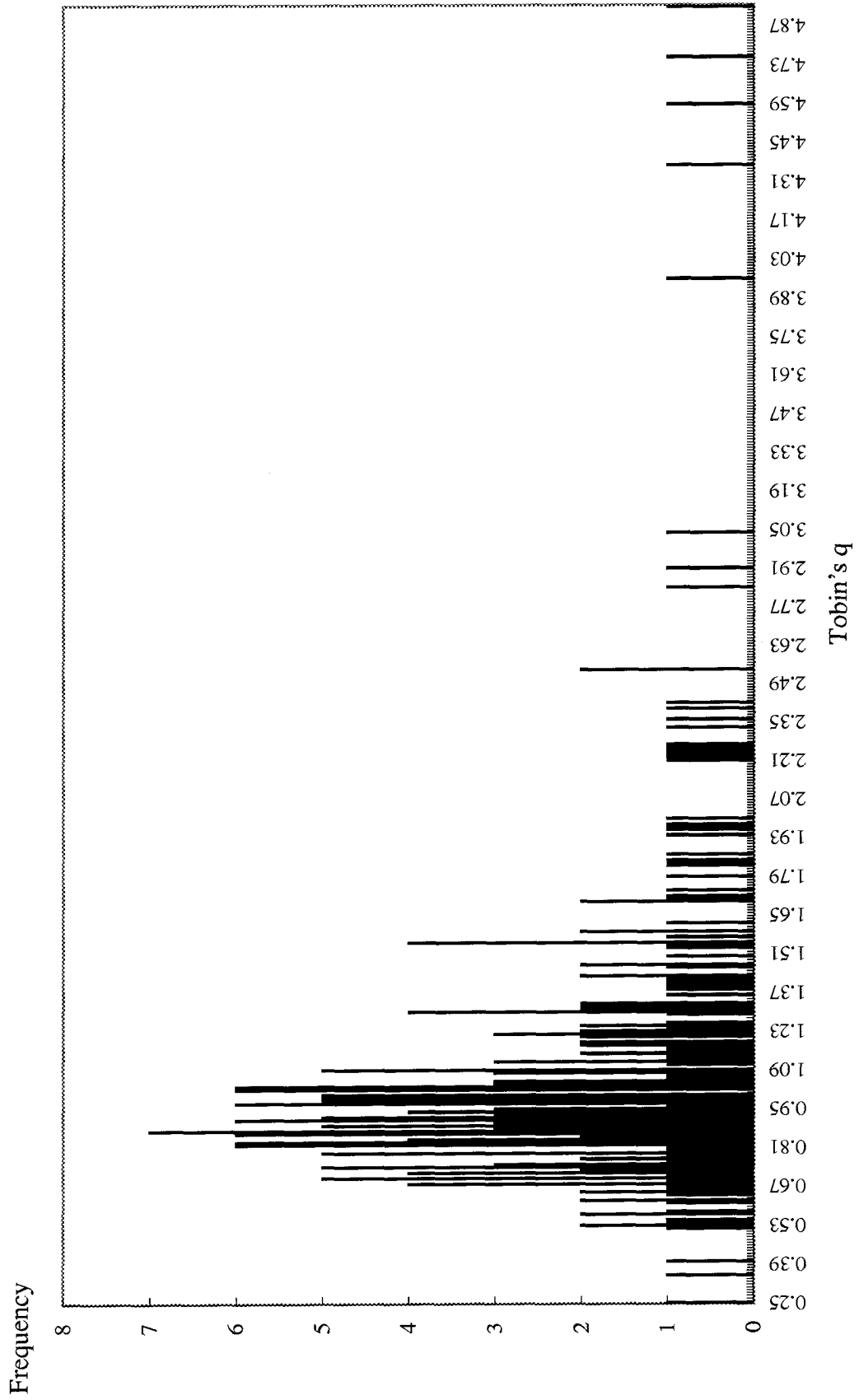
There is one point worth noting about the estimates of Tobin's q . Theoretically, if the market value of a firm is higher than its book value, an estimate of Tobin's q is greater than one. As Table 4.6 shows, even though the mean values of Tobin's q are greater than one, the median values of Tobin's q are less than one. Further investigation reveals that most of the firms in the sample have a market value lower than their book values (see Figure. 4.1). In addition, at the end of the last trading day of 1996, stock prices of 37 firms out of 269 firms, or 13.75 percent of the sample were lower than the par values of Baht 10.

Table 4.7 compares the performance of firms with controlling shareholders are involved in management and that of firms that the controlling shareholders do not hold top executive positions. The mean ROA for the firms with controlling shareholders involved in management is 4 percent with median 4.20 percent, whereas the mean ROA for firms where controlling shareholders are not involved in management is 7.82 percent with median 7.07 percent. The differences in both the mean and median values are significant at the 1 percent level. With respect to Tobin's q , the differences in both the mean and median values are, however, not statistically significant from zero.

Regarding the comparison of performance between firms with different types of controlling shareholders, only foreign controlled firms with controlling shareholders in top management display significantly different performance from foreign controlled firms where the controlling shareholders are not involved in management. Firms that are owned and run by foreign investors have a mean (median) ROA of 4.91 percent (6.99 percent), significantly lower than the mean (median) ROA of 10.39 percent (10.28 percent) for foreign controlled firms with no controlling shareholders involved in management. A similar pattern holds for the mean value of Tobin's q . That is, the incidence of foreign investors involvement in management is associated with lower performance measured by both ROA and Tobin's q .

In summary, applying univariate tests, the difference in performance for firms with and without controlling shareholder, measured by both ROA and Tobin's q , is not statistically significant from zero. However when performance is measured by ROA, firms where the controlling

Table 4.1: The Distribution of Tobin's q



shareholders are foreign investors have ROA significantly higher than that of firms without any shareholder holding controlling stakes. That is there is no evidence to support the argument that controlling shareholders divert corporate assets in such a way that the firms turn out to have poorer performance. The univariate comparisons show, however, that firms where the controlling shareholders participate in management do perform worse than the firms where the controlling shareholders do not participate in management.

4.4.3 Multivariate regression analysis

This section presents the results from a multivariate analysis of the effects of ownership on performance, after controlling for the effects of corporate governance, other firm characteristics and industry effects. The regression results are shown in Table 4.8 and Table 4.9. In both tables, Panel A reports the results when the performance measure is ROA. In Panel B, the dependent variable is Tobin's q . Specification (1) presents the results of the effect of the presence of a controlling shareholder on performance. Specification (2) addresses the effects of non-linear controlling shareholder managerial shareholdings on performance. Table 4.9 repeats the estimation as in Table 4.8 but addresses the effects of shareholdings by the following four types of controlling shareholders: family, the government, foreign investors firms with more than one controlling shareholder on performance.

The regression results based on ROA

The results of the hypothesis that the presence of a controlling shareholder has negative effect on the performance are shown in Table 4.8. The coefficients of *Presence of a controlling shareholder* are positive and significant at the 1 percent level in both Specification (1) and Specification (2). The results indicate that after controlling for other effects, firms with controlling shareholders are significantly more profitable than firms with no controlling shareholder. On average, firms with controlling shareholders have a ROA that is about 6 percentage points higher than firms with no controlling shareholder.

Regarding the effects of the type of controlling shareholder on performance, the estimated results in Table 4.9 show that only the coefficients associated with the presence of foreign controlling shareholders are positive and significant at the 1 percent level. Consistent with

Table 4.7: A Comparison of Performance: Involvement in Management versus not Involvement
This table provides a comparison of the performance of firms where controlling shareholders are involved in management and against firms where controlling shareholders are not involved in top management. Top management includes officers and directors. A controlling shareholder is a shareholder whose ownership of the firm's shares exceeds 25 percent. Firms with controlling shareholders are categorized into four groups according to the following types of controlling shareholders: family, the Government, foreign investor, and firms with more than one controlling shareholder. Mean differences are tested using the t-statistic from a parametric test. Statistical significance of the differences in median are based on the Wilcoxon signed rank test. *, **, and *** indicate statistically significant difference when compared with the firms where controlling shareholders are involved in management at the 10, 5 and 1 percent levels, respectively.

Panel A: Performance measure is ROA

	Involved in management			Not involved in management		
	No. of firms	Mean (%)	Median (%)	No. of firms	Mean (%)	Median (%)
Firms with controlling shareholder	185	4.00	4.2	38	7.82***	7.07***
Family controlled firms	144	3.82	4.19	11	5.86	2.84**
Government controlled firms	-	-	-	5	3.64	5.62
Foreign controlled firms	16	4.91	6.99	19	10.39**	10.28***
Firms with more than one controlling shareholder	25	4.44	2.3	3	5.68	9.04
Firms with no controlling shareholder	-	-	-	46	3.98	4.49

Panel B: Performance measure is Tobin's q

	Involved in management			Not involved in management		
	No. of firms	Mean (%)	Median (%)	No. of firms	Mean (%)	Median (%)
Firms with controlling shareholder	185	1.17	0.97	38	1.26	1.01
Family controlled firms	144	1.17	0.97	11	1.24	1.03
Government controlled firms	-	-	-	5	1.65	0.98
Foreign controlled firms	16	0.99	0.9	19	1.22*	1.02
Firms with more than one controlling shareholder	25	1.3	1.17	3	0.89	0.83
Firms with no controlling shareholder	-	-	-	46	1.15	0.96

the univariate test, foreign ownership has a positive influence on firm performance based on ROA. The finding that foreign ownership concentration is positively related to performance is similar to the findings of Boardman et.al (1997) (Canadian data), and Chhibber and Majumdar (1999) (Indian data). The superior performance of foreign-controlled firms may reflect that foreign ownership mitigates the agency problem. The results may also indicate the effects of the firm-specific advantages that foreign firms possess (Boardman et.al (1997)). However as noted previously, foreign firms may outperform others simply because they are able to obtain the benefits coming from the investment promotion schemes of the government. This issue needs further investigation.

With respect to the effect of controlling shareholder involvement in management, the estimated coefficient of *Involvement in management* is negative and significant (Table 4.8). The regression results support the findings based on the univariate tests that controlling shareholders' involvement in management has negative influence on ROA.

The estimated coefficients of the interaction between the 4 dummy variables representing types of controlling shareholders and *Involvement in management* are in line with the results of the univariate analysis (Table 4.9). That is, only coefficients associated with *Foreign investor* Involvement in management* are significant. Firms that are controlled and managed by a group of foreign investors have significantly lower ROA than foreign firms that are not run by their controlling shareholders.

In term of the levels of ownership of controlling shareholder-manager, there is no evidence support for the hypothesis that managerial ownership has a non-linear effect on the performance of firms in the sample. The estimated coefficients on the level of the controlling shareholder-manager's ownership variables *Ownership of controlling-manager* and *Ownership of controlling-manager*² have expected signs, but are not statistically significant in all models (Table 4.8 and Table 4.9).

Table 4.8: The Effects of Ownership and Corporate Governance on Performance I

The regression method is the *OLS*. Each specification includes a set of 20 industry dummies but the results are suppressed. The t-statistics are in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

Panel A: The dependent variables is ROA			
	Predicted sign	(1)	(2)
Presence of a controlling shareholder	-	0.058*** (2.824)	0.056*** (2.692)
Involvement in management	-	-0.046** (-2.56)	0.006 (0.118)
Ownership of controlling shareholder-managers	-		-0.209 (-1.208)
(Ownership of controlling shareholder-managers) ²	+		0.203 (1.257)
Corporate governance variables			
Ownership of non controlling shareholder-managers	+	0.282*** (2.736)	0.315*** (2.907)
(Ownership of non controlling shareholder-managers) ²	-	-0.448* (-1.823)	-0.527** (-2.073)
Foreign institutional ownership	+	0.183** (2.572)	0.184** (2.476)
Domestic institutional ownership	+	0.093* (1.657)	0.095* (1.65)
Board size	-	-0.036** (-1.975)	-0.039** (-2.077)
Controlling shareholders-dominated board	?	0.019 (1.385)	0.018 (1.304)
Business group	?	0.023* (1.721)	0.023* (1.666)
Control variables			
Size	?	0.005 (0.981)	0.007 (1.194)
Sales growth	+	0.016* (1.301)	0.016* (1.314)
Log (age)	?	0.025*** 3.002	0.024*** 2.733
Fixed asset ratio	-	-0.048* (-1.823)	-0.047* (-1.749)
Intercept		-0.076 (-0.875)	-0.087 (-0.993)
Adjusted R ²		0.128	0.127
F-statistic		2.160	2.080
p-value		0.001	0.001

Panel B: The dependent variable is Tobin's q

	Predicted sign	(1)	(2)
Presence of a controlling shareholder	-	0.068 (0.392)	0.134 (0.766)
Involvement in management	-	0.050 (0.335)	-0.324 (-0.778)
Ownership of controlling shareholder-managers	-		0.777 (0.541)
(Ownership of controlling shareholder-managers) ²	+		0.055 (0.041)
Corporate governance variables			
Ownership of non controlling shareholder-managers	+	1.150* (1.326)	1.507* (1.668)
(Ownership of non controlling shareholder-managers) ²	-	-2.811* (-1.362)	-3.110* (-1.465)
Foreign institutional ownership	+	1.485*** (2.487)	1.870*** (3.009)
Domestic institutional ownership	+	0.741* (1.579)	0.991** (2.057)
Board size	-	-0.292** (-1.939)	-0.220* (-1.423)
Controlling shareholders-dominated board	?	-0.052 (-0.447)	-0.091 (-0.78)
Business group	?	0.115 (1.025)	0.093 (0.83)
Control variables			
Size	?	0.018 (0.403)	0.001 (0.032)
Sales growth	+	0.283*** (2.686)	0.270*** (2.58)
Log (age)	?	-0.004 (-0.053)	-0.004 (-0.056)
Fixed asset ratio	-	-0.041 (-0.186)	-0.048 (-0.215)
Intercept		1.24* (1.718)	1.181 (1.639)
Adjusted R ²		0.146	0.155
F-statistic		2.39	2.40
p-value		0.00	0.00

Table 4.9: The Effects of Ownership and Corporate Governance on Performance II

The t-statistics are in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

Panel A: The dependent variables is ROA			
	Predicted sign	(1)	(2)
Family		0.037 (1.261)	0.037 (1.258)
Government		0.035 (0.826)	0.040 (0.945)
Foreign investor		0.075*** (3.077)	0.075*** (3.015)
More than one controlling shareholder		0.056 (1.094)	0.055 (1.087)
Family * Involvement in management		-0.027 (-0.948)	0.020 (0.37)
Foreign investor * Involvement in management		-0.066*** (-2.288)	-0.019 (-0.342)
More than one controlling shareholder * Involvement in management		-0.038 (-0.747)	0.007 (0.104)
Ownership of controlling shareholder-managers	-		-0.196 (-1.137)
(Ownership of controlling shareholder-managers) ²	+		0.191 (1.196)
Corporate governance variables			
Ownership of non controlling shareholder-managers	+	0.264*** (2.51)	0.298*** (2.723)
(Ownership of non controlling shareholder-managers) ²	-	-0.402* (-1.614)	-0.497** (-1.935)
Foreign institutional ownership	+	0.189*** (2.61)	0.185*** (2.463)
Domestic institutional ownership	+	0.087* (1.542)	0.088* (1.514)
Board size	-	-0.036** (-1.973)	-0.039** (-2.077)
Controlling shareholders-dominated board	?	0.020 (1.443)	0.019 (1.301)
Business group	?	0.024* (1.685)	0.025* (1.712)
Size	?	0.005 (1.018)	0.006 (1.093)
Sales growth	+	0.014 (1.106)	0.014 (1.102)
Log (age)	?	0.023*** (2.606)	0.022** (2.518)
Fixed asset ratio	-	-0.043* (-1.595)	-0.052** (-2.02)
Intercept		-0.077 (-0.891)	-0.070 (-0.82)
Adjusted R ²		0.124	0.124
F-statistic		2.030	2.030
p-value		0.001	0.001

Panel B: The dependent variable is Tobin's q

	Predicted sign	(1)	(2)
Family		0.070 (0.28)	0.177 (0.705)
Government		0.113 (0.317)	0.245 (0.689)
Foreign investor		0.088 (0.425)	0.149 (0.712)
More than one controlling shareholder		0.013 (0.031)	0.084 (0.196)
Family * Involvement in management		0.040 (0.169)	-0.423 (-0.928)
Foreign investor * Involvement in management		-0.158 (-0.651)	-0.616 (-1.308)
More than one controlling shareholder * Involvement in management		0.296 (0.689)	-0.142 (-0.244)
Ownership of controlling shareholder-managers	-		0.891 (0.614)
(Ownership of controlling shareholder-managers) ²	+		-0.054 (-0.04)
Corporate governance variables			
Ownership of non controlling shareholder-managers	+	1.214* (1.373)	1.563** (1.691)
(Ownership of non controlling shareholder-managers) ²	-	-2.862* (-1.364)	-3.261* (-1.507)
Foreign institutional ownership	+	1.797*** (2.952)	2.059*** (3.252)
Domestic institutional ownership	+	0.703* (1.482)	0.883** (1.807)
Board size	-	-0.28** (-1.835)	-0.216* (-1.375)
Controlling shareholders-dominated board	?	-0.027 (-0.231)	-0.066 (-0.548)
Business group	?	0.055 (0.456)	0.042 (0.343)
Control variables			
Size	?	0.006 (0.138)	-0.014 (-0.314)
Sales growth	+	0.281*** (2.628)	0.277*** (2.594)
Log (age)	?	-0.007 (-0.1)	0.011 (0.143)
Fixed asset ratio	-	0.013 (0.055)	-0.098 (-0.455)
Intercept		1.358* (1.864)	1.453** (2.008)
Adjusted R ²		0.138	0.135
F-statistic		2.160	2.130
p-value		0.000	0.000

The estimated coefficients of the ownership of non controlling shareholder managers and the square of the ownership of non controlling shareholder managers have expected signs and are significant at conventional levels in all regressions. An additional *F-test* was performed to check if the estimated coefficients on *Ownership of non controlling shareholder-managers* and *Ownership of non controlling shareholder-managers*² are simultaneously zero. The results showed that we can reject the hypothesis at the 5 percent level. That is, the evidence on the relationship between managerial ownership and performance is consistent with the previous literature based on data from developed economies. Specifically, performance measured by ROA initially increases with ownership and then decreases when ownership increases beyond a certain threshold. The results suggest that at a low level of ownership, increases in ownership provide incentives and motivation for managers to work to increase the firms' performance. However when their shareholdings rise over certain levels, managers gain controlling power and become more entrenched.

The presence of both foreign and domestic institutional shareholders is associated with a higher performance. In all models, the estimated coefficients are significant at the conventional levels. The positive relations between the aggregate ownership of foreign and domestic institutions and performance implies that foreign institutions and probably domestic institutions do corporate governance, resulting in better performance. As pointed out by Khanna and Palepu (1999), the causality may not run from ownership to performance. The results may also be interpreted as reverse causality. That is, institutions may increase their shareholdings in better performing firms, and may do nothing about monitoring those firms. This issue will be investigated in the following section.

Estimated coefficients *Board size* have the expected signs. In all regressions, the coefficients of the measure of board size are significant and negative. The evidence suggests that a larger board is harmful to the firm's performance. This finding supports the evidence of Eisenberg et al. (1998) using Finish data. The argument raised by Jensen (1993) that large boards of directors are ineffective is not only supported by evidence from larger firms in the more advance countries (Yermack (1996) and Vafeas (1999)), but also applies to smaller firms in emerging markets.

The other measure of the effectiveness of the board, *Controlling shareholder's dominated*

board turns out to be positively related to performance. However the coefficients are not significant in all regressions. The findings are against the argument that controlling shareholders when they control the boards by holding many positions tend to have strong influence on the firm and hence are able to consume private benefits and conduct activities following their own objectives at the expense of minority shareholders. The domination of the controlling shareholders over the board indeed has not effect on the firm's performance.

The business group dummy variable has positive coefficients that are significant at the 10 percent level in all regressions. The results are against the hypothesis that agency costs are higher in business groups because they are less transparent and are isolated from external control. In contrast, the 23 business groups are more profitable measured by ROA perhaps due to lower transaction costs, strong political connections that provide them investment opportunities, and more diversification.

The control variables have interesting effects on ROA and deserve some discussion. The firm size variable has a positive sign, but is not significant. The estimated coefficients of sales growth are positive and significant at the 10 percent level. That is, firms that experienced high growth in sales in the past 4 years have superior performance. The coefficients on firm age are positive and strongly significant. Older firms display higher performance based on ROA. The results suggest that older firms are more flexible in reacting to the new environment and have gained the benefits of learning by doing. Lastly, the estimated coefficient of the fixed asset ratio is negative and significant, indicating the negative effect of holding a high proportion of property.

The regression results based on Tobin's q

The regression results partly support the findings based on the ROA regression. Regarding the effects of the presence of controlling shareholder and types of controlling shareholders, the regression results support the findings based on the univariate tests. That is, controlling for other effects, the results show no support for the hypothesis that there is a significant difference in the performance between firms with controlling shareholders and firms without a controlling shareholder. The estimated coefficients of the *Presence of a controlling shareholder* in both Specification (1) and Specification (2) of Table 4.8, are statistically insignificant. The

results also hold when we examine the influence of ownership of the four types of controlling shareholders (Table 4.9).

The results do not support the hypothesis that controlling shareholder involvement in management has a negative effect on performance as measured by Tobin's q . The estimated coefficients on the variable *Involvement in management* are insignificant in all regressions. In line with the results based on ROA, we do not find evidence that the relation between the level of shareholdings by managers who are the firms' controlling shareholders and Tobin's q is non-linear. The coefficients of the variables *Ownership of non controlling shareholder-managers* and (*Ownership of non controlling shareholder-managers*)² are insignificant in all specifications.

The estimated coefficients of non controlling shareholder managerial ownership have expected signs, in the same way as the estimation based on ROA. The results are statistically significant only at the 10 percent level using the one-tailed test. The hypothesis testing of whether the coefficients on *Ownership of non controlling shareholder-managers* and (*Ownership of non controlling shareholder-managers*)² are simultaneously zero, however, cannot be rejected at the conventional levels. Hence we cannot conclude that the relation between the ownership of non controlling shareholder managers and Tobin's q is non-linear.

As with the ROA regression, the presence of both foreign and domestic institutional shareholders is associated with higher values of Tobin's q . The proxy of board effectiveness, board size, is also negatively associated with Tobin's q . The coefficients are significant at the conventional levels.

Unlike in the ROA regression, the results also show that there is no significant difference between the Tobin's q of affiliates of business groups and that of the rest. The estimated coefficients of the control variables in the Tobin's q estimation are not very significant. Significant result is observed only for the coefficient of the variable *Sales growth*.

4.4.4 The association between past performance and institutional ownership

The results thus far suggest that both foreign and domestic institutional ownership are positively related to a firm's performance. The direction of the relationship is not fully explained by the previous analysis. In this section, I explore the direction of causality by estimating a regression model on the determinants of institutional ownership. Put differently, our interest is whether

shareholdings by institutions are associated with past performance. Therefore, the regression includes past performance and other control variables for firm characteristics as suggested by Demsetz and Lehn (1985). I measure past performance by the ratio of earnings before interest and tax to total assets, averaged over the period 1992-1995. It is not possible to test using Tobin's q because I do not have the data. Firm characteristics are variation in sales (measured by the standard deviation of the percentage change in sales over the period 1991-1996), firm size and capital expenditure (measured by the first difference on property, plant and equipments of the years 1996 and 1995).

A caveat must be noted before examining the results. The analysis here is whether the decisions by institutions of holding firms' shares are preceded by performance. We are not actually testing the causality.

The estimation results are shown in Table 4.10. Since there exist many firms without institutional ownership, the appropriate regression method is the *Tobit*. Specification (1) and (2) are the results when the dependent variable are foreign and domestic institutional ownership, respectively. The results from the two specifications appear differently. The estimated coefficients of the past performance are positive but significant only when foreign ownership is regarded as a regressor (at the 1 percent level). The results indicate that foreign institutions invest in firms that have high ROA in the past. With respect to domestic institutions, there is no relation between past value of the ROA and domestic institutional shareholdings. I interpret this and the previous evidence to mean that domestic institutions might perform monitoring activities of Thai firms, while this may not be the case of foreign institutions.

4.5 Summary and conclusion

This study investigates the effects of the ownership structure, and governance mechanisms on performance. Based on both the univariate and multivariate analyses, we do not find that the evidence support the hypothesis that firms with controlling shareholders have lower profitability measured by ROA and q than firms with no controlling shareholder. In fact, concentrated ownership is associated with higher performance using ROA as a measure.

Further investigation on the effects of the characteristics of controlling shareholders are in general consistent with the findings. That is, compared to firms without a controlling share-

Table 4.10: The Association between Institutional Ownership and Past Performance
Foreign institutions is the aggregate ownership of foreign financial institutions. *Domestic institutions* is the aggregate ownership of domestic financial institutions. Past-ROA is an average value of the ratio of earnings before interest, taxes to total assets over the period 1992-1995. Variation in sales is the standard deviation of the percentage change in sales over the period 1991-1995. Firm size is the log of annual sales. Capital expenditure is the first difference in net property, plants, and equipment over the previous year. The regression method is *Tobit*. Each specification includes a set of 18 dummy variables to control for industry fixed-effects, but the results are suppressed. The t-statistics are in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

Variable	Dependent variable (ownership)	
	Foreign institutions	Domestic institutions
Intercept	-46.932 (-5.739) ***	35.430 (4.162) ***
Past ROA	0.314 (3.839) ***	0.072 (0.812)
Variation in sales	1.230 (1.371)	-0.755 (-0.752)
Size	3.332 (5.943) ***	-1.625 (-2.776) ***
Capital expenditure	0.131 (0.134)	-1.268 (-1.574)
Model Chi-squared	86.49***	38.25**
Number of observations	270	270

holder, firms that are controlled by families and the government, as well as firms with more than one controlling shareholder do not differ significantly in terms of performance measured by ROA and q . Firms that are controlled by foreign investors, however, display significantly superior performance as measured by ROA. More specifically, the ROA of foreign-controlled firms is higher than non-foreign controlled firms or firms with no controlling shareholders. Foreign-owned firms are more profitable than domestic firms probably due to the possession of firm-specific advantages, benefits from government's investment policies and lower agency costs. More work remains to be done to distinguish these plausible effects, however.

The analysis casts doubt on the argument that controlling shareholder involvement in management has a negative effect on the performance. The univariate and multivariate analyses suggest that the ROA of firms managed by their controlling shareholder is lower than that of firms where controlling shareholders do not participate in management.

The study contributes interesting results to the literature regarding to the relationship between the levels of managerial shareholdings and performance. Studies based on data from the developed economies document a non-linear relation between managerial ownership and performance. However, the results of this study indicate that the relationship between the performance of firms and levels of managerial ownership differs depending to the characteristics of managers. The relation between the stakes held by top managers who are also the firms' controlling shareholders is uniform. However the ownership of managers who are not the firms' controlling shareholder is non-linearly related to the performance measure, ROA. The results show a significant positive-negative relationship between the non controlling shareholder-managers ownership and performance, which are in line with the developed economies based studies.

Regarding the effectiveness of the board of directors, board size is negatively associated with performance. These findings cast doubt on the argument that the board of directors in Thai firms is not effective in performing the monitoring role. The results suggest that in order for the board to be effective, its size has to be small.

Another corporate governance that may help limiting the controlling shareholders' discretion is the monitoring by domestic financial institutions. The regression results show that aggregate domestic institutional ownership is positively associated with performance.

Chapter 5

The Determinants of Capital Structure

Abstract

This chapter presents empirical evidence on the determinants of the capital structure. Empirical results imply that the tax effect, the signaling effect and the agency costs play a role in financing decisions. Ownership structure also effects financial policy. Firms that are associated with the well-known business groups have lower debt ratio. The results indicate that the information asymmetric problem may be less severe. The presence of non-financial foreign investors is associated with lower debt ratio. This finding may reflect that foreign shareholders monitor the firms. Firms that have the government as their major shareholder appear to have higher market leverage ratio. This type of firms may be able to issue high debt since they are secured by the government. Managers of the firms where the controlling shareholders are involved in managing the firm have higher debt levels. The controlling shareholder-and-managers may adopt high debt ratio to inflate their voting power. However, the results are also consistent with the argument that high debt is used to signal less agency problem arise in the firm.

This chapter analyzes the capital structure of financing policy. Specifically, the objective is to examine what Thai firms' financial structure is, and what are factors that determine the existing financing decision. The traditional capital structure theory suggests that when setting financing policies, firms attempt to balance the tax benefits of using debt against the greater chance of financial distress. In another school, capital structure simply reflects asymmetric information problem between managers and outside investors since managers know more about the firms than outsiders. This asymmetric information problem affects the choice between internally generated cash flows and external financing. And firms end up having a pecking order. That is, firms first use internal funds. When internal funds run out firms prefer debt over equity because debt is less sensitive to mispricing. Issuing equity is chosen as the last choice.

On the other hand, the agency costs based model suggest that capital structure reflects the agency problem arise in the firm. Firms that have severe conflicts between insiders and outside shareholders tend to have high leverage to cope with the agency problem. In other words, debt can be used to discipline the management. I discuss the three leading capital structure theories in Section 5.1. These theories are used as background of the study. In Section 5.2, I present empirical model employed to analyze the determinants of capital structure.

The empirical results are presented in the following order. In Section 5.4.1, I presents the summary of balance sheets of firms in the sample. This will give the picture what financing choices of Thai firms are. Section 5.4 presents regression results and their implications. Finally section 5.5 is conclusion of the study.

5.1 Theoretical review

The modern theories of capital structure suggest that a firm's optimal capital structure is determined by a trading off the various costs and benefits of borrowing. The theories can be classified into 3 groups: the tax based model, the agency model and the signaling model.

5.1.1 The tax based model

Debt was not accepted as a financial instrument that has some merits to firms until the publication of Modigliani and Miller (1963). They show that debt financing provide corporate tax

saving by the reduction of interest payments. However there is a limit to the amount that firms can be levered. Being high leveraged may lead to a greater probability of financial distress. Costs of financial distress can be divided into direct and indirect costs. The direct costs include legal and administrative costs of bankruptcy. One example of indirect costs is under investment as pointed out by Myers (1977). He shows that firms in financial distress are likely to take on risky projects, or pass up value-increasing projects. Managers of financial distress firms behave in this way because in this state the returns on investment are shared mainly by creditors. This theory suggests that firms should trade-off the advantages of debt financing against the costs.

However Miller (1977) argues that Modigliani and Miller (1963) model overstates the advantage in tax reduction. Since investors are subjected to personal tax on interest revenue, over all the corporate tax saving is offset partly or even totally canceled. There are some other non-tax items that firms can use to shield their corporate tax payments as pointed out by DeAngelo and Masulis (1980). They are, for instances, depreciation expenses on fixed assets, investment tax credits, tax loss carry-forwards. Although the statutory marginal tax rate is the same for firms, these non-debt tax shields are vary across firms. Firms with high non-debt tax shields are likely to use less debt.

In sum, this theory suggests that firms with safe and tangible assets (that can be used as collateral) and plenty of taxable income to shield will be highly levered compared to high growth firms with risky intangible assets and volatile cash flow.

5.1.2 Asymmetric information based models

In the firms where individuals who supply capital do not run the firms themselves, there exist 2 types of asymmetric information problems. Firstly the conflict between principal-agent that arises when there is moral hazard. That is agents (managers) may pursue some activities for their own satisfaction that may not be the same as the principals, and the principals can not monitor or enforce perfectly. The capital structure model that based on this concept is the agency cost model. The second problem arises when there is adverse selection. The controlling managers may possess some information that is unknown to outside investors. The model that based on this problem is called the signaling based model.

Agency cost based model

This model was introduced by Jensen and Meckling(1976) and Myers (1977). In this model factors that determine capital structure are agency costs arising from external financing due to conflicts of interests between principals and agents. Jensen and Meckling (1976) address two categories of conflicts, i.e., conflict between shareholders and managers (agency costs of equity), and conflict between debt-holders and shareholders-managers (agency costs of debt).

Agency costs of equity arise from separation of ownership from control. In a wholly owned firm which is managed by the owner, the owner bears all costs and benefits from his entrepreneurial activities. However, in publicly traded companies where managers do not own 100 percent of residual claims, the benefits as well as costs are shared. There is a tendency that managers will make some decisions that are favorable to themselves rather than maximizing the firm's value. For examples, they may want to maximize growth, or stock prices, or transfer of wealth from shareholders in the form of consumption of perquisites. The managers' ownership of a large fraction of residual claims helps solve this problem since they will also bear the cost of conducting any activities that reduce the value of the firm. Another possibility is the use of ownership concentration through share holding monitoring.

Further Jensen (1986) points out that debt financing can eliminate the conflicts. Managers of companies that generate substantial free cash flow, operating cash flow in excess of any profitable investment, are likely to misuse the capital. In the free cash flow theory, Jensen argues that debt financing is an effective mean to cope with the free cash flow problem because borrowing requires paying back and reduces the amount of cash to be used for the manager's perk consumption. The issuance of debt, however, causes other agency costs, i.e., the agency cost of debt.

The agency cost of debt arises from conflicts of interest between existing shareholders and debt-holders. According to Jensen and Meckling (1976) and Myers (1977), shareholders of levered firms tend to invest in risky projects because of limited liability. If they fail debt-holders bear most of the loss but if they are succeed, shareholders take most of the gain. Hence the advantage of debt financing is to reduce the agency costs of equity. Debt financing, however, introduces the agency cost of debt. Jensen and Meckling (1976) suggest that the optimum choice of capital structure is then to balance between these two agency costs.

According to the theories, firms with plenty of investment opportunities as opposed to firms that invest in tangible assets, and regulated firms are less likely to be financed by debt. Mature firms with lots of free cash flows should be high levered.

The signaling model

This model is based on the idea that managers have better information about the value of their firms, risk, and prospects than outside investors. Myers and Majluf (1984) and Myers (1984) point out that in this circumstance, it may not be a good decision for managers to finance positive-NPV projects by stock issuance. By the nature of the claims, debt is more committing compared to equity. Firms can postpone paying out dividends when they are in financial distress. However if they can not provide payments according to debt contracts, they will be in a difficult situation. For this reason prices of debt claims are less sensitive to changes in the value of firms than stock prices. In other word, debt is less mispriced. Therefore changes in the firm's capital structure can serve as a signal about the firm to outside investors. Adding debt provides positive signal of managers' confidence about future earnings. This argument is observed in many studies. They find that stock prices go down after an announcement of a stock issue. This is in contrast to an announcement of a dividend.

Firms with a lot of good investment opportunities may prefer to pass up their valuable investment opportunities because they believe that their stock prices are under-priced by the markets. To mitigate this under-investment problem, Myers and Majluf (1984) and Myers (1984) suggest that firms should follow a financing pecking order where internal funds are preferred to external funds, and when retained earning is not sufficient, low-risk debt is preferred. Equity is used as a last source. The pecking order theory implies that high growth firms with many good investment opportunities and few free cash flow will have high debt-equity ratio.

5.2 Empirical design

This section describes a regression model used to analyze the determinants of the Thai firm's debt policy. Factors that might affect the firms' leverage level are based on the capital structure theories that are discussed in Section 5.1. The Thai firms' corporate governance mechanisms presented in Chapter 3 also incorporated in the model. I first describe measures of dependent

variables and then will discuss explanatory variables and their relations with leverage. In the final section, I will present the review of previous research relating to capital structure determination.

5.2.1 Measures of leverage

This study uses two measures of leverage as dependent variables: book leverage and market leverage. Book leverage is defined as the book value of total debt divided by the book value of total assets. Market leverage is defined as the book value of total debt divided by the book value of total liabilities plus the market value of total equity. Total debt is bank overdrafts and loans from financial institutions, current portion of long term liabilities, debentures, convertible debentures, and long term liabilities. The market value of total equity is defined as the number of outstanding shares multiplied by the share price of the last trading day of 1996.

5.2.2 Explanatory variables

Non-debt Tax Shields (*NDT*)

The tax-based model suggests that the major benefit of using debt financing is corporate tax deduction. The tax effects on financing decisions are examined following the non-debt tax shields argument of DeAngelo and Masulis (1980). They argue that firms can use other non-interest item such as depreciation, tax credit, pension funds to reduce corporate tax payments. Therefore firms that have higher non-debt tax shields are likely to use less debt. Among non-debt tax shields, depreciation is the most important item used by Thai firms to shield income against tax. So the measure of *NDT* is the ratio of depreciation to total assets.

Tangibility

Debt financing gives an incentive to managers to invest suboptimally, or to take on risky projects (Myers (1977) and Jensen and Meckling (1976)). Therefore firms with a lot of investment opportunities, i.e., less tangible assets, are likely to have a low debt ratio to eliminate this manager incentive problem. I use the market-to-book ratio (*market-to-book ratio*) as an indicator for investment opportunities that are valued by the market. Barclay, Smith and Watts (1995), for example, argue that market value of assets reflects both intangible assets such as investment

opportunities and tangible assets, while book values reflect tangible assets. Hence the larger a firm's growth options in comparison to their tangible assets, the higher its market to book value. It is also possible to interpret the market to book ratio in favor of the tax based theory. Johnson (1997) suggests that the market to book ratio can be thought of as a negative indicator of a firm's liquidation values. Hence the higher the market to book ratio, the lower the ability to use debt.

The other proxy used in this study to measure the value of tangible assets of the firm is the fixed assets ratio (*FIXED-ASSET*), that is net value of property, plant and equipment divided by total assets. The positive relationship between a firm's liquidation value and the level of debt is predicted by both the tax model and the agency model. Lenders require assets that can be used as collateral to compensate for the chance of the asset-substitution problem occurring. For firms that cannot provide collateral, lenders may require higher lending terms. Therefore debt financing is more costly than equity financing. Moreover the asset substitution problem is less likely to occur when firms have more assets already in place (Myers (1977)). The higher the value of tangible assets, the more likely that a firm will have a high leverage ratio.

Profitability

The pecking order theory suggests that firms use first internal funds and then move to external funds. This means that high profit firms should have a smaller debt ratio. This positive relationship is also supported when considering the supply side. Rajan and Zingales (1995) argue that creditors prefer to give loans to firms with high current cash flow. The proxy used is return on assets (*ROA*) which is the ratio of earnings before interest, taxes to total assets.

Business risk

The theory of finance suggests that risky firms, or firms that have high possibility to default should not be highly levered. Volatility of a firm's sales is often used as a direct proxy for the observable firm's risk and the probability of financial distress in many studies. Here the risk proxy *RISK* is defined as the standard deviation of the first difference in sales 5 years before 1996, scaled by the average value of the firm's total assets over that period.

Size

Theoretically the relation between size and leverage ratio is unclear. The relationship depends on what size is proxy for. Many studies argue that larger firms tend to be more diversified and hence are less likely to go bankrupt. That is firm size can serve as an inverse proxy for unobservable credit risk. Further Fama and Jensen (1983b) argues that larger firms tend to provide more information to lenders than smaller firms. Therefore the monitoring cost should be smaller for larger firms. Also larger firms tend to have a higher capacity to borrow than smaller ones. However size may be inversely related to the level of information asymmetries between insiders and outside investors (Rajan and Zingales (1995)). Larger firms tend to release more information to public than smaller firms. If this is the case, larger firms may favor equity financing. The measure of a firm's size used in this study is the logarithm of its sales volume.

Agency variables

This study uses 8 measures of agency costs. The following four measures stem from the characteristics of Thai firms. They are represented by dummy variables: i) family-owned firms, ii) CONGLOMERATE, iii) foreign-owned firms, and iv) state-owned firms. The other measures are, i) a firm's reputation, ii) the size of the board of directors, iii) managerial ownership, and iv) the degree of ownership concentration.

Family firms Fama and Jensen (1983a) argue that the agency cost of equity is low when a firm's shares are held merely by a family group. The moral hazard problem can be controlled because it is relatively easy to communicate and exchange information within a family. If this is the case, we should observe low level of debt in this type of firms. However in a public firm that is owned, controlled and managed mainly by members of a family, it is likely that the management is insulated from external influence. The controlling shareholders may act for their own interest, and hence expropriate wealth from minority and non-controlling shareholders. Wealth transfer can be done in many ways. For example the controlling shareholders may pay out the firm's cash flows mostly to themselves, provide jobs for members of the family, do price transferring by selling the firm's products to their own companies cheaper than the market prices (Shleifer and Vishny (1997)). Recognizing this, outside shareholders are not interested in investing in this

type of firms. The owner-manager, therefore, may use a high debt level as a signal to minority shareholders that he has put the firm under debt covenants, and hence he will not pursue non value maximizing activities. However debt may be used by management to increase their voting power (Stulz (1988), and Haris and Raviv (1988)). Owner-managers of family controlled firms may prefer higher debt in order to be sure that their families are the largest shareholders and hold the controlling power.

I capture this effect by introducing a dummy variable called *FAMILY*. It is set to be one for the firms where a family has majority shareholding, as well as those where a family owns at least 25 percent of the shares and there exists no other shareholder with at least 5 percent of ownership. Otherwise *FAMILY* is taking the value zero.

CONGLOMERATE The motivation to test whether the firms associated with business groups have financial structure different from others came from the studies of Hirota (1997). He finds that the six largest Japanese *keiretsu* groups have higher debt ratios. Hoshi et al., (1991) argue that the organizational structure of *keiretsu* firms reduces the costs of financial distress. The *keiretsu* firms have integrated production and distribution channels, and have reciprocal holdings in equity and debt claims among companies and banks in their group. The long term relationship with their main banks not only reduces the cost of funding but also reduces the cost of bankruptcy. Although there is no evidence of Thai banks acting like the Japanese main bank system, the Thai business groups, when compared with smaller firms, are better established, more diversified, have better reputations, and political and business connections. In addition, some of the business groups even own banks. These factors may provide them higher debt capacity.

Because the business groups are very well-known, the information asymmetric problems between insiders and the capital market may be not that severe comparing to non-business group companies. A stock issuing announcement or an announcement of public offering of these firms may be interpreted positively. Therefore we may find that business groups may issue more equity in their capital structure.

It is interesting to examine whether firms that are associated to the largest ten business groups as their major shareholders have different financing decisions different from other firms. I use the *CONGLOMERATE* dummy variable to capture this effect. According to the Stock

Exchange of Thailand, at 10% ownership level, a shareholder is defined as a firm's major shareholder and can influence over the firm's major decisions. So if a firm has 10% or more of its stakes held by any of the ten business groups presented in Table 3.7, the dummy is set to one. Otherwise it is equal to zero.

Foreign firms In some of the firms in the sample, there exists foreign individuals and corporations as the firms' major shareholders. Since these foreign investors are geographically far away from the country, it is relatively more difficult for them to monitor the management. To cope with this problem, foreign investors may demand that the management uses high debt to keep the management in control. However it is also documented that foreign institutional shareholders monitor firms actively. Consequently the use of debt financing to discipline management is less adopted. To separate the effects of foreign institutional shareholders from the effect of other foreign investors, the ownership cutoff level has to be set relatively high. Since foreign institutional shareholders are rarely major shareholders, the ownership cutoff level is set at 10%. Specifically a dummy variable called *FOREIGN*, is one if the firm has at least one foreign shareholder with a stake of more than 10%. It is zero, otherwise.

Government-owned firms Companies that have the state as their major shareholder may have higher debt-equity ratios with the following reasons. Firstly creditors are willing to provide loans to companies that have the state as their major shareholder because the debt is secured. Secondly, it is well-known that management of state-owned firms in developing countries deviates from the firm's value increasing activities, as well as transfers the firm's resources to their benefits. Hence like in the case of free cash flow problem, higher debt would be observed in this type of firms as a tool to discipline the management. To measure this effect, I construct a dummy variable, *GOVERNMENT*. It is set equal to one for firms that have the percentage of shares owned by the government more than 10%. Otherwise it is zero.

Reputation Diamond (1991) argues that older firms with a long history of repaying their debts are less likely to invest in risky projects, since doing so will destroy their reputation, established over many years. Younger firms, in contrast, have less of a reputation to lose. Therefore they bear less cost when engaging in asset substitution. Knowing that they tend

to invest in risky projects, creditors would not be willing to provide them with credit, or may charge them higher rates. Consequently younger firms end up with having a smaller leverage ratio and older firms having a higher one. The proxy for reputation is zero-one dummy variable (*AGE*). It is set to one if the firm has been in business for more than twenty one years. The twenty-one years threshold is used since it is the mean of the number of years firms in the sample have been set up.

Size of the board of directors Management can also be monitored by a firm's internal control system, like the board of directors (Fama and Jensen (1983a)). The board's major function is to control the firm's CEO; to hire, fire, and evaluate the CEO's performance as well as to compensate the CEO, and to act as a counselor (Jensen (1993)). The effective role of the board, however, is limited by many factors. Lipton and Lorsh (1992) argue that among the factors is the size of the board. The board must be small for its members to effectively exchange information, discuss, set the firm's objectives, and determine the factors that affect the firm's value. According to Lipton and Lorsh (1992), the appropriate size for the board is no more than eight or nine members. If the size of the board is appropriate so that the directors are able to monitor the management effectively, and thus reduce the management discretion, debt financing should be insignificant. The empirical studies by Mehran (1992) and Berger et al. (1997) found a significant relation between the size of the board of directors and debt ratios. The proxy for the board size (*BOARD-SIZE*) is defined following Berger et al. (1997) as the logarithm of the number of directors.

Managerial ownership The higher the proportion of a manager's ownership, the more the interests of shareholders and management are aligned. An owner-manager will not make a decision that will decrease the firm's value (Jensen and Meckling (1976)). As a result, debt financing as a device to mitigate the agency problem is not needed. The negative relation between the debt ratio and managerial ownership, however, may also exist due to management's risk aversion ((Fama (1980), and Friend and Lang (1988)). High leverage is less attractive to managers because it can impose higher risks to managers than to public investors. The higher a firm's leverage ratio the higher the chance of financial distress, and hence the higher the chance that managers' professional reputation, earning capacity as well as his undiversified portfolio will

be damaged (Fama (1980)). Furthermore managers may not like using debt financing because debt governance puts pressure on them not to deviate from the firm's value maximizing objective (Grossmand and Hart (1982), Jensen (1986), Williamson (1988), Harris and Raviv (1990) and Stulz (1990)). Berger et al. (1997) provides an evidence to support this argument.

However managers may prefer to add high debt simply to maintain their own voting control (Stulz (1988), and Harris and Raviv (1988)). With effective control, managers may pursue activities for their own interests which may not be value-maximizing. For example they may want to finance growth beyond the optimal level, or to protect themselves from a takeover threat. The measures of managerial ownership employed in this study are: the percentage of shares held by CEOs, and the percentage of shares held by directors.

The degree of ownership concentration In very diffusely owned firms, where ownership and control are separated, costs incurred by any management's discretion are shared among various shareholders. Because small shareholders' stakes are too small, they have less incentive to monitor the management. This problem does not occur if there is a small number of shareholders who hold large stakes in the firm. Since the costs of any management discretion are spread over a small number of shareholders, the large shareholders have both an incentive and the voting power to put pressure on the management (Shleifer and Vishny (1986)). For instance, large shareholders may replace poorly performed managers, or cut discretionary spending like advertising and entertainment expenses (Shleifer and Vishny (1997)). If a concentrated ownership structure induces a higher level of monitoring, a high concentration of ownership implies the reduction in management discretion. Therefore debt financing used to mitigate the moral hazard problem is less widely adopted.

The inverse relation between the level of debt and the degree of ownership concentration can also be interpreted in supporting the signaling model. Zeckhauser and Pond (1990) argue that since the existence of large shareholders guarantees active monitoring, the chance of the asset substitution problem occurring is small. As a result, debt is a less reliable signal to outsiders of a firm's condition. Instead the presence of large shareholders serves as a signal that the firm is committed, and not going to pursue any non-profit maximization activities.

Following Mehran (1992), I use four measures for concentrated ownership: the percentage of shares held by the largest individual shareholder, the percentage of shares held by the largest

corporation, the percentage of shares held by the largest financial institution, and the percentage of shares held by the five largest shareholders. All measures of shareholdings are constructed by grouping shareholders using method (a), discussed in chapter 3.

The summary of explanatory variables and their predicted effects on leverage ratio is shown in Table 5.1

5.3 Previous research

A summary of the most relevant research is presented in Table 5.2. The studies are based on Japan, the United States, the United Kingdom, France, Germany, Italy, and Australia. (Certainly, the review related to capital structure of firms in developing countries is closely related to Thai firms and is interesting. However I was not be able to find any study.) The relations between debt-equity ratio and potential determinants are somewhat mixed due to variation in measures of both debt-equity ration and their determinants.

Table 5.1: The Relationship between Explanatory Variables and Leverage Ratio
The table presents the priori prediction of the effects of measures of firm characteristics on the choice of leverage ratio.

Explanatory variable	expected sign
Non debt tax shields (NDT)	-
Market to book ratio (MB)	-
Fixed asset ratio (FIXED-ASSET)	+
Profitability (ROA)	-
Variation in operating incomes (RISK)	-
Firm size (SIZE)	+ /-
Family-owned firms dummy variable (FAMILY)	+ /-
Conglomerate firm dummy variable (Business Group)	+/-
Foreign-controlled firms dummy variable (FOREIGN)	+
State-controlled firms dummy variable (GOVERNMENT)	+
Reputation (AGE)	+
Size of the board of directors (BOARD-SIZE)	+/-
CEO stock ownership (CEO)	+/-
Director stock ownership (DIRECTOR)	+/-
The largest individual equity ownership (Individual-Largest)	-
The largest corporation equity ownership (Corporate-Largest)	-
The largest financial institution equity ownership (Financial-institution-largest)	-
The five largest shareholders equity ownership (Five-Largest)	-

Table 5.2: Summary of Previous Studies on the Determinants of Capital Structure

Determinant	Estimated Result	Study
Tax	+	Bardley, et al (1984), Graham (1996)
	-	Mackie-Mason (1990), Prowse (1990), Chiarella, et al (1992), Hirota (1997)
	insignificant	Kester (1986), Titman and Wessels (1988), Friend and Lang (1988), Baskin (1989), Chiarella, et al (1992), Ikeo and Hirota (1992), Rajan and Zingales (1995), Hirota (1997), Berger et al (1997)
Tangibility	+	Marsh (1982), Bardley, Jarrel and Kim (1984), Friend and Lang (1988), Mackie-Mason (1990), Rajan and Zingales (1995), Hirota (1997)
	-	Chiarella, et al (1992), Berger, et al. (1997)
	insignificant	Titman and Wessels (1988), Barton, et al. (1989), Mehran (1992), Rajan and Zingales (1995), Berger, et al (1997)
Profitability	-	Kester (1986), Titman and Wessels (1988), Friend and Lang (1988), Baskin (1989), Chiarella et al (1992), Ikeo and Hirota (1992), Rajan and Zingales (1995), Hirota (1997), Berger et al (1997)
	insignificant	Rajan and Zingales (1995)
Business Risk	-	Long and Maritz (1985), Friend and Lang (1988), Crutchley and Hansen (1989), Prowse (1990), Kale et al (1991), Ikeo and Hirota (1992), Bathala et al (1994), Hirota (1996), Berger et al (1997)
	+	Kim and Sorensen (1986), Barclay et al (1995)
	insignificant	Friend and Lang (1988), Titman and Wessels (1988), Mehan (1992), Hirota (1996)
Firm Size	+	Friend and Hasbrouck (1988), Crutchley and Hansen (1989), Chiarella et al (1992), Ikeo and Hirota (1992), Barclay et al (1995), Rajan and Zingales (1995), Hirota (1997) Berger et al (1997)
	-	Titman and Wessels (1988), Rajan and Zingales (1995), Barclay et al (1995)
	insignificant	Rajan and Zingales (1995), Hirota (1996)
Managerial ownership	-	Friend and Lang (1988), Bathala, Moon and Roa, (1994)
	+	Kim and Sorensen (1986), Friend and Lang (1988), Mehran (1992), Ikeo and Hirota (1992), Berger et al (1997)
	insignificant	Friend and Lang (1988), Bathala et al (1994)
Concentrated Shareholding	insignificant	Mehran (1992), Ikeo and Hirota (1992)
Ownership of Financial Institution's	-	Bathala et al (1994)
Size of board of directors	-	Berger et al (1997)
	+	Mehran (1992)

5.4 Empirical results

This section presents empirical evidences on financial decisions of Thai firms. First I will show a mean consolidated of balance sheets of all firms in the sample to answer the question how Thai firms finance their projects. Next summary statistics of variables in the model presented in Section 5.1 will be shown. Finally I will discuss the regression results and their implications.

5.4.1 Sources of capital of Thai firms

This section describes the sources of financing used by Thai firms. Table 5.3 provides a mean consolidated balance sheet of 270 firms in the sample. The table shows that external financing dominates internal financing. The proportion of internal financing, that is, retained earnings, is about 9.33% of the total sources of capital. The share of internal financing is a little higher if we also include loans from related firms. Long term and short term loans from related firms accounts for around 2.03%.

The largest sources of external financing are stock issuance and short term and long term debt. Common stock issuance accounts for 36.72%. Short term and long term debt defined as bank overdrafts and loans from financial institutions, current portion of long term liabilities, debentures, convertible debentures, and long term liabilities together contribute around 38.26% of total financing. Bank overdrafts and loans from financial institutions are the dominant sources of not only short term debt but also debt financing. This item accounts for around 21.62%. The next important source of short term funds is from trade credit. It represents about 6.73% of corporate financing.

For long term liabilities, long term debt accounts for approximately 10.85%. The major source of long term debt are banks and financial institutions, both domestic as well as foreign. Because of the high volatility of the domestic interest rates, domestic banks and financial institutions provide mainly medium and long term loans in the form of roll-over short term loans. There are very few domestic financial institutions that supply five or ten year long term loans. One example is the Industrial Finance Corporation of Thailand (IFCT), a state-owned financial institution. Finally the last type of long term source of capital is debentures. The proportion of debentures and convertible debentures are about 2.7%.

One reason that Thai firms rely on financial institutions especially banks as sources of

Table 5.3: Balance Sheet

The value of each item is calculated as the mean value of its proportions to the book value of total assets. Data sample is 270 non-financial firms in 1996. Balance sheets of all firms are consolidated. The accounting period is January 1 to December 31, 1996.

ASSETS	%
Cash on hand and at banks	1.77
Short-term investments	5.3
Trade accounts and notes receivable	13.11
Loans to and amount due to related parties	5.44
Inventories	15.61
Other current assets	1.94
<i>Total current assets</i>	43.17
Investment and loans	1.96
Investment and loans due to related parties	15.89
Property, plants and equipment, net	35.62
Long-term project development under construction	0.77
Other assets	3.23
Total assets	100.00
LIABILITIES	
Bank overdrafts and loans from financial institutions	21.62
Trade accounts and notes payable	6.73
Current portion of long-term liabilities	3.09
Loans and amount due to related parties	1.75
Other current liabilities	4.00
<i>Total current liabilities</i>	37.2
Debentures	1.43
Convertible debentures	1.27
Loans to and amount due to related parties	0.28
Provident and pension fund	0.10
Long-term liabilities	10.85
Other liabilities	0.87
Total liabilities	51.36
SHAREHOLDERS EQUITY	
Preferred stocks	0.02
Common stocks	36.72
Treasury stocks	-0.03
Warrants	0.18
Retained earnings	9.33
Other shareholders equity	2.43
Total shareholders equity	48.64
Total Liabilities and Shareholders Equity	100.00

capital rather than public debt issuance is probably due to government's regulations. Under the Securities Act, B.E. 2535 (1992) and the Securities and Exchange Act B.E. 2535, public and private companies that want to issue public debt security in either domestic or foreign markets are obliged to apply for an approval from the Securities Exchange Commission (SEC). There are two types of long term debt securities that are common for Thai firms: debentures and convertible debentures.

Table 5.4 presents the regulations relating to the issuance of debentures and convertible debentures. As in developed economies, when issuing debt securities Thai companies may choose between public offerings or private placements. In private placements, the security issue is sold directly to a small number of lenders that cannot exceed 35. The lenders are required to be domestic juridical institutions or foreign investors. These juridical institutions include, government agencies, banks, financial institutions, insurance companies, pension funds, and unit trusts. Securities can be sold to individuals, provided that each individual purchases at least 10 Million Baht worth of securities. Issued securities cannot also be listed in the Stock Exchange of Thailand and the Bangkok Stock Dealing Center (the over-the-counter market in Thailand) for at least 2 years after issued.

In public offerings, the debt securities are sold to any one. Companies are required to be rated by qualified bond rating companies before applying for approval from the SEC. Listed companies can apply to list their debentures and convertible debentures on the Stock Exchange of Thailand. The criteria of listing the debt securities are shown in Table 5.5. In 1996, one company listed debentures and 5 companies listed convertible debentures (see Table 2.5 in Chapter 2).

There are two points to note about bank's lending. First, a bank is limited by Banking Law not to lend to a firm more than 25% of the Bank's equity, otherwise the bank is required to get special permission from the Bank of Thailand. Second, Thai banks are allowed to provide overdraft loans only in Thai currency. For either short or long term loans in terms of foreign currency Thai firms normally use the following three methods. First they approach foreign banks directly. Second they borrow from foreign banks through the recent set up of the off-shore market, the Bangkok International Banking Facility (BIBF). Third they issue bonds in foreign markets. The third method is, however, limited to large firms.

Table 5.4: Public Offerings and Private Placements: Regulations

This table presents the regulations relating to the issuance of debentures (DB) and convertible debentures (CD) using public offerings and private placements. The regulations are under the Securities Act, B.E. 2535 (1992) and the Securities and Exchange Act B.E. 2535.

Qualifications	Public offerings	Private placements
Company	Operate more than 3 years and have good performance during the past 3 years	-
Special requirement	-	Must not list the security for 2 years after issuing
Number of security holders	-	No more than 35
Security holders	Anyone	Bank of Thailand, Government agencies, Financial institutions, Pension funds, unit trusts, Juridical institutions that have total assets more than 500 million Baht, Individuals who have to hold at least 10 million Baht worth of them Foreign investors
Duration required to sell	Within 6 months, for DB	Within 1 year, for DB
Security rating rules	Must be rated by qualified rating companies	-
Application fees	Baht 50,000	Baht 10,000

Source: Securities Exchange Commission (1997)

Table 5.5: Criteria for Listing Public Debt

This table presents the criteria for listing debentures (DB) and convertible debentures (CD) in the Stock Exchange of Thailand. The criterion are based on the Securities Act, B.E. 2535 (1992) and the Securities and Exchange Act B.E. 2535.

Qualifications	Debentures	Convertible Debentures
Company	A public company limited	A limited public company Ordinary shares have been listed for more than one year
Number of holders on the date of filing the application	More than 50	More than 50
Par value	Baht 100	Baht 100
Maturity period	At least 3 years	At least 1 year
Number of underlying shares	-	Less than 30 % of paid-up capital
Amount of security issuance	More than 100 million Baht	More than 100 million Baht
Security rating rules	Must be rated by qualified rating companies	Must be rated by qualified rating companies
Application fees	Baht 60,000	Baht 60,000
Admission fees	0.02 % of the value of DB as the date of filing the application for approval	0.02 % of the value of CD as the date of filing the application for approval
Annual fees	25,000 plus 0.01 % of the value of DB	25,000 plus 0.01 % of the value of CD

Source: Stock Exchange of Thailand (1995, 1997a)

5.4.2 Regression results

The regression results are presented in the following order. First the results of the tax and signaling effects on financing decisions are shown. The effects of agency costs and ownership structure on debt-equity decisions are discussed afterwards. Some firms in the original sample that were used to describe the ownership structure were eliminated. These are firms for which all the information needed to estimate their financing decisions do not exist. Also observations that have extreme values were excluded. Therefore our sample is based on 244 companies. Descriptive statistics for the variables used in the model are shown in Table 5.6. Diagnostics show no severe multicollinearity between variables

Tax and signaling effects on financing decisions

Table 5.7 reports the regression results of the leverage ratio on explanatory variables hypothesized by the tax based model and the signaling model. The proxies of agency costs are not included here. Column 1 and 2 present the results when the book leverage ratios are used as regressors. The results for the dependent variables based on market values are shown in columns 3 and 4. Columns 1 and 3 present the results when industry dummies are not included.

Table 5.6: Descriptive Statistics

This table reports descriptive statistics for the following variables. Book leverage ratio is the ratio of total debt to book value of total assets Market leverage ratio is the ratio of total debt to market value of total assets. NDT is the ratio of depreciation costs to total assets. FIXED-ASSET is the ratio of net property, plant and equipment to total assets Market-to-book ratio is the ratio of market value of total assets to book value of total assets. ROA is the ratio of earnings before interest, taxes to total assets. SIZE is the logarithm of sales. RISK is the standard deviation of the first difference in sales 5 years before 1996, scaled by the average value of the firm's total assets over that period. BOARD-SIZE is the logarithm of number of directors.

Variable	Mean Value	Std. Dev	Maximum	Minimum
Leverage (book value)	0.376	0.195	0.776	0.000
Leverage (market value)	0.381	0.224	0.917	0.000
NDT	0.034	0.027	0.153	0.000
FIXED-ASSET	0.356	0.230	0.935	0.007
Market-to-book ratio	1.217	0.777	5.741	0.250
ROA	0.084	0.080	0.467	-0.403
RISK	0.150	0.176	1.612	0.003
BOARD-SIZE	2.089	0.373	2.996	1.099

Bowen et al. (1982) and Bradley et al. (1984) argue that leverage ratios differ across industries. Not controlling for industry factors may give bias results. I therefore extend the analysis by adding ten industry dummy variables that represent the Thai leading industries to the regression model. These industries are agri-business, building and finishing, commerce materials, chemicals and plastics, foods and beverages, property development, textile, clothing and footwear, electrical products, packaging and health care service. The results that include these industry dummy variables are reported in columns 2 and 4.

The overall results are consistent with the prediction of the tax based model and the signaling model. The estimated coefficients of *NDT*, *ROA*, *market-to-book-ratio* and *SIZE* are consistently significant and have the predicted signs across the equations. The coefficients on *FIXED-ASSET* are positive but significant only when market leverage is used as a dependent variable.

The estimated coefficients of the two proxies for tangibility, *FIXED-ASSET* and *market-to-book-ratio* have the predicted signs. The coefficients of *FIXED-ASSET* are positive, but their estimates are not robust with respect to measures of leverage ratio. However the results imply that firms with plenty of fixed assets that can be used as collateral have a higher market leverage ratio.

The relation between the proxy for profitability (*ROA*) and leverage is negative and strongly significant in all regressions. This result supports the pecking order theory. High profit firms use internal financing, while low profit firms use more debt because their internal funds are not adequate. The coefficients of a firm's size are positive and strongly significant. This is consistent with the view that larger firms face lower direct costs of bankruptcy. Moreover they are more diversified, a fact that enhances their debt capacity. Lastly, larger firms may have an advantage over smaller firms in accessing credit markets. This point is also documented in the financial statements of the firms in the sample that many firms, especially large and well-known firms, obtain loans without providing collateral.

The estimated coefficients of *RISK*, the proxy for variation in firms' operating incomes are positive for the dependent variable based on book values, and negative for the dependent variable based on market values. However the estimates are consistently insignificant across all the regressions. This result is inconsistent with the traditional capital structure literature that predicts a negative relationship between debt ratio and the chance of bankruptcy (Myers (1984)).

Table 5.7: The Tax and Signaling Effects on Financing Decisions

The dependent variables are market and book leverage ratio. NDT is the ratio of depreciation costs to total assets. FIXED-ASSET is the ratio of net property, plant and equipment to total assets. Market-to-book ratio is the ratio of market value of total assets to book value of total assets. ROA is the ratio of earnings before interest and taxes to total assets. SIZE is the logarithm of sales. RISK is the standard deviation of the firms difference in sales 5 years before 1996, scaled by the average value of total assets over that period. The rest ten variables are industry dummy variables. T-statistics is in the parentheses. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively.

Variable	Leverage (Book Value)		Leverage (Market Value)	
	1	2	3	4
NDT	-1.604*** (-3.424)	-1.650*** (-3.398)	-1.264*** (-2.608)	-1.314*** (-2.619)
FIXED-ASSET	0.060 (1.076)	0.083 (1.407)	0.080 (1.381)	0.103* (1.696)
Market-to-book ratio	-0.038** (-2.414)	-0.027* (-1.726)	-0.123*** (-7.585)	-0.112*** (-6.838)
ROA	-0.543*** (-3.566)	-0.447*** (-2.907)	-0.649*** (-4.118)	-0.531*** (-3.346)
SIZE	0.041*** (4.089)	0.035*** (3.484)	0.031*** (2.993)	0.026** (2.474)
RISK	0.026 (0.397)	-0.055 (-0.766)	0.006 (0.089)	-0.058 (-0.78)
Agribusiness		0.122*** (2.787)		0.119*** (2.621)
Building materials		0.125*** (2.984)		0.134*** (3.100)
Food and beverages		0.082* (1.674)		0.061 1.213
Property development		0.120*** (2.891)		0.134*** (3.14)
Textile		0.073 (1.608)		0.105*** (2.264)
Electrical products		0.136*** (2.287)		0.127** (2.07)
Packaging		0.037 (0.762)		0.040 (0.781)
Chemicals and plastics		-0.029 (-0.489)		-0.032 (-0.523)
Commerce		-0.035 (-0.608)		-0.021 (-0.35)
Health care services		0.023 (0.389)		0.059 (0.974)
Adjusted <i>R</i> -squared	0.17	0.22	0.33	0.37
F-statistic	9.53	5.34	20.96	9.92
P-value	0.00	0.00	0.00	0.00

The estimated coefficients of non-debt tax shields have negative sign and are significant in all regressions. This evidence supports the tax based theory. The findings are consistent with the argument that non-debt tax shields are substitute for debt. However MacKie-Mason (1990) argues that the substitution effect between non-debt tax shields and interest deductibility may not be the same across firms. Profitable firms with high taxable income may have high non-debt tax shields and be able to use a high debt-equity ratio. On the other hand, firms that face tax exhaustion, i.e., pay little or no tax, are likely to issue less debt because the associated interest deduction is cancelled out by non-debt tax shields. Therefore the inverse relation between non-debt tax shields and leverage ratio should be stronger in firms that experience tax exhaustion.

To investigate this effect, I follow Dhaliwal et al. (1992). Firms are divided into two groups using a zero-one dummy variable, TAX . TAX is set to one for firms that pay low taxes. TAX is set to zero for firms with high effective tax rates. Tax payment ability is measured by an effective tax rate. Effective tax rate is defined as the ratio of income taxes paid to earnings before interest, taxes. The effective tax rate used as a cutoff point is 8.45%, which is the bottom 50% of the effective tax rate distribution. The interaction between TAX and NDT , $TAX*NDT$ captures the tax exhaustion effect. Specifically, the tax exhaustion effect expects negative relation between $TAX*NDT$ and debt-equity ratio.

Table 5.8 presents the regression results from estimating the tax exhaustion effect. The regressions include other control variables: asset tangibility, firm size, variation in earnings, and industry dummy variables. The coefficients on NDT is negative and significant in all regressions, confirming our previous findings of the substitution effect of non-debt tax shields. No significant results are observed for the estimated coefficients on $TAX*NDT$, however. The results reveal that the tax exhaustion effect does not exist.

The obtained results may not be robust. For example, the tax rate cutoff may not be correct. Also the insignificant results obtained with $TAX*NDT$ may be due to using an inappropriate measure for the dependent variable as argued by Dhaliwal et al. (1992). To check whether the results are robust, I re-estimated the model in two different ways — the detailed results are not presented here. First I used another effective tax rate cutoff, representing the bottom 30% of the effective tax rate distribution. Similar results to the ones shown in Table 5.8 were obtained, however. Second I used the ratio of interest expenses to sales as a dependent variable instead

of the leverage ratio. Again the tax exhaustion effect was not observed.

Adjusted R^2 and F -statistic show that industry classifications have an impact on the determinants of debt-equity choices. Adjusted R^2 and F -statistic of the estimated results, including the industry dummy variables, reveal higher goodness of fit. Adjusted R^2 increases from 0.17 to 0.22 for the dependent variable based on market values, and from 0.33 to 0.37 for the dependent variable based on book values. The estimated coefficients of the following industry dummy variables; agribusiness, building materials, property development, and electrical products, computer and components are positive and significant. That is both market and book leverage ratios of these industries are higher than the rest. The coefficients on the dummy variable representing firms in foods and beverages, and textile, clothing and footwear industries are positive significant but are not robust with respect to the measures of leverage.

Table 5.9 presents further information on book and market leverage ratios of all industries in the sample. Industry classification follows the classification of Stock Exchange of Thailand. Among the industries, firms in building and finishing materials industry have the highest level of market leverage ratio. Pulp and paper industry has the highest level of book leverage ratio. Reasons why some industries have significant higher debt ratio than others are left for future research.

5.4.3 Agency effects on financing decisions

Now we investigate the influence of the agency variables on the debt-equity choices, controlling the tax, signaling effects as well as variation in industries. Measures of the agency variables are added in the model. Regression results when the market leverage ratio and book leverage ratio are dependent variables are reported separately in Table 5.10 and Table 5.11, respectively. In all regressions, the ten industry dummy variables and intercept are included. Columns 1 and 2 of the two tables report the results when the directors' ownership is included as an explanatory variable. Columns 3 and 4 present the results when the CEO's ownership is included as one of explanatory variables. In columns 1 and 3, I include the ownership of the largest individual, corporate and financial institutional shareholder. The results when the ownership of the five largest shareholders are included are presented in columns 2 and 4.

The results in Table 5.10, and Table 5.11 indicate no change in signs or significance of the

Table 5.8: Estimated Results: The Tax Exhaustion Effect

The dependent variables are market and book leverage ratios. *TAX* is set to one for firms that have effective tax rate lower than 8.45%. *NDT* is the ratio of depreciation costs to total assets. *NDT*TAX* is interaction between *TAX* and *NDT*. *FIXED-ASSET* is the ratio of net property, plant and equipment to total assets Market-to-book ratio is the ratio of market value of total assets to book value of total assets. *ROA* is the ratio of earnings before interest, taxes to total assets. *SIZE* is the logarithm of sales. *RISK* is the standard deviation of the first difference in sales 5 years before 1996, scaled by the average value of total assets over that period. The regressions are controlled for variations in industries. T-statistics is in the parentheses. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively.

Variable	Market leverage ratio Ratio	Book leverage Ratio
TAX	0.009 (0.198)	0.045 (1.043)
NDT	-1.497*** (-2.645)	-1.746*** (-3.212)
NDT*TAX	0.828 (0.791)	0.550 (0.547)
FIXED-ASSET	0.106* (1.734)	0.082 1.402
Market-to-book ratio	-0.112*** (-6.861)	-0.028* (-1.752)
ROA	-0.549*** (-3.447)	-0.475*** (-3.104)
SIZE	0.025** (2.403)	0.034*** (3.388)
RISK	-0.066 (-0.885)	-0.068 (-0.96)
Adjusted <i>R</i> -squared	0.37	0.23
F-statistic	8.95	5.12
P-value	0.00	0.00

Table 5.9: Leverage Ratio Classified by Industries

This table reports summary statistics of leverage ratios classified by industries. Book debt ratio is defined as the book value of total debt divided by the book value of total assets. Market debt ratio is defined as total debt divided by the book value of total liabilities plus the market value of total equity. Total debt is bank overdrafts and loans from financial institutions, current portion of long term liabilities, debentures, convertible debentures, and long term liabilities.

Industry	No. of firms	Market leverage ratio		Book leverage ratio	
		Mean	Std. Dev.	Mean	Std. Dev.
Agribusiness	26	0.458	0.203	0.451	0.180
Building Materials	25	0.506	0.181	0.482	0.154
Chemicals and Plastics	10	0.337	0.219	0.323	0.198
Commerce	11	0.316	0.172	0.308	0.187
Communication	7	0.212	0.138	0.338	0.144
Electrical Products and Computer	4	0.519	0.170	0.485	0.164
Electrical Components	10	0.463	0.185	0.465	0.152
Energy	3	0.109	0.064	0.139	0.074
Entertainment and Recreation	5	0.053	0.036	0.114	0.097
Food and Beverages	18	0.353	0.198	0.373	0.176
Health Care Services	11	0.424	0.192	0.347	0.148
Hotel and Travel Services	8	0.303	0.248	0.255	0.199
Household Goods	5	0.362	0.109	0.358	0.178
Machinery and Equipment	4	0.233	0.269	0.302	0.214
Packaging	16	0.332	0.238	0.312	0.216
Printing and Publishing	6	0.233	0.204	0.314	0.269
Property Development	27	0.491	0.203	0.472	0.140
Pule and Paper	4	0.437	0.181	0.514	0.139
Textiles, Clothing and Foot-ware	20	0.422	0.227	0.378	0.188
Transportation	6	0.362	0.258	0.311	0.251
Vehicles and Parts	6	0.308	0.327	0.328	0.262
Others	11	0.416	0.232	0.396	0.226
Total	244				

estimated coefficients of the proxies discussed before, except the coefficients for *market-to-book-ratio*. The relations between *market-to-book-ratio* as well as the fixed asset ratio and leverage are not consistently significant. Further we do not observe significant results of the estimated coefficients on *RISK* in all regressions.

The significantly positive relation between *FIXED-ASSET* as well as the negative relation between the market to book ratio are also consistent with the agency literature. Firms that have high assets in place, or low growth firms are subject to a lower degree of the asset-substitution problem, and therefore have a higher capacity of using debt. However the market to book ratio may not be a good measure of Thai firms' growth options, because the mean value of the market to book ratio of firms in the sample is only 0.57, firms. That is Thai firms do not seem to have high growth options overall. Specifically, the regression results may not imply that firms with a high market to book ratio use less debt because the firms are subjected to high agency costs. This conclusion is usually reached in other research.

FAMILY has a positive and significant estimation associated with the level of both market and book leverage. The results imply that single-family-owned firms adopt a higher level of debt to assure outside investors that they do not shirk or conduct perquisite consumption, or control their voting power. The later point is supported by Pipatseritham (1982). He argues that the shareholders of the single-family-owned firms are very careful not to lose their voting control over their firms. One way to make sure that they do not lose control is to use debt.

The estimated coefficients of the *Business group*, *FOREIGN* and *GOVERNMENT* variables are not significant. The results reveal that there is no difference in the capital structure between firms that have the business groups, the government and foreign investors as their major shareholders, and the firms that do not have these investors as their major shareholders.

No significant results are obtained from *AGE* variable. I re-estimated the model including the number of years since a firm has been incorporated. However the estimated coefficients were not significant.

Table 5.10: The Agency effects on Financing Decisions

In this table, the dependent variable is book leverage ratio. NDT is the ratio of depreciation costs to total assets. FIXED-ASSET is the ratio of net property, plant and equipment to total assets. Market-to-book ratio is the ratio of market value of total assets to book value of total assets. ROA is the ratio of earnings before interest and taxes to total assets. SIZE is the logarithm of sales. RISK is the standard deviation of the first difference in sales 5 years before 1996, scaled by the average value of total assets over that period. FAMILY, CONGLOMERATE, FOREIGN and GOVERNMENT are dummy variables representing types of the firms' major shareholders. AGE is a dummy variable representing number of years since a firm was incorporated. BOARD-SIZE is the logarithm of the number of directors. DIRECTOR, CEO, individual-largest, corporate-largest, financial institutions-largest and five largest are measures of ownership. T-statistics is in the parentheses. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively.

Variable	1	2	3	4
NDT	-1.606*** (-3.218)	-1.648*** (-3.284)	-1.547*** (-3.082)	-1.569*** (-3.117)
FIXED-ASSET	0.077 (1.31)	0.093 (1.578)	0.073 (1.241)	0.087 (1.464)
Market-to-book ratio	-0.028* (-1.761)	-0.025 (-1.531)	-0.08* (-1.77)	-0.025 -1.568
ROA	-0.429*** (-2.778)	-0.453*** (-2.942)	-0.454*** (-2.939)	-0.481*** (-3.13)
SIZE	0.038*** (3.589)	0.036*** (3.412)	0.038*** (3.529)	0.035*** (3.348)
RISK	-0.055 (-0.783)	-0.048 (-0.68)	-0.062 (-0.88)	-0.058 (-0.809)
FAMILY	0.094*** (2.726)	0.078** (2.413)	0.091*** (2.612)	0.075*** (2.262)
CONGLOMERATE	0.008 (0.21)	-0.009 (-0.262)	0.018 (0.477)	0.002 (0.044)
FOREIGN	0.013 (0.416)	0.009 (0.294)	0.009 (0.301)	0.004 (0.122)
GOVERNMENT	0.037 (0.552)	0.085 (1.294)	0.033 (0.491)	0.075 (1.153)
AGE	0.035 (1.40)	0.033 (1.33)	0.036 (1.441)	0.034 (1.371)
BOARD-SIZE	-0.017 (-0.481)	-0.017 (-0.488)	-0.009 (-0.249)	-0.008 (-0.213)
DIRECTOR	0.001 (1.488)	0.001* (1.743)		
CEO			0.001 (1.036)	0.001 (1.343)
individual-largest	-0.002* (-1.671)		-0.002 (-1.491)	

Variable	1	2	3	4
corporate-largest	-0.003*** (-3.081)		-0.002*** -2.919	
financial institution-largest	0.000 (-0.158)		-0.001 (-0.183)	
five largest		-0.002** (-2.145)		-0.002* (-1.888)
Adjusted <i>R</i> -squared	0.26	0.25	0.26	0.25
F-statistic	4.35	4.41	4.28	4.34
P-value	0.00	0.00	0.00	0.00

The coefficients of the proxies of board size, the ownership of CEOs, are insignificant. Estimates for the directors' ownership are positive but not robust to the specifications of leverage and ownership concentration. I extend the analysis to examine the effect of management ownership on financing decisions of single-family-owned firms. To investigate this issue, I ran an alternative regression in which two new measures of managerial ownership, *DIRECTOR*FAMILY* and *CEO*FAMILY*, were incorporated. *DIRECTOR*FAMILY* is the directors' ownership of single-family-owned firms that are not in the business groups. This variable is calculated by multiplying *FAMILY* and *DIRECTOR*. *CEO*FAMILY* is the CEOs' ownership of single-family-owned firms. It was constructed in the same manner as *DIRECTOR*FAMILY*. The estimated results are shown in Table 5.12. Since there is no change in the estimated coefficients of other controlled variables, only coefficients of the measures for ownership are reported.

The observed results are interesting results. The coefficients of *DIRECTOR*FAMILY* and *CEO*FAMILY* are positive and consistently significant across all the equations. That is, even though the management's ownership in general has no impact on the firm's financial choice, it does have a positive effect for single-family-owned firms. This evidence is contrary to the alignment of interests between management and shareholders hypothesis of Jensen and Meckling (1976) as well as the managerial risk aversion hypothesis where they are predicted to have a negative relation. Previous studies, including Mehran (1992), Iken and Hirota (1992), and Berger et al. (1997) also document a similar positive relationship. Again these results supports the argument of Harris and Raviv (1988) and Stulz (1988), that managers may use debt to protect their voting power. However it also supports the argument of Mehran (1992) that managers with high stakes in a firm prefer high levels of debt because debt limits the agency problem and increases the firm's value, and hence the managers' wealth. Here I do not have

evidence to support any of these arguments. More research is needed to find out why managers of family-owned firms prefer high debt.

With regard to the role of large shareholders, the coefficients of the ownership of the largest corporate shareholder and five largest shareholders are negative and significant in general. The estimates for the ownership of the largest individual are significant only when the dependent variable is based on market value. The estimated coefficients of the proxies for concentration ownership, though small in magnitude, have signs as predicted by the agency theory. That is, when the ownership is concentrated, there is less demand for debt to control opportunistic behavior of managers in the firms. Large shareholders may provide active monitoring services.

The estimated coefficients of the largest financial institutional shareholders are consistently insignificant across all the estimations. The lack of significant results imply that financial institutions do not conduct active monitoring. This evidence is not surprising since, overall, financial institutions have small stakes in Thai firms.

Additional unreported regressions were run to determine whether the results on the effect of ownership concentration on the level of leverage are robust. I ran regressions by incorporating other proxies for ownership concentration namely the percentage of shares held by the three largest shareholders categorized by group of investors (individual, corporations and financial institutions). The estimated results have the same signs and significance similar to the equations that include the ownership of the largest shareholder. In particular, estimates for the ownership of the top three individual shareholders are negative and significant in regressions when the dependent variables are both market and book value. In addition, I ran regressions by including the largest and the three largest shareholdings that is defined as grouping method (b) in chapter 3. Again similar results were observed.

5.4.4 Remarks

It is important to highlight the point that the results on the effects of large shareholders and managerial ownership to leverage ratio is consistent with the US. and Japan based models. That is, managerial ownership aligns the interests of managers and outside shareholders. With respect to large shareholders including, the largest individual shareholder, the largest corporate shareholder, have motivation to monitoring the firms.

Table 5.11: The Agency effects on Financing Decisions

In this table, the dependent variable is market leverage ratio. NDT is the ratio of depreciation costs to total assets. FIXED-ASSET is the ratio of net property, plant and equipment to total assets. Market-to-book ratio is the ratio of market value of total assets to book value of total assets. ROA is the ratio of earnings before interest and taxes to total assets. SIZE is the logarithm of sales. RISK is the standard deviation of the first difference in sales 5 years before 1996, scaled by the average value of total assets over that period. FAMILY, CONGLOMERATE, FOREIGN and GOVERNMENT are dummy variables representing types of the firms' major shareholders. AGE is a dummy variable representing number of years since a firm was incorporated. BOARD-SIZE is the logarithm of the number of directors. DIRECTOR, CEO, individual-largest, corporate-largest, financial institutions-largest and five largest are measures of ownership. T-statistics is in the parentheses. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively.

Variable	1	2	3	4
NDT	-1.216** (-2.416)	-1.310** (-2.591)	-1.166** (-2.31)	-1.25** (-2.469)
FIXED-ASSET	0.095 (1.608)	0.123** (2.074)	0.092 (1.553)	0.118** (1.991)
Market-to-book ratio	-0.114*** (-7.149)	-0.108*** (-6.682)	-0.114*** (-7.121)	-0.108*** (-6.685)
ROA	-0.516*** (-3.312)	-0.551*** (-3.546)	-0.533*** (-3.432)	-0.57*** (-3.689)
SIZE	0.03*** (2.766)	0.028*** (2.627)	0.029*** (2.714)	0.027** (2.579)
RISK	-0.063 (-0.881)	-0.053 (-0.74)	-0.069 (-0.962)	-0.060 (-0.841)
FAMILY	0.131*** (3.789)	0.108*** (3.318)	0.128*** (3.656)	0.104*** (3.134)
CONGLOMERATE	0.010 (0.27)	-0.003 (-0.086)	0.018 (0.481)	0.006 (0.168)
FOREIGN	0.010 (0.317)	0.015 (0.461)	0.009 (0.286)	0.012 (0.388)
GOVERNMENT	0.011 (0.155)	0.087 (1.314)	0.009 (0.129)	0.082 (1.255)
AGE	0.038 (1.523)	0.037 (1.496)	0.039 (1.557)	0.038 (1.534)
BOARD-SIZE	-0.036 (-1.001)	-0.035 (-0.973)	-0.031 (-0.863)	-0.028 (-0.780)
DIRECTOR	0.000 (0.893)	0.001 (1.171)		
CEO			0.001 (0.979)	0.001 (1.151)

Variable	1	2	3	4
individual-largest	-0.003*** (-3.083)		-0.003*** (-3.109)	
corporate-largest	-0.004*** (-4.379)		-0.004*** (-4.354)	
financial institution-largest	-0.001 (-0.343)		-0.001 (-0.316)	
five largest		-0.004*** (-3.724)		-0.003*** (-3.672)
Adjusted <i>R</i> -squared	0.43	0.42	0.43	0.42
F-statistic	8.11	8.45	8.12	8.45
P-value	0.00	0.00	0.00	0.00

However, the Thai ownership structure is very much different from the US. based model. Chapter 3 shows that in many cases the two types of large shareholders, individuals and corporations are indeed the same agent. That is, corporate shareholders are owned ultimately by individuals and families. Consequently, individual and corporate shareholders are combined as a single shareholder. Furthermore the large shareholders who are the firms' controlling shareholders are involved in the management both as top executives and members of the boards of directors. Hence, the analysis has to be modified.

I re-estimate the regressions of Table 5.10, and Table 5.11. The variables, *NDT*, *FIXED-ASSET*, *Market-to-book ratio*, *ROA*, *SIZE*, *RISK*, *FAMILY*, *CONGLOMERATE*, *FOREIGN*, *AGE*, and *BOARD-SIZE* are kept the same as control variables in the model. To remove the variation of industries as far as possible, I include more industry dummy variables. In similar manner to Chapter 4, 20 industry dummy variables defined by the Stock Exchange of Thailand, except agribusiness, are added to the regression.

According to the agency framework, increased managerial ownership aligns the interests of managers with those of outside shareholders and reduces the role of debt as an agency-conflict-mitigating device. Accordingly, negative relationship between managerial ownership and leverage ratio is expected. However due to the level of shareholdings, managers who are members of the firms' controlling shareholder families and those who are not may have different incentives and motivations, resulting in choosing different capital structures. In addition, during the bubble period, it is believe widely that firms where the controlling shareholders are involved in management borrow heavily for their private purposes. I address this issue by introducing

Table 5.12: The Effects of Managerial Ownership on Financing Decisions

This table presents the estimated results of the effects of ownership on financing decisions. DIRECTOR*FAMILY is directors' ownership of single-family-owned firms. CEO*FAMILY is CEOs' ownership of single-family-owned firms. The control variables; NDT, FIX-ASSET, Market-to-book ratio, ROA, SIZE, RISK, Business Groups, FOREIGN, GOVERNMENT, AGE, BOARD-SIZE and industry dummy variables are also included in the regressions but their estimates are not reported. T-statistics is in the parentheses. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively.

Panel A: Dependent variable is book leverage ratio				
DIRECTOR*FAMILY	0.002*** (2.776)	0.001*** (2.624)		
CEO*FAMILY			(0.002)*** (2.855)	0.002*** (2.886)
individual-largest	-0.001 (-1.113)		-0.001 (-1.159)	
corporate-largest	-0.002*** (-2.743)		-0.002*** (-2.657)	
financial institutions-largest	-0.001 (-0.181)		-0.001 (-0.264)	
five largest		-0.001 (-1.568)		-0.001 (-1.61)
Adjusted <i>R</i> -squared	0.26	0.25	0.26	0.25
F-statistic	4.40	4.43	4.43	4.52
P-value	0.00	0.00	0.00	0.00

Panel B: Dependent variable is market leverage ratio				
DIRECTOR*FAMILY	0.002*** (3.128)	0.002*** (2.821)		
CEO*FAMILY			0.002*** (3.739)	0.002*** (3.572)
individual-largest	-0.002** (-2.491)		-0.003*** (-2.771)	
corporate-largest	-0.003*** (-3.882)		-0.003*** (-3.983)	
financial institutions-largest	-0.001 (-0.307)		-0.001 (-0.384)	
five largest		-0.003*** (-3.174)		-0.003*** (-3.379)
Adjusted <i>R</i> -squared	0.42	0.41	0.43	0.42
F-statistic	8.05	8.42	8.36	8.80
P-value	0.00	0.00	0.00	0.00

two managerial ownership variables, namely *Controlling shareholder-and-manager*, and *Non controlling shareholder-manager*. *Controlling shareholder-and-manager* stands for the fraction of shares held by officers and directors who are from the controlling shareholder's families. *Non controlling shareholder-manager* stands for the fraction of shares held by officers and directors who are not part of the controlling shareholder's families.

The role of large shareholder on debt policy is capture by the combined ownership of domestic and foreign financial institutions *Domestic institutional ownership*, and *foreign institutional ownership*. If the monitoring and intervention by these two types of institutions serve to align controlling shareholder-managers and outside shareholder interests, leverage ratio should decline.

The estimated results are shown in Table 5.13. The estimated of coefficients on *NDT*, *FIXED-ASSET*, *Market-to-book ratio*, *ROA*, *SIZE*, *RISK*, *AGE*, and *BOARD-SIZE* are generally in line as the previous regressions. While the coefficients of *FAMILY* appear to be statistically insignificant, the coefficients of *CONGLOMERATE* are significant at the 1 percent level in both equations. I ran alternative regression using a dummy variable representing the 20 business groups (the broader definition of the business groups which includes smaller size business groups). The results are significant with signs consistent with those of *CONGLOMERATE*. The results are in line with the notation that firms associated with the business groups have less information asymmetric problems.

The presence of non-financial foreign investors as a major shareholder is associated with lower leverage ratio. The estimated coefficient is significant at the 10 percent level when the dependent variable is based the market value. The coefficient of *FOREIGN* when the dependent variable is based the book leverage ratio, is significant at the 13 percent level. This finding is consistent with the view that non-financial foreign shareholder are active in monitoring firms' affairs.

The coefficients of the dummy variable representing the government as a major shareholder is significant (at the 10 percent level) only in the market based regression. Firms that have the government as their major shareholder appear to have higher market leverage ratio. This type of firms may be able to issue high debt since they are secured by the government.

Regarding to managerial ownership, only the coefficients on *Controlling shareholder-and-*

manager are statistically significant (the estimates are significant at the 5 and 11 percent levels for the dependent variable based on the book and market values, respectively). Firms where the controlling shareholders are also managers appear to have high leverage ratio. The positive relationship between the ownership of managers who are the firm's controlling-shareholder are consistent with the previous findings in Section 5.4.3. That is, the results do not support the Jensen Meckling (1976)'s hypothesis of managerial ownership mitigates the agency problem. Rather, the controlling shareholder-and-manager may use high debt to either inflate their voting power as argued by Stulz (1988) and Harris and Raviv (1988), or signal to the market that market that managers are less able to indulge in profit reducing behavior.

Finally, variables associated with financial institutional ownership have positive connection the leverage. Only coefficients of foreign institutional ownership are significant at the 10 and 13 percent levels for the dependent variable based on the book and market values, respectively. The positive relation between foreign institutional ownership and debt level is not in line with the financial institution activism hypothesis. The results indicate that foreign institutions encourage the firms where they hold shares more borrowing. If foreign institutions are also creditors of the firms as in the case of Japan (Prowse (1992)), the results would indicate that the presence of creditors as large shareholders in the firms solve some of the agency costs problem between controlling shareholder-and-managers and debtholders, and hence lower costs of debt. However, as far as Thai firms are concerned, we do not know if the financial institutions are both the firms' shareholders and creditors. To my knowledge, there is no study on this issue. And I do not have a clear explanation for this finding.

Table 5.13: The Agency effects on Financing Decisions: Re-estimated Results

This table presents the regression results of book and market leverage ratios on their determinants. NDT is the ratio of depreciation costs to total assets. FIXED-ASSET is the ratio of net property, plant and equipment to total assets. Market-to-book ratio is the ratio of market value of total assets to book value of total assets. ROA is the ratio of earnings before interest and taxes to total assets. SIZE is the logarithm of sales. RISK is the standard deviation of the first difference in sales 5 years before 1996, scaled by the average value of total assets over that period. FAMILY, CONGLOMERATE, FOREIGN and GOVERNMENT are dummy variables representing types of the firms' major shareholders. AGE is a dummy variable representing number of years since a firm was incorporated. BOARD-SIZE is the logarithm of the number of directors. Controlling shareholder-manager and Non-controlling shareholder-manager are the proportion of shares held by officers and directors who are the firm's controlling shareholder and who are not, respectively. Domestic and foreign institutional ownership stand for the aggregate shareholdings by domestic and foreign financial institutions, respectively. T-statistics is in the parentheses. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively.

Dependent Variable: Leverage	Book Value	Market Value
NDT	-1.673*** (-3.188)	-1.310** (-2.373)
FIXED-ASSET	0.085 (1.349)	0.111 * (1.685)
Market-to-book ratio	-0.017 (-1.272)	-0.094*** (-6.566)
ROA	-0.512*** (-3.209)	-0.623*** (-3.711)
SIZE	0.027** 2.302	0.024** 1.954*
RISK	-0.016 (-0.23)	-0.002 (-0.031)
FAMILY	-0.018 (-0.586)	-0.007 (-0.231)
CONGLOMERATE	-0.091*** (-2.773)	-0.107*** (-3.089)
FOREIGN	-0.049 (-1.526)	-0.058* (-1.726)
GOVERNMENT	0.084 (0.855)	0.185* (1.781)
AGE	0.013 (0.536)	0.022 (0.855)
BOARD-SIZE	0.036 (0.823)	0.035 (0.761)
Controlling shareholder-manager	0.146** (2.434)	0.100 (1.592)

Dependent Variable: Leverage	Book Value	Market Value
Non controlling sharholder-manager	-0.099 (-0.82)	-0.086 (-0.676)
Domestic institutional ownership	0.037 (0.26)	0.091 (0.616)
Foreign institutional ownership	0.306* (1.791)	0.274 (1.524)
Adjusted R ²	0.2545	0.3741
F-statistic	3.59	5.54
p-value	0.00	0.00

5.5 Summary and conclusions

This chapter investigates the determinants of the capital structure of listed Thai firms. Measures of the traditional factors that are hypothesized to affect financing decisions, namely profitability, tangibility, taxes, and growth are all significant. In addition, factors that are related to governance mechanisms of Thai firms also have influence on the debt policy choices. Firms with different types of major shareholders seem to have different capital structure. The presence of non-financial foreign investors and business group firms are associated with lower debt ratio. This finding may reflect the alignment of insiders and outside shareholders. Firms that have the government as their major shareholder appear to have higher market leverage ratio. This type of firms may be able to issue high debt since they are secured by the government.

Managers of the firms where the controlling shareholders are involved in managing the firm have higher debt levels. The positive association between management's ownership and debt ratio is consistent with two explanations: owner-managers of this type of firms use debt to protect their voting power in the firms, or as a commitment to limit agency costs.

The study does not take into account the effects of government regulations regulations on bond issuance on the firms' financing decisions.

There are at least three possible extensions to this study. First, in order to give a better explanation of whether management tries to expropriate wealth from shareholders, other corporate governance variables used in previous studies, such as compensation-based performance incentives for managers, and the number of years a manager holds a position, should be included in the model. Second, in analyzing financing decisions, better results may be obtained by using changes in financing decisions (MacKie-Mason (1990), Graham (1996), and Berger et al. (1997)).

Finally, using data for a longer period should give a better picture of the determinants of the debt-equity choices.

Finally as noted previously, public debt issuance via both private placements and public offerings have to be approved by the Securities Exchange Commission (SEC). Consequently, some companies that are able to get the approval to issue bonds have wider range over choices of debt financing relative to companies that are not able to get approval. How the government regulations affect firms' financing decisions is an interesting topic for future research.

Chapter 6

Summary and Conclusion

6.1 Summary of the analysis and findings

This study investigates the ownership and capital structure of Thai firms. Additionally, the study examines the influence of the ownership structure and corporate governance on the capital structure policy and performance of Thai firms. The data sample is based on 270 non-financial companies listed firms in the Stock Exchange of Thailand in 1996. The firms in the sample account for 97.08 of the capitalization of non-financial companies traded in the Stock Exchange of Thailand in 1996.

6.1.1 The ownership structure of Thai firms

I begin the study by analyzing the ownership structure of the firms in the sample in order to discover the governance and control mechanisms of Thai firms. The effects of these factors in determining the firm's financing decisions as well as the firm's value are widely documented in the agency cost literature.

Over all individuals appear to have the highest share of Thai firms' equity. Individuals hold approximately 54 percent of the shares. Domestic corporations are the second largest share-holding group. They hold 25.76 percent of the outstanding shares. Domestic financial institutions hold less than 10 percent of the equity. Firms are, however, not as widely held as these statistics show. I adopt the standard applied in the developed countries to show ownership concentration, namely the shareholdings of the largest, and the top five largest shareholders. The largest individual shareholder and the largest corporate shareholder own 20.48 percent and

23.82 percent of outstanding shares. Furthermore the top five shareholders hold approximately 60 percent of the listed Thai firms. That is, the evidence shows that Thai firms are not held by small individuals or corporate shareholders.

The standard method used to investigate the ownership structure does not seem to be appropriate with the characteristics of Thai firms. Carefully examining the ownership structure, I found that corporate shareholders are not widely owned ultimately as in the case of developed countries. Rather they have individuals or families as their ultimate owners. Based on this information, I modified the definition of shareholder. An individual shareholder or a family and their affiliated companies are treated as one single shareholder. A company is affiliated to a family if the members of the family together with other companies controlled by the family together have at least 25 percent of the shares. According to the Stock Exchange of Thailand, a shareholder is a firm's controlling shareholder if he owns at least 25 percent of the shares.

Based on this definition, I found that in about 72.96 percent of the firms in the sample, families appear as the largest shareholder. The second largest group that emerges as the largest shareholder is foreign investors. They account for 17.04 percent of the sample. I proceeded further to investigate the level of shareholdings of the largest shareholders. The results show that in 82.59 percent of the firms, the largest shareholder holds the controlling block of at least 25 percent of the outstanding shares.

With respect to the pattern of shareholdings, in most of the firms the controlling shareholders do not use more complex ownership structures. Approximately 21.27 percent of the firms are owned via pyramid structure and cross-shareholdings.

The controlling shareholders do not merely own the firms but also participate in managing them. The results shows that about 70 percent of the firms with at least one controlling shareholder, the controlling shareholder appear in the top management teams as well as the boards of directors.

There are only 47 companies from the sample of 270 companies, or 17.41 percent of the firms in the sample, that have no controlling shareholder. These companies may be considered as widely held companies. However, further investigation shows that these companies are not indeed held by many small shareholders. Their largest shareholders' shareholdings are large when compared with similar results using data from developed countries, especially the US.

and UK. In only 4 companies out of the 47 companies does the largest shareholder hold less than 10 percent of the shares. Base on the evidence, Thai firms are not widely held.

6.1.2 The effects of ownership structure and corporate governance on performance

The existing ownership structure of Thai firms indicates that the traditional agency problem, the conflict of interests between managers and outside shareholders, is not the main problem. The free-rider problem in monitoring the firm should not be serious because of the presence of shareholders with large shareholdings. Instead, the agency problem between the controlling shareholders and managers, on one hand, and minority shareholders and other stakeholders such as creditors, on the other hand should be more severe. Since the controlling shareholders have voting power are involved in management, they may obtain private as well as monetary benefits that are not generally available to outside shareholders. For example, they can have expensively luxurious offices and cars, and provide themselves jobs. In addition, the controlling shareholders may adopt investment, dividend, and debt policies that serve their own purposes. Whether the controlling shareholders significantly divert corporate resources for their own interests at the expense of minority shareholders is empirically determined, however. If the controlling shareholders are opportunistic, such behaviors should have negative effects on performance of the firms.

I investigate this issue by comparing the performance of firms with controlling shareholder and that of firms with no controlling shareholder. The evidence is against the hypothesis that controlling shareholders have negative influence on the firm's value. Both univariate and multivariate analysis show that the performance of firms, measured by ROA and Tobin's q , with controlling shareholders and firms with no controlling shareholder are not significantly different from each other. Since the nature of controlling shareholders may affect the firm's value due to differences in the agency problems and other factors, I distinguish this effect by classifying firms according to their controlling shareholders namely, family, the State, foreign investors, and firms with more than one controlling shareholder. The investigation, however, provides a similar conclusion when the performance measure is based on Tobin's q . When performance is measured by ROA, foreign investors-controlled firms display significantly different performance

than firms with no controlling shareholder. In addition, foreign-controlled firms appear to have higher ROA than family-controlled firms.

The evidence suggests that foreign-controlled firms have high profitability because they have better firm-specific knowledge or due to the benefits from the government's investment promotion policies. It may also be the case that foreign-controlled firms have lower agency costs than other firms, in particular family-controlled firms. Hence we cannot conclude that family-controlled firms are efficient. The issue of whether family-controlled firms have serious agency problem or not is left for future research, however.

The results show that controlling shareholder involvement in management has a negative effect on the performance, measured by ROA. The relationship between the ownership level of the managers who came from the controlling shareholders' families, and performance is, however, uniform. The evidence

Next I examine the effectiveness of the existing corporate governance mechanism on performance. With respect to the ownership of managers who are not the firms' controlling shareholders, at low level of ownership, performance and ownership are positively related. However when ownership rises beyond a certain threshold, the firm's performance declines. The results indicate that ownership at lower level provides the managers with incentive and motivation to work. But the managers become entrenched and start pursuing self-interest activities when their ownership is higher due to the ability to control the firms.

The results that the relationship between the performance of firms and levels of managerial ownership differs depending to the characteristics of managers is another contribution of the study to the literature.

The results also show that the aggregate ownership of foreign and domestic institutions are positively related to Tobin's q , which implies that financial institutions may pursue corporate governance service. Consistent with Jensen (1993), a large board increases the board's inefficiency in pursuing the monitoring function. Lastly, I find the evidence against the argument that controlling shareholders dominated boards are associated with poor performance. The firms where controlling shareholders hold the most influential position such as CEOs, and dominate the boards by holding more than 20 percent of the total number of positions (the median value) do not appear to have significant lower performance.

6.1.3 The determinants of capital structure

The sources of financing of Thai firms come mainly from external. Internal fund accounts only 9.33 percent of total assets. The largest sources of external financing are stock issuance and short term and long term debt. Common stock issuance accounts for 36.72 percent. Short term and long term debt defined as bank overdrafts and loans from financial institutions, current portion of long term liabilities, debentures, convertible debentures, and long term liabilities together contribute around 38.26 percent of total financing. Among debt financing, bank overdrafts and loans from financial institutions are the dominant sources. This item accounts for around 21.62 percent. The second major source of debt financing is from long term debt. Long term debt accounts for approximately 10.85 percent. The major source of long term debt are banks and financial institutions, both domestic as well as foreign.

The empirical results indicate that taxes, bankruptcy costs, agency costs and information costs are important factors in the Thai firm's financing decisions. Non-debt tax shields, profitability and investment opportunities have negative effects on debt-equity ratio. The results are consistent with the tax based model. Firms use the items such as depreciation expenses, tax credits to reduce corporate tax payments. Firms that have high depreciation expenses, tax credits to reduce corporate tax payments appear to use less debt ratio.

The evidence is also consistent with the pecking order theory. That is, high profit firms as well as firms with many investment opportunities use less debt-equity ratio. The result that high growth firms choose higher levels of debt support the agency theory. Compared to firms with a lot of fixed assets, it is more difficult to monitor the management of firms with growth options.

Larger firms and firms with a lot of fixed assets appear to have high debt capacity. The measure of variation in operating income is not significantly related to both the book and market measures of leverage.

The analysis shows that ownership and control mechanisms have significant effects on the financial structure. Firms that have the Government as major shareholder are more levered probably because the borrowing is secured by the Government. Firms that are associated with the well-known business groups have lower debt ratio. The results indicate that the information asymmetric problem may be less severe. The presence of non-financial foreign investors is

associated with lower debt ratio. This finding may reflect that foreign shareholders provide good monitoring. Firms where the controlling shareholders are involved in managing the firm appear to have higher debt levels. The controlling shareholder-and-managers may adopt high debt ratio to inflate their voting power. However, the results are also consistent with the argument that high debt is used to signal less agency problem arise in the firm. This study does not provide enough evidence to distinguish these two plausible interpretations.

6.2 Suggestions for future studies

Much work remains to be done in this area.

First, in this dissertation, I did not consider the possible inter-relationship among variables. Ownership and other governance variables namely size of the board of directors, and its composition were treated as exogenous in examining the effect of ownership (and the governance mechanisms) on capital structure and performance. The *OLS* regression results suggest that ownership structure (and other governance mechanisms) affect the agency costs and therefore capital structure, and performance. Put differently, the implicit assumption made is that the causality runs from ownership and governance variables to capital structure and performance. In addition, in the study of capital structure, the causality between performance to debt policy was assumed.

With respect to capital structure and performance, previous studies document causality may run both from performance to debt ratio, and from debt ratio to performance. The capital structure theory suggests that high profitability firms depend less on debt simply because they have enough internal funds (Myers and Majluf (1977)). Debt affects performance positively because it reduces free cash flow (Jensen (1986)), and provides monitoring on management (Jensen and Meckling (1976)). Debt may affect performance negatively since it increases the firm's financial distress.

In a similar vein, reverse of the causality from performance to the board mechanism is also possible. For example, Eisenberg et al.(1998) argue that firms adjust their board size in response to profitability. Additionally, board composition may be affected by other control factors such as ownership. Controlling shareholder-dominated boards may be the outcome of the presence of controlling shareholders in the firms.

The interdependence among the variables may be possible because they are simultaneously within the firm. However whether ownership structure, capital structure, governance mechanisms and performance are determined endogenously is ultimately an empirical question. More work is needed to analyse these issues. If the variables are interrelated, simultaneous equations is the appropriate methodology to analyze the problem.

Second, a time-series and cross-sectional analysis should improve the understanding of Thai firms. Panel data will allow us to analyze the dynamic response of capital structure and performance to agency variables through time within firms as well as across firms. This will add additional information and allows stronger conclusions than the results derived from use of a static cross-sectional model.

The dissertation investigates three main important aspects of firms. There are at least another two important decisions made in the firm, namely investment decision and dividend policy that are not yet well understood.

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