

**The Value of Improved Governance
and the Attenuation of Information Asymmetry**

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Abstract

This paper focuses on the value of improved corporate governance. Using the sample of Thai listed firms, we study whether firms that comply with the principles of good corporate governance incur lower financing cost and have stronger financial standing. The overall results suggest that the firms on average improve their governance practices, although the governance sub-indices are relatively low in certain sections particularly the responsibilities of the board. Furthermore, the firms that have better governance practices enjoy lower cost of capital and are more financially viable; suggesting that good governance probably reduces the destabilizing behavior of investors as they become better informed, and mitigates management and agency problems. Therefore, the guidelines for good governance practices introduced by the Stock Exchange of Thailand should serve as an important tool to bridge information gap between investors and management, to help overall investors learn more about which firms need to be closely monitored or should be invested in, and to level the playing field for the investors.

I. Introduction

The strive for higher governance and disclosure standards presupposes that better information dissemination can reduce information asymmetry and market uncertainty about a firm and enable investors to become more behaviorally stable. As good governance practices are intended to alleviate agency problems, various governance attributes should have significant effects on the firm. The primary purpose of this study is to examine (a) whether corporate governance reduces a firm's overall cost of capital, and (b) whether good governance attributes differentiate financially sound firms from distressed firms.

During the Asian financial crisis period, weak governance and agency problems give rise to corporate concern – financial weaknesses and poor managerial decisions. Many researchers and practitioners in both public and private sectors therefore emphasize the role of good governance to reduce agency costs and information asymmetry between insiders (management or controlling shareholders) and outsiders (non-controlling minority shareholders, creditors or other stakeholders). Firms adopt better governance practices, for example, the improvement in information disclosure. It is believed that quality disclosure makes it easier for outside investors to observe any opportunistic behavior on the part of the insiders.

From theoretical aspect, monitoring and bonding mechanisms are important factors to help decrease the concern of investors over expropriation. A number of mechanisms were designed to strengthen the monitoring role of investors.¹ Among several mechanisms to improve governance practices, information gathering and disseminating activities are effective tools in promoting transparency and disclosure for firms. Stringent requirements for the disclosure of information material to investment decision-making make it less costly for investors to become informed of potential governance problems in the firms, and assist to level the playing field among investors so that they are entitled to the same information advantage.

¹ See Shleifer and Vishney (1997) and Claessens and Fan (2002) for an overview about corporate governance in general and in Asia respectively.

However, whether a firm should or should not disclose information is an important issue. Theoretically, if information quality cannot be verified, an appropriate decision of the firm is not to reveal the quality. But if the verification is possible, the management will provide some protection against bad news by offering quality and verifiable information that facilitates investors to monitor the firm, and effectively exercise their rights. Also, the market, peer pressure, and regulatory environment can encourage changes in the management's behavior and motivate the firm to function as a responsible agent. It is therefore clear that many factors influence the management to exercise considerable discretion regarding what information should be disclosed.

In general, good firms follow regulatory filings and voluntarily disclose substance of information material to the decision-making of investors, expecting that the dissemination of quality information would bring benefits to the firms as well as their shareholders. This is consistent with Boot and Thakor (2001), who argue that information disclosure always benefits the shareholders of good firms, and those firms with bad news have no choice but to follow suit in equilibrium.

A number of studies find linkage between information and the cost of capital. Merton (1987) presents that, in an incomplete capital market, when managers have more information than outsiders, rational investors would penalize a firm by demanding higher information risk premium. To reduce premium adjusted cost of capital or information risk, the firm should increase information quality (Leuz and Verrecchia, 2005). The disclosure of quality information is likely to mitigate uncertainty, induce the investment of large investors, reduce information asymmetry in the market and hence the cost of capital for the firm (Diamond and Verrecchia, 1991; Easley and O'Hara, 2003). Botosan (1997) and Sengupta (1998) empirically show that disclosure reduces the cost of equity capital and the cost of issuing debt respectively. However, Boot and Thakor (2001) argue that the positive impact of price transparency is comparatively lower in emerging markets that have greater cross-sectional heterogeneity in information acquisition costs and a high fraction of bad firms.

There is a growing empirical literature around the world regarding the effect of corporate governance at both firm level and country level. Yet, to date, very little research has been done to investigate the role of good governance practices in lessening

the cost of capital and in strengthening the financial standing of Thai firms.² This research therefore fills the gap by focusing on the regulator's guidelines for good corporate governance practices, and examining whether the firms benefit from compliance with the guidelines and whether corporate governance are essential to the development of Thai stock market.

Thailand provides a natural setting to study the impact of good governance especially from the information disclosure aspect. After the 1997 financial crisis, the Stock Exchange of Thailand (SET) outlined fifteen principles of good corporate governance and has worked continuously to promote good governance among listed firms. As long as good governance attributes attenuate the problems of asymmetric information, it is expected that good firms will follow the guidelines of good governance practices and differentiate themselves from bad firms. The improved governance structure should also raise the investors' confidence, favorably resulting in a lower information risk.

The results show some important implications for firms, investors and the regulator. Based on the corporate governance baseline survey, average firms show improvement in governance practices, although average governance index is just slightly above 70 percent in 2004. Better governance practices probably reduces the asymmetry of information between insiders and outside investors, and makes shareholders and lenders more informed and confident about the firm's investment decisions. This favorably results in a lower cost of capital for the firm. Thus, the value of good governance creates worth for the firm if the management follows the principles of good governance practices and becomes transparent and accountable.

For the regulator and investors, the governance index can be an important indicator that helps differentiate problem firms that need close monitoring and strict supervision from viable firms. Good governance practices particularly the disclosure of information to the public may constrain managerial discretion away from reckless

² There is only a study by Kouwenberg (2006) which uses the governance scores of Thai listed firms. His study cross-sectionally examines and provides support to the positive and significant impact of governance code adoption in 2002 on average firm value.

activities that come at the expense of overall investors. The findings are a useful input for policy makers to know what governance aspects affect firms most and what aspects should be improved in the firms, and to focus more on establishing good governance environment for the sake of market development. In sum, the evidence suggests a potential role of good governance and disclosure of quality information. That is, more transparent disclosure by the firms may reduce information asymmetry.

The rest of this chapter proceeds as follows. Section 2 summarizes theoretical background and hypotheses. The sample and methodology are described in Section 3. Section 4 summarizes the preliminary results of financial characteristics, governance indices and ownership structure of firms. The detailed results regarding the effects of good governance practices on the cost of financing and financial strength are given in Sections 5 and 6 respectively. Finally, Section 7 concludes the chapter.

2. Theoretical Background and Hypotheses

2.1 Corporate Governance

Corporate governance has received enormous public attention in the past few decades, and become an important issue worldwide especially due to the lessons from the East Asian financial crisis and from the collapse of Enron and WorldCom in a country that had been hailed as a model for good corporate governance and superior financial market regulations. Corporate governance concept is not new, although the term was not used until the 1980s. The concept in connection with governance dates back to Berle and Means (1932) that drew attention on the separation between ownership and control, which was later addressed using an agency theory framework.

The emergence of agency perspective on corporate governance was first viewed as a nexus of contracting relationship. The contract that fails to incentivize agents or managers to act in the interests of shareholders will bring about agency problems (Jensen and Meckling, 1976; Fama and Jensen, 1983). The problems could be serious because such contract creates managerial opportunism (Williamson, 1985; Grossman and Hart, 1986), induces agents to make poor investment decision or to expropriate private benefits for themselves at the expense of shareholders and other stakeholders (Jensen, 1986; Grossman and Hart, 1988; Morck et al., 1988; McConnell and Servaes,

1990; Zingales, 1994; La Porta et al., 1999; Claessens et al., 2002; and others).

Theoretical and empirical exploration of the subject suggests mechanisms that may help to alleviate agency problems. Gompers, Ishii, and Metrick (2003) and others suggest that firms with good governance characteristics have lower agency costs, implying less information asymmetry between management and investors. From the literature, governance mechanisms include legal protection of shareholder rights from expropriation by self-dealing managers (La Porta et al., 1998), concentrated ownership (Franks and Mayer, 1994; Yafeh and Yosha, 1996), relationship banking (Kaplan and Minton, 1994; Kang and Shivdasani, 1995; Gorton and Schmid, 1996), and the market for corporate control (Grossman and Hart, 1980; Jensen and Ruback, 1983; Jensen, 1986; Denis and Serrano, 1996).

In a world of incomplete contract, reforms in corporate governance rules and best practices as required by stock market are necessary to provide adequate protection to shareholders, to overcome collective action problems caused by the dispersion among shareholders, and to ensure the interests of all relevant constituencies. Shleifer and Vishny (1997) argue that a good corporate governance system should incorporate various approaches to governance with legal protection of investor rights.

As the collapse of big firms around the world unfolded, regulators in many countries have placed greater emphasis on the importance of good corporate governance and effective risk management in order to restore investor confidence. Following the OECD Principles of Corporate Governance, corporate governance encompasses a broad spectrum of elements used to shape a firm's direction and control and to mitigate agency and information asymmetry problems. They include: 1) effective corporate governance framework, 2) the rights of shareholders, 3) the equitable treatment of shareholders, 4) the role of stakeholders, 5) disclosure and transparency, and 6) the responsibilities of the board. Best practices on these areas are perceived to help promote good corporate governance, which in turn increases investor confidence and market efficiency. Therefore, many attempts are undertaken to enhance greater disclosure and transparency, to improve accountability of directors and management in firms, to protect the rights of investors, and to ensure the equitable treatment of shareholders.

2.2 Information Asymmetry, Disclosure and Cost of Capital

In a market with pronounced information asymmetry, management and controlling shareholders are often at an informational advantage relative to outside investors. Outside investors particularly institutional investors and private equity managers are reluctant to invest in poorly governed firms that are prone to failure and subjective to high risk of expropriation.

A number of studies argue that managers have superior information about firm performance, and have discretion to manipulate or withhold information material to the investors' decision-making. The question arises: Will the management always withhold information? The literature suggests that the answer is 'No'. It depends on the cost of disclosing information. Without such cost, firms will release all information in order not to make wrong signal that they have bad news (Verrecchia, 1983). The assumption is that investors can always verify information quality. If the information quality is verifiable, the management prefers to offer quality information to the market. Recently, Garmaise and Liu (2005) model a firm that is owned by shareholders and administered by managers who may be either honest or dishonest. The authors find that honest managers always report true information while dishonest managers report strategically. For the latter, when managers have informational advantage over shareholders, they choose to make false reports that subsequently lead to investment distortion.

There are two strands of research in the literature relevant to the relationship between information asymmetry and the cost of capital. On one hand, the economic theory establishes the linkage between information structure and the cost of equity capital (Easley, Hvidkjaer and O'Hara, 2002; Easley and O'Hara, 2004). Collectively, they argue that investors who are exposed to high information risk and constraints on risk diversification will demand a higher rate of return. Specifically, higher risk occurs when much of information is private or when private information is available to only a small fraction of investors. These investors will have informational advantage over uninformed investors because the informed investors are better able to adjust their position by using new private information. Consequently, the uninformed investors view the investment in the firm as being riskier.

The study of Easley and O'Hara (2004) suggests that the investor's required rate of return or the firm's cost of capital can be lowered either by reducing the extent of private information or by increasing the dispersion of private information among investors. Botosan and Plumlee (2004) empirically examine their model and find positive association between the cost of equity capital and private information. Barry and Brown (1985) suggest that disclosure can reduce uncertainty parameter, which in turn lowers the cost of capital.

The literature also shows that promoting good governance is an approach to reduce the differential levels of information asymmetry in the market. Disclosure of quality financial information and other firm-related information is an important element of corporate governance that reduces information asymmetry. The firms' commitment to the disclosure of quality information reduces investors' risk of loss from trading with informed investors, thereby attracting more funds into a capital market (Diamond and Verrecchia, 1991; Leuz and Verrecchia, 2000). Demirgüç-Kunt and Maksimovic (1996) argue that to facilitate information flow and to improve corporate governance may lower the cost of external financing. A number of empirical studies find that greater disclosure lowers cost of equity capital (Botosan, 1997), cost of debt (Sengupta, 1998), and bid-ask spreads (Healy, Hutton, and Palepu, 1999; Leuz and Verrecchia, 2000).

An increase in disclosure frequency also confers benefit to firms that emphasize on disclosure and information quality. Marquardt and Wiedman (1998), and Schrand and Verrecchia (2002) examine the effect of disclosure frequency on the cost of capital when raising capital through seasoned equity offerings. Overall, they find a negative relationship between disclosure quality and the cost of capital, suggesting that corporate disclosure is effective to some extent in reducing the level of information asymmetry between firms and investors.

From an alternative view, an increase in disclosure may flood the market with information misconstrued by analysts and market participants. This may lead to more uncertainty and cause investors to demand higher risk premium, which inversely affect the firms' financial condition. Some empirical studies suggest that more timely disclosures can attract investors to be involved in short-term, speculative trading opportunities, which consequently increase the firm's stock volatility (Bushee and Noe,

2000). The finding is consistent with that of Botosan and Plumlee (2002). They document that more frequently disclosed quality report may lead to higher stock volatility. The corporate finance literature suggests a positive association between risk and return. As the stock volatility is considered as a measure that reflects total risk, information risk in particular, the positive linkage between information risk and implied risk premium is created (Lee, Ng, and Swaminathan, 2003). Therefore, greater disclosure may lead to higher cost of capital.

However, the cost of disclosing or practicing good governance is perceived to be high in emerging markets. The firms thus may not frequently disclose information unless stipulated by laws or codes of practices. Taken together all the above arguments, we conjecture that closer adherence to the codes of best practices and international governance standards on disclosure rules, accounting standards, and the protection of the rights of shareholders and stakeholders should raise the investors' confidence, leading to a lower cost of financing for a firm. Therefore, we test the hypothesis that:

H1: The cost of capital is inversely related with good governance practices.

2.3 Financial Distress and Corporate Governance

The emergence of the Asian financial crisis in 1997 prompts us with structural flaws in corporate governance, which produce widespread distortions in effective control and protection. From the literature, weak corporate governance is an important factor that causes the crisis (Rajan and Zingales, 1998; Prowse, 1998), and that provides better explanatory power over macroeconomic variables in explaining the Asian financial crisis during 1997-1998 (Johnson, Boone, Breach and Friedman, 2000).

La Porta et al. (1999) argue that investor protection through legal approach is a key to protect outside investors against expropriation because it lessens the efficiency of diversion technology used by management at the firm level. When corporate governance system becomes stronger, it is expected that the problem of financial distress may be reduced. The reason is that the management or controlling shareholders may be more cautious about investment and operating decisions; for fear that the channels for their rent expropriation will be eliminated if they plunge firms into financial distress or bankruptcy, which may become a critical reason raised by other

shareholders to vote for significant changes in control and management.

Since the work by Altman (1968), the number of research on financial distress and bankruptcy has focused on the explanatory power of financial information in determining its relationship with bankruptcy and distress. It is not until recently that financial distress literature incorporates corporate governance variables as an important factor to explain financial distress. Using cross-country data, Johnson, Boone, Breach, and Friedman (2000) present that investor protection is an important corporate governance attribute that determines the extent of macroeconomic problems such as exchange rate depreciation and stock market collapse in the crisis-hit countries during 1997-1998. An adverse shock to investor confidence induces higher expropriation by insiders and capital flight of foreign and domestic investors, which worsen the situation.

At the firm level, many studies focus on the effect of governance attributes on financial distress in, for example, financial institutions. In a country that has poorly designed deposit insurance scheme, the financial institutions are likely to encounter serious agency and moral hazard problems (Garcia, 1999). The poorly designed scheme enables the management or employees of the institutions to benefit themselves at the expense of shareholders and depositors. From the corporate governance perspective, Bongini, Claessens, and Ferri (2001) demonstrate that the financial institutions connected with industrial groups or influential families are more likely to be distressed.

In the firms that belong to industrial groups, and use pyramidal and cross-shareholding control structures, controlling shareholders will have sufficient power to control firms, and non-controlling shareholders will not be adequately protected. The former will have greater opportunities to extract private interests incompatible with other shareholders' interest (Bebchuk et al., 1999). Similarly, based on the tunneling view of Bertrand, Mehta, and Mullainathan (2002), the ultimate owners in the hierarchy of pyramidal structure have incentives to divert resources from firms near the bottom of the pyramid to firms near the top. Consistently, Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) argue that controlling shareholders have strong incentives to siphon resources and wealth out of the firm for their own benefits. Such expropriation behavior can adversely affect firm performance. Another problematic managerial behavior is in the form of earnings management or accounting manipulation, which can lead to

potential misallocation of corporate resources (Dye, 1988; Trueman and Titman, 1988).

Based on traditional contractual framework, in the absence of transparent and accountable corporate structure, corporate insiders may have more incentives to contend information in order to expropriate outsider investors (La Porta et al., 1999), and to hide their private control benefits because they have some discretion on investment and capital structure (Zingales, 1994; Shleifer and Vishny, 1997). Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) develop a proposition to explain the diversion of corporate resources away from a firm, the phenomenon of which is called tunneling. They describe that tunneling takes the form of outright theft or fraud through self-dealing transactions. In this case, a controlling shareholder simply diverts corporate resources for his own benefit. Their study suggests that tunneling may occur substantially in the firms that have non-transparent ownership structure and are managed by controlling shareholders, and would adversely affect the financial performance of the diverted firms.

To lessen the insiders' information advantage over outside investors, correct corporate information should sufficiently be disclosed because it provides the investors with a basis to monitor their claims and exercise their rights. We hence expect that:

H2: Firms are likely to be financially viable if they have good governance practices.

3. Empirical Design

3.1 Sample

The sample in this study is drawn from the population of firms listed on the Stock Exchange of Thailand in 2002 and 2004, for which only non-financial firms with no missing data are employed for the analysis. Financial firms, which consist of commercial banks, finance companies, securities companies, insurance companies, are excluded because their capital structure and financing decisions are highly affected by regulatory restrictions. The financial institutions also have some differences in the regulation especially on the disclosure of financial information.

Since our main purpose is to investigate the role of corporate governance under regulatory compliance, the sample firms are limited to only firms that were baseline-surveyed and evaluated for governance practices under regulatory compliance. The

survey is normally conducted on a yearly basis by the Institute of Directors (IOD) in collaboration with the Stock Exchange of Thailand (SET) and the Securities Exchange Commission (SEC). Qualitative scores derived from the survey are based on publicly available information which the firms provide in their annual reports, annual general meeting minutes, article of association, and information disclosure report (Form 56-1). By the way, there was no survey undertaken in 2004 due to the revision of evaluation criteria. This study thus ends up with the sample of firms that were surveyed for governance practices only in 2003 and 2005. Note that, although the survey was undertaken in 2003 and 2005, the evaluation was based on corporate information in 2002 and 2004 respectively.

Corporate governance scores obtained from the SET can be segmented individually into five key categories:

- 1) The right of shareholders: This category illustrates how the shareholders' right is defined and disclosed, and the extent to which the shareholders participate in annual general meeting. This category is to ensure that the shareholders' rights are protected and the way to exercise their own rights in a firm is facilitated.

- 2) The equitable treatment of shareholders: The equitable treatment covers the existence of equal voting rights, mechanisms that facilitate the participation of shareholders and allow minority shareholders to monitor the management's imprudent practices such as insider trading activities and related party transactions, .

- 3) The role of stakeholders: This particularly addresses comprehensive coverage of environmental issues, and also safety and welfare of employees. An effective governance framework should encourage active cooperation between firms and stakeholders in creating wealth and corporate sustainability.

- 4) Disclosure and transparency: The purpose of this category is to show the extent to which information about transparent ownership structure, financial performance, operating activities, corporate risk, related party transactions and the way to access such information is publicly available.

- 5) Board responsibilities: The scores assist in measuring the quality of audit committee report, conflicts of interest, independency, and the extent to which good

governance practices and code of conducts are formed. This category also ensures the strategic guidance of the firm, the effective monitoring of management by the board, and the board's accountability to the firm and the shareholders.

According to the IOD study, separate weights are assigned to each of these five categories. The weights for categories 1, 2, 3, 4 and 5 from the baseline analysis in 2004 are 20, 15, 15, 25, and 25 percent, respectively.

Relating to the information about firms' characteristics, we obtain audited financial information, ownership of large shareholders, board structure, and stock prices from the Stock Exchange of Thailand (SETSMART database). In order to construct ownership database, we need different sources of information about family relationship. The sources include Phipatseritham (1981), Phipatseritham and Yoshihara (1983), Suehiro (1989), and Sappaibun (2001a and 2001b).

Table 1
Distribution of listed firms by industry

This table presents the distribution of non-financial listed firms classified by industry for the years 2002 and 2004. Industry types are reclassified by combining certain industries together.

	All		2002		2004	
	N	%	N	%	N	%
Agribusiness	20	7.07	12	9.16	8	5.26
Automotive, machinery and equipment	11	3.89	4	3.05	7	4.61
Commerce, professional services	12	4.24	5	3.82	7	4.61
Communication	14	4.95	6	4.58	8	5.26
Construction materials	17	6.01	8	6.11	9	5.92
Electrical products, computers & electronic components	24	8.48	11	8.40	13	8.55
Energy, utilities and mining	19	6.71	8	6.11	11	7.24
Fashion	23	8.13	9	6.87	14	9.21
Food and beverage	23	8.13	13	9.92	10	6.58
Health care services	8	2.83	4	3.05	4	2.63
Household goods, personal products & pharmaceuticals	7	2.47	3	2.29	4	2.63
Media and publishing	13	4.59	6	4.58	7	4.61
Packaging, paper and printing materials	17	6.01	10	7.63	7	4.61
Petrochemicals and chemicals	14	4.95	6	4.58	8	5.26
Property development	40	14.13	17	12.98	23	15.13
Tourism and leisure	8	2.83	3	2.29	5	3.29
Transportation and logistics	13	4.59	6	4.58	7	4.61
Total	283	100	131	100	152	100

Table 1 reports the distribution of the sample firms by year and sector classification. Our sector classification differs slightly from that of the SET. Because certain sectors contain very few observations, we therefore group them into other related sectors. For example, firms in the personal products and pharmaceutical sector are categorized into the household goods sector. In this study, the dataset is an unbalanced panel of 283 firm-year observations for the years 2002 and 2004. They are distributed as shown in the table, 131 firms in 2002 and 152 firms in 2004. The firms are also drawn and widely distributed among 17 sectors to depict different aspects of industries in the market. Our sample accounts for more than 71 percent of total market capitalization of all non-financial firms and about 50 percent of the book value of total assets of all non-financial firms in both years. However, the current paper does not include the thinly traded stocks that were traded less than half the total trading days in each year. Such restriction is imposed because when the stocks' price information is not available, the investors will not be able to learn from the prices that theoretically reflect the market's expectations about the firms' future earnings and prospects.

3.2 Methodology

The first part of the analysis attempts to explore whether corporate governance helps lower a firm's overall cost of capital. One way to address this issue is to consider the role of information which is publicly disclosed in the market and reflects the firm's governance practices. To empirically investigate the effect of corporate governance and other firm specific factors on the firm's cost of capital, we perform the following fixed effects regression that controls for the firm-specific omitted variables:

$$COC_{it} = Intercept + \beta_1 CGI_{it} + \beta_2 ContrStr_{it} + \beta_3 Risk_{it} + \sum_{j=1}^k \beta_j Control_{j,it} + u_i + e_{it}, \quad (1)$$

where COC_{it} is the cost of capital for firm i and period t , CGI_{it} is the corporate governance index based on baseline survey, $ContrStr_{it}$ is a proxy for ownership or control structure, $Risk_{it}$ is the estimated beta coefficient based on standard market model, $Control_{it}$ is 1 x j vector of observations on j control variables which include one-period lagged leverage ratio, one-period lagged return on assets, firm size, growth opportunities and capital expenditure ratio, u_i is a vector of firm fixed effects, and e_{it} is a

random error term. This fixed effects specification is primarily used to control for unobserved heterogeneity among firms and omitted variables, which are the two sources of endogeneity (Himmelberg et al., 1999; Nikolaev and Lent, 2005). The model uses lag explanatory variables together with fixed effects specification to tackle the endogeneity problem. However, we realize that the use of fixed effects specification and lag variables does not eliminate the potentially spurious relationship between dependent and independent variables, but the method helps alleviate the endogeneity concerns. Our hypothesis is that corporate governance reduces information differences and incentive problems between the firm and its investors. We thus expect a negative sign on β_1 , meaning that good governance practices are inversely related with the cost of capital.

In the second part, we assess our second hypothesis whether firms implementing better governance practices are less likely to experience financial difficulty. We use a logit model of the following form:

$$\log \frac{P(FINS_{it})}{1 - P(FINS_{it})} = \alpha_0 + \alpha_1 CGI_{it} + \alpha_2 ContrStr_{it} + \alpha_3 Risk_{it} + \sum_{r=1}^s \alpha_r Control_{r,it} + v_i, \quad (2)$$

where $FINS_{it}$ is a binary dummy variable that takes a value of one if the firm meets the SEC criteria for strong financial conditions, and zero otherwise. In addition to the explanatory variables used in the previous model, liquidity and operating efficiency measures are two additional variables used to capture the likelihood of financial viability.

3.3 Empirical Measures

In this section, we provide some descriptions about the variables and the ways to construct or estimate the variables used in the analysis. The definitions of all variables are presented in Table 2.

Table 2
Variable descriptions

Variables	Description
<i>Cost of capital:</i>	
WACC	Weighted average cost of capital (based on the realized cost of debt and average cost of equity)
WACC2YR	Weighted average cost of capital averaged over 2 years
WACC-DCF	Weighted average cost of capital (using the DCF based cost of equity)
WACC-CAE	Weighted average cost of capital (using the CAE based cost of equity)
COD	The ratio of interest expenses to total short-term and long-term debts
COE-DCF	Cost of equity based on the discounted cash flow (DCF) method
COE-CAE	Cost of equity based on the comparable accounting earnings (CAE) method
AVGCOE	A simple average cost of equity where the costs of equity capital are derived from the DCF and CAE methods
<i>Corporate governance index: Based on CG baseline surveys</i>	
Right of shareholders	Index computed from 13 questions in Section A
Equitable treatment	Index computed from 10 questions in Section B
Role of stakeholders	Index computed from 2 questions in Section C
Disclosure	Index computed from 28 questions in Section D
Board responsibilities	Index computed from 23 questions in Section E
WCGI	Unequally weighted index from five individual components (IOD weights)
EQWCGI	Equally weighted index from five individual components
Web-based disclosure	Specific index computed from 9 questions about types of information that are disclosed on a company's website
Quality audit report	Specific index computed from 7 questions about types of information disclosed by audit committee
Transparent structure	Specific index computed from 4 questions about ownership structure
Board composition	Specific index computed from 4 questions about board composition
Conflict of interest	Specific index computed from 5 questions about conflict of interests
<i>Other governance variables:</i>	
FAM_BOARDSH	Aggregate ownership by the largest individual shareholder who is involved in the board of directors
Multiple	Dummy variable with value 1 if there are at least two large shareholders
BusGroup	Dummy variable with value 1 if a firm is part of a family run business group
<i>Other control variables:</i>	
BETA	The covariance of stock and market returns / the variance of market return
Interest bearing debt/Net assets	Total short-term and long-term debt / total assets net of current liabilities
LN_Leverage	The natural logarithm of the ratio of total liabilities to total assets
LN_ROA	The natural logarithm of one plus return on assets
MV/BV	The market-to-book value of equity
CAPEXP/ASSETS	The ratio of capital expenditures to total assets
Firm size	Natural logarithm of the market value of total assets
Liquidity	Current assets divided by current liabilities
Operating efficiency	Total revenues divided by total assets

a) Measurement of Cost of Capital

This study employs the measurement of the cost of capital using a weighted average of the after-tax cost of debt and the cost of equity (WACC) based on the proportion of debt and equity in the firm's capital structure. For the WACC estimation, three main components are needed: a) cost of debt, b) cost of equity, and c) debt-equity structure. For the last component, debt and equity portions are calculated based on all interest-bearing short-term and long-term debts and total equity. For the debt capital, we follow Francis et al. (2005) and use the ratio of the interest expenses to total outstanding short-term and long-term borrowings as a measure of the cost of debt (COD).³

Regarding the cost of equity measure, we employ two commonly used methods of estimating the cost of equity capital, including the comparable accounting earnings method (CAE) and the discount cash flow method (DCF). The CAE-based cost of equity (COE-CAE) is measured as net income divided by the book value of the equity, commonly known as the return on equity (ROE).

Alternatively, the discounted cash flow method based on the Gordon constant growth model estimates the cost of equity as the sum of expected dividend yield (D_1/P_0) and the rate of dividend growth (g). In this study, we estimate the dividend growth from accounting statement by assuming that the reinvestment of retained earnings generates the same return as the current return on equity, so the dividend growth rate under this assumption is computed as the product between the retention ratio ($1-p$) and ROE, where p is the dividend payout ratio. Due to the limitation on dividend forecast data, the study uses current dividend yield instead. For robustness check, we also use average dividend yield which is computed based on current and past dividend yields.

After that, the estimates based on these two approaches are then averaged to derive average cost of equity (AVGCOE). Nonetheless, we recognize the main shortcoming of the CAE method because the cost of equity is calculated from historical accounting data. Besides, although the estimates based on the DCF valuation method is

³ Francis et al. (2005) show strong evidence that higher information risk measured by relatively poor accruals quality increase the penalty by the debt market.

mostly forward looking, our assumption of constant dividend is too strong because dividend profiles typically differ for firms in different stages of their life cycles.

b) Financial Status

To investigate whether corporate governance is an important factor that helps to constrain the management's discretion and action, resulting in a low likelihood of becoming financially distressed, this study evaluates the financial conditions of firms by using their annual financial information and the following SEC criteria as a guide and classifying the firms into three groups - strong, moderate and weak firms.

1. Firms with strong financial status have:
 - a) debt/equity ratio that is equal or greater than 0, but less than or equal to 3, and
 - b) interest coverage of at least 1 for three consecutive periods, and
 - c) net profit growth for at least one out of two consecutive periods
2. Firms with weak financial status have:
 - a) negative net worth, or
 - b) debt/equity ratio at 10 or higher, or
 - c) interest coverage below 1 for two consecutive periods
3. Firms with moderate financial status are the rest of the firms that are neither strong nor weak firms.

However, because the proportion of weak firms is rather small relative to strong firms, we therefore combine moderate and weak firms together as a group, ending up with two major groups which are strong firms and weak-to-moderate firms. This thus helps reduce to some extent the size effect that is driven by a much larger proportion of strong firms. We then construct a dummy variable (FINST) that takes value one if a firm has strong financial condition, and zero otherwise.

c) Corporate Governance Index (CGI)

This study employs governance scores obtained from the CG baseline surveys. However, the surveys in 2003 and 2005 were not exactly based on the same set of questions, and the scoring methods and weights are also applied differently between the two years. It is therefore indispensable to make some adjustments on governance scores

to make the scores in both periods comparable. We firstly identify and use only the questions identical in both years, and then reclassify the 2003 questions according to the categories used in 2005. As a result, there were only 76 out of 118 questions in the 2003 survey that are identical to those questions in 2005.

Another inconsistency is due to the difference in scoring methods. Specifically, the answers to questions in the 2003 survey were scored as 1, 2, or 3, with 3 representing best practice, 2 representing partial compliance with best practice, and 1 representing the least compliance with best practice. Nonetheless, the responses to survey questions in 2005 were scored as 0, 7, or 10 with the level of compliance with best practice defined in the same way as in 2003. As the scoring methods makes the scores for the two years inappropriate for comparison, this study therefore modifies the 2003 scoring method to follow the method used in recording the 2005 scores.

After that, the sum of the governance scores for each category is divided by the sum of the maximum scores in that particular category to derive the index for each of the five key categories (rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and board responsibilities). Using the weights applied in 2005, we then multiply a series of values for each year's five categories obtained previously by their corresponding weights mentioned in Section 3.1 and then summing them up to get weighted governance index (WCGI) for each sample year. Alternate set of governance variables used in the analysis includes a series of five sub-indices, one for each category.

d) Other Corporate Governance Variables

In addition to the level of compliance with best practices, other governance variables are included to control for agency risk caused by control structure. The current study uses any of the following variables - *the ownership of the largest family shareholder in the board, corporate control, and business group*.

First, the ownership of the largest individual shareholder who is involved in the board of directors is used to control for wealth expropriation incentive. Past literature suggests that large ownership can be used as a mechanism to mitigate agency problems because the controlling shareholders with substantial stakes in a firm are more likely to

behave prudently to limit financial losses arising from reckless management actions. As their interests become more aligned with those of outside investors, the agency risk is lessened and the investors' demand for higher risk premium should also be lower. This study defines the ownership of a controlling individual owner to be the aggregate ownership of individuals related through blood or marriage. Large shareholder is the one who directly and indirectly holds at least 10 percent of total shares.

Second, to examine whether the potential for control contest by other large shareholders helps constrain the tendency of the controlling shareholder to extract private benefits, this study constructs a dummy variable for *multiple control*, which takes the value one if a firm has at least two large shareholders who hold more than 10 percent of total shares and zero otherwise. The literature suggests that the presence of multiple large shareholders reduces private benefits through competition for control. However, ultimate owners should be carefully identified so that they are not related through blood or marriage, or are not linked through cross-ownership. This helps minimize a potential problem that they will collude to expropriate other shareholders.

Third, we also account for agency problems associated with business group by including a *Business Group* dummy with the value one, denoting that the firm is part of the large family-run business groups in Thailand. Nevertheless, the literature shows no consensus about the effects of business groups. Some studies point out that a family takes effective control of firms in their business groups through pyramidal and cross-shareholding ownership structures. Accordingly, a complicated control structure may discourage the efficient allocation of resources in the firms (Bae et al., 2002; Bertrand et al., 2002; Ferris et al., 2003). Other studies show that group-affiliated firms outperform unaffiliated firms (Keister, 1998; Chang and Choi, 1988).

e) Control variables

Following the literature, a set of control variables that have been identified to be correlated with the cost of capital and financial positions of firms are included. They include firm risk, capital structure, growth opportunities, profitability, and investment intensity of firms. First, this study uses *beta* coefficient as a proxy for systematic risk of a firm, which is computed for individual firms from a single index market model using

daily stock and market returns for the year. The coefficient shows the responsiveness of the firm's stock return to the return on market portfolio. Intuitively, when rational investors invest in firms with high risk exposure, they will demand a greater return which reflects higher risk premium. However, this study does not include the firms whose stocks are infrequently traded. Second, we include one-period lagged *leverage ratio*, computed as the natural logarithm of the ratio of total liabilities to total assets. In the event of adverse conditions, it is the more highly geared companies that suffer from the obligations to service debt payments. The lagged value is used to reduce the impact of possible endogeneity. Third, *growth opportunity* is measured with the market-to-book value of total equity. The firms which are perceived to experience a steady stream of future cash flows are highly valued by the market and considered less risky. Fourth, one period lagged *return on assets (ROA)* is used to measure the firm's accounting performance. Fifth, the natural logarithm of the market value of total assets as a proxy for *firm size* is considered another determinant of the cost of capital. As large firms are more diversified than small firms, the former should enjoy lower financing cost. Lastly, *capital expenditures ratio* controls for the reallocation of fixed capitals that can affect firm performance to service debt obligations and stabilize its financial status. Additionally, we include *current ratio* and *total asset turnover* to control for liquidity and operating efficiency, which can affect the overall strength of the firm.

4. Descriptive Statistics

This section provides summary statistics (mean and median values) for three important sets of variables, which include financial characteristics, governance indices from baseline surveys, and other governance variables. They are summarized by year and by financial strength in Tables 3 and 4 respectively.

Table 3 reveals that the weighted average cost of capital of the firms in 2004 does not change significantly from that in 2002. However, when analyzing its two main components, it is apparent that the cost of debt financing is on average significantly lower in 2004, consistent with the declining loan rates quoted by the five largest commercial banks since the late 2001. Although the borrowing rates decline, the banks' lending practices and capital requirement become more stringent. The borrowing firms thus find themselves hard to obtain funds and turn to use alternative source of financing

like equity. The table further shows that our sample firms generally become larger in asset size and more liquid, have better operating efficiency, use smaller portion of total short-term and long-term debts, invest more in fixed assets and generate more profits, are exposed to higher systematic risk, and exhibit better growth prospects in 2004. However, only the mean and median differences for the measure of growth prospect and firm size are significantly different from those in 2002.

For ownership structure, there are almost half of the sample firms that have at least one large shareholder and are owned by well-known families that run big business groups. It is also found that the family members involved in the board hold about one-fourth of total outstanding shares. Although not reported in the table, among the five types of large shareholders – individuals, government, financial institutions, and foreign investors, the individuals or a group of related families is the first largest group of shareholders that own substantial shares in Thai listed firms, accounting for 69 percent and 74 of all firms in 2002 and 2004 respectively. Foreign investors appear to be the second largest group that holds dominant shares in the firms. There are about 21 percent and 15 percent of the firms in 2002 and 2004 respectively that are foreign owned, compared with only 6.11 and 6.58 percent of the firms that are state-owned.

With respect to governance aspects, average firms have improved their governance practices on most areas, probably in response to the need of investors and regulator. Specifically, the governance scores of firms in 2004 have significantly higher scores in almost all of the key governance categories (the equitable treatment of shareholders, the role of stakeholders, disclosure and transparency and board responsibilities). Therefore, the weighted governance index increases from 0.65 in 2002 to 0.71 in 2004. However, the indices are considerably low in some areas. Similar results are found for individual sub-categories such as up-to-date information disclosure, quality reports, transparent structure, board composition, and conflict of interests. However, our preliminary statistics displays considerable dispersion in most indices.

Table 3
Descriptive statistics by year

This table presents descriptive statistics for the cost of capital, governance indices, other governance variables, and other control variables for 2002 and 2004. Mean and median differences between two periods are tested using t-test and Wilcoxin rank-sum test respectively. ***, **, and * denote significance at the 1, 5, and 10 percent levels respectively.

	All (N=283)		2002 (N=131)		2004 (N=152)	
	Mean	Median	Mean	Median	Mean	Median
<i>Cost of capital:</i>						
WACC	0.107	0.096	0.108	0.092	0.106	0.100
WACC-DCF	0.107	0.096	0.111	0.094	0.103	0.098
WACC-CAE	0.107	0.096	0.105	0.091	0.109	0.099
COD	0.047	0.039	0.061	0.049	0.034***	0.031***
COE-DCF	0.168	0.133	0.173	0.128	0.163	0.137
COE-CAE	0.171	0.136	0.168	0.126	0.174	0.145
AvgCOE	0.170	0.135	0.171	0.128	0.169	0.141
<i>Governance index:</i>						
Right of shareholders	0.707	0.719	0.695	0.696	0.718	0.722
Equitable treatment	0.738	0.738	0.688	0.650	0.781***	0.800***
Role of stakeholders	0.688	0.700	0.661	0.700	0.711*	0.775**
Disclosure	0.748	0.748	0.719	0.731	0.772***	0.761***
Board responsibilities	0.542	0.519	0.500	0.486	0.579***	0.562***
WCGI	0.678	0.668	0.646	0.647	0.705***	0.702***
EQCGI	0.685	0.681	0.652	0.660	0.712***	0.709***
Web-based disclosure	0.438	0.463	0.393	0.338	0.470**	0.463**
Quality audit report	0.745	0.714	0.680	0.714	0.800***	0.857***
Transparent structure	0.852	0.925	0.773	0.750	0.919***	0.925***
Board composition	0.613	0.600	0.567	0.600	0.651***	0.675***
Conflict of interests	0.510	0.400	0.459	0.400	0.553***	0.400***
<i>Other governance variables:</i>						
FAM_BOARD SH	0.261	0.267	0.258	0.274	0.265	0.250
Multiple	0.420	0.000	0.443	0.000	0.401	0.000
BusGroup	0.463	0.000	0.443	0.000	0.480	0.000
<i>Other control variables:</i>						
BETA	0.713	0.565	0.708	0.553	0.717	0.589
Interest bearing debt/Net assets	0.356	0.354	0.372	0.358	0.341	0.352
Liabilities/Assets (t-1)	0.484	0.483	0.515	0.509	0.457**	0.472**
Liabilities/Assets	0.458	0.472	0.477	0.486	0.441	0.462
ROA (t-1)	0.067	0.060	0.060	0.053	0.074*	0.070**
ROA	0.081	0.069	0.076	0.066	0.085	0.073
CAPEXP/ASSETS	0.037	0.007	0.029	0.007	0.043	0.009
MV/BV	1.393	1.050	1.139	0.940	1.612***	1.200***
Firm size	8.559	8.497	8.325	8.383	8.762**	8.610**
Liquidity	2.100	1.534	1.976	1.531	2.207	1.542
Operating efficiency	0.985	0.867	0.970	0.862	0.997	0.887

Table 4 reports further evidence about the differences in governance and financial aspects between strong firms and weak-to-medium firms. By structure, strong firms must have relatively low debt obligation, higher debt serviceability and profitability. From the table, it is also apparent that the strong firms are larger in terms of asset size and have comparatively better short-term liquidity. In addition, they have superior performance, particularly in terms of lower leverage and systematic risk, higher financial profitability, growth opportunities, more efficiency in their operations, and more investment in fixed assets. The governance practices of strong firms are also found to be better, as shown by significantly higher weighted governance index. Nevertheless, there are only two main categories, the disclosure and board responsibilities, the governance indices of which are significantly different from those of the weak-to-medium firms.

To examine which governance category firms have paid more attention in 2002 and 2004, this section additionally presents the distribution of firms by governance score range, governance category and period in Table 5. For the whole period, there are three main governance categories – the rights of shareholders, the equitable treatment of shareholders, and disclosure – in which more than half of all firms have the governance index higher than 70 percent for each of the mentioned categories while there is just a small fraction of firms (14 percent) that have such high level of governance index in the board responsibilities category. There is a similar evidence for the sample year 2002. However, different pictures can be drawn from the sample firms in 2004. Many more firms comply more with the guidelines for best governance practices especially in the areas of the equitable treatment of shareholders and disclosure sections. More than 73 percent of all firms in 2004 have governance indices of higher than 70 percent with respective to the equitable treatment of shareholders and disclosure categories. It is also found that there is a relatively higher fraction of firms where the board of directors has improved their independency, accountability and effectiveness in monitoring activities.

Table 4**Level of compliance with best practices and firm characteristics by financial strength**

This table compares the level of corporate governance indices, governance variables, and financial characteristics between strong firms and weak-to-medium firms. Mean and median differences between strong and medium-to-weak firms are tested using t-test and Wilcoxin rank-sum test respectively. ***, **, and * denote significance at the 1, 5, and 10 percent levels respectively.

	All (N=283)		Strong firms (N=191)		Medium-to-Weak firms (N=92)	
	Mean	Median	Mean	Median	Mean	Median
<i>Governance indices:</i>						
Right of shareholders	0.707	0.719	0.716	0.722	0.689	0.696
Equitable treatment	0.738	0.738	0.742	0.738	0.728	0.713*
Role of stakeholders	0.688	0.700	0.703	0.700	0.657	0.700
Disclosure	0.748	0.748	0.758	0.756	0.728**	0.719**
Board responsibilities	0.542	0.519	0.555	0.536	0.517**	0.493**
WCGI	0.678	0.668	0.688	0.677	0.657***	0.656**
EQWCGI	0.685	0.681	0.695	0.691	0.664***	0.668**
Web-based disclosure	0.438	0.463	0.464	0.463	0.381**	0.338**
Quality audit report	0.745	0.714	0.764	0.857	0.705**	0.714***
Transparent structure	0.852	0.925	0.864	0.925	0.827*	0.925*
<i>Other governance variables:</i>						
FAM_BOARDSH	0.262	0.267	0.272	0.288	0.239	0.208
Multiple	0.420	0.000	0.435	0.000	0.391	0.000
BusGroup	0.463	0.000	0.476	0.000	0.435	0.000
<i>Financial variables:</i>						
BETA	0.713	0.565	0.634	0.519	0.878***	0.736***
Interest bearing debt/Net assets	0.356	0.354	0.305	0.327	0.460***	0.473***
Liabilities/Assets (t-1)	0.458	0.472	0.430	0.446	0.595***	0.638***
Liabilities/Assets	0.458	0.472	0.419	0.440	0.539***	0.563***
ROA (t-1)	0.081	0.069	0.086	0.076	0.030***	0.029***
ROA	0.081	0.069	0.090	0.080	0.062***	0.054***
CAPEXP/ASSETS	0.037	0.007	0.043	0.012	0.022	0.00*
MV/BV	1.393	1.050	1.423	1.120	1.331	0.965**
Firm size	8.559	8.497	8.719	8.592	8.227***	8.215**
Liquidity	2.100	1.534	2.095	1.635	2.110	1.216***
Operating efficiency	0.985	0.867	1.007	0.941	0.939	0.757

Table 5
Distribution of firms by governance score range and category

The table presents the distribution of firms by governance score range and category of good governance practices for the years 2002 and 2004. Governance score ranges are divided into six groups - 0-30, 30-40, 40-50, 50-60, 60-70, and 70-100. In the evaluation of good governance practices, corporate governance framework focuses on five major components which include the rights of shareholders, the equitable treatment of shareholders, the role of stakeholders, disclosure and transparency, and the responsibilities of the board.

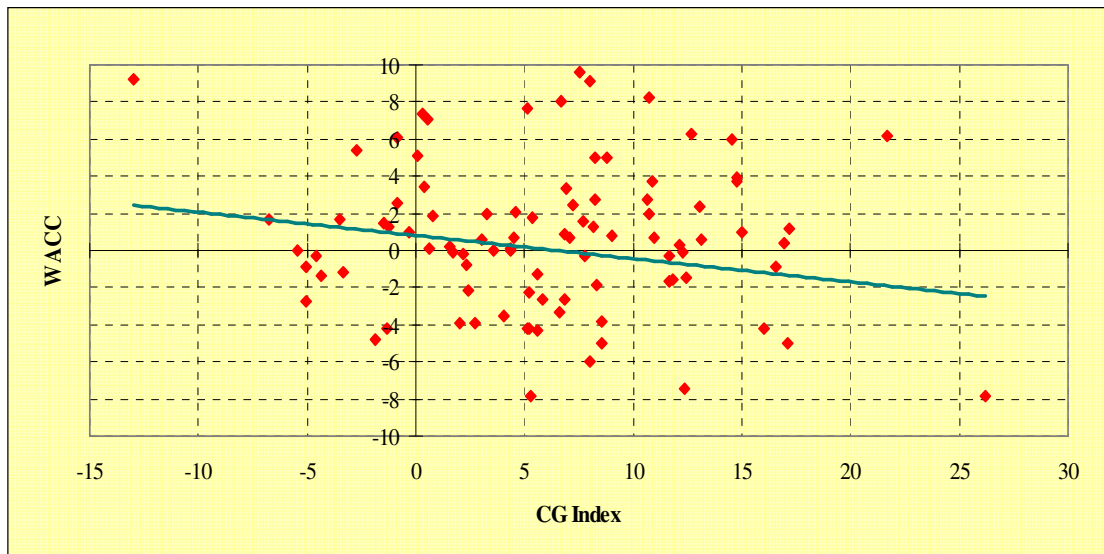
	0-30	30-40	40-50	50-60	60-70	70-100	All
<i>Period: 2002 (131 firms)</i>							
a) The rights of shareholders	0.00	0.76	6.87	12.98	31.30	48.09	100.00
b) Equitable treatment of shareholders	0.00	0.76	0.00	2.29	51.91	45.04	100.00
c) The role of stakeholders	0.00	24.03	3.88	0.00	36.43	35.66	100.00
c) Disclosure and transparency	0.00	0.00	0.76	7.63	33.59	58.02	100.00
e) Responsibilities of the board	0.76	12.98	39.69	30.53	9.92	6.11	100.00
Weighted scores	0.00	0.00	1.53	25.95	50.38	22.14	100.00
<i>Period: 2004 (152 firms)</i>							
a) The rights of shareholders	0.00	4.61	12.50	9.87	18.42	54.61	100.00
b) Equitable treatment of shareholders	0.00	0.00	0.00	0.00	2.63	97.37	100.00
c) The role of stakeholders	0.00	16.67	12.67	0.00	20.00	50.67	100.00
c) Disclosure and transparency	0.00	0.00	0.00	4.61	21.71	73.68	100.00
e) Responsibilities of the board	0.66	11.18	23.03	25.00	18.42	21.71	100.00
Weighted scores	0.00	0.00	1.32	11.84	36.18	50.66	100.00
<i>Period: Whole period (283 firms)</i>							
a) The rights of shareholders	0.00	2.83	9.89	11.31	24.38	51.59	100.00
b) Equitable treatment of shareholders	0.00	0.35	0.00	1.06	25.44	73.14	100.00
c) The role of stakeholders	0.00	20.07	8.60	0.00	27.60	43.73	100.00
c) Disclosure and transparency	0.00	0.00	0.35	6.01	27.21	66.43	100.00
e) Responsibilities of the board	0.71	12.01	30.74	27.56	14.49	14.49	100.00
Weighted scores	0.00	0.00	1.41	18.37	42.76	37.46	100.00

5. Corporate Governance and Cost of Capital

In this section, we mainly attempt to examine the first hypothesis whether firms with higher level of corporate governance have lower cost of capital. To provide an initial view about their relationship, we plot in Figure 1 to illustrate simple correlation between changes in weighted cost of capital and in corporate governance index. It is clearly shown that they are inversely correlated. However, looking at simple correlation is not enough because there may be important omitted causal factors. We therefore control for other relevant factors and analyze the effect of good governance practices on the cost of capital by applying panel data regression method. The emphasis is placed on

the effect of overall governance index and its sub-components, as presented in Tables 6 and 7 respectively.

Figure 1
Simple correlation between changes in weighted cost of capital
and in corporate governance index



In both tables, we estimate equation (1) with fixed effects specification to account for unobservable heterogeneity among firms and omitted variables. Nevertheless, to assess whether the fixed effects method dominates pooled OLS and random effects methods, we also undertake standard tests based on F-test and Hausman test. From the regression results, the F-statistic for individual fixed effects in all model specifications indicates that the fixed effects estimator dominates the pooled OLS estimates. Besides, the Hausman test statistic also suggests that the fixed effects estimator dominates the random effects estimator for all the specifications.

In Table 6, the estimations are based on three different dependent variables – WACC, DCF-based WACC, and CAE-based WACC – that proxy for the cost of capital. And our primary explanatory variable of interest is corporate governance index, calculated using either IOD weights or equal weights. The table enables us to draw several interesting points. In all the specifications, regardless of the proxy used for the cost of capital and the level of governance, the CGI variable enters the models with expected negative sign and its coefficient is significant at conventional level, even

though the explanatory power is slightly higher when the equally-weighted governance index is used. The results imply that a 10 percent increase in the level of corporate governance reduces the weighted cost of capital by about 1.55 percent. The overall results suggest that we cannot reject the null hypothesis that good governance practices have negative impact on the cost of capital, suggesting that the effect of corporate governance practices matters economically and significantly.

Thus, good governance practices promoted by the Stock Exchange of Thailand may be a relevant factor that helps mitigate agency problems and information asymmetry between management and investors, and that indirectly affects the cost of capital in return. However, there is no such similar result for FAM_BOARDSSH that reflects the alignment of interests between the controlling largest individual shareholders and other investors. Even when we alternatively use business group and multiple control variables instead, the results do not change.

In the regressions, we also include the market-to-book value of equity and the natural logarithm of the market value of assets to control for the firm's growth opportunity and size respectively, but the coefficients are not significant. In terms of risk, the cost of capital is highly associated with the firm's risk. This is not surprising because rational investors would be unwilling to invest in firms with high non-diversifiable risk without being compensated with higher risk premium. This is also supported with evidence that the highly geared firms have higher cost of capital. The literature shows that firm risk increases with financial leverage. Thus, the highly leveraged firms are exposed to a higher likelihood of failure to service debt. The high debt obligations can also adversely affect the firms' margins and operational flexibility.

Furthermore, there is a positive relationship between the cost of capital and lagged ROA in all regressions. This result is inconsistent with those reported in earlier studies. The literature suggests that more profitable firms should enjoy lower financing costs because, as they are less likely to face severe liquidity constraints and to go into bankruptcy, the investors should demand lower risk premium. However, agency theorists suggest that large cash flows increase managerial discretion, which will affect the firms' actual overall performance. This therefore would make the investors reluctant to finance the firms without charging additional risk premium.

Table 6
Cost of capital and overall corporate governance

This table presents regression results of composite governance index and other firm characteristics on the cost of capital by using a panel fixed effects regression method. The cost of capital is computed based on the weighted average cost of capital (WACC) method that combines the cost of equity and the cost of debt with weighting factors. The realized cost of debt is measured by scaling total interest expenses with total short-term and long-term debts. The cost of equity estimates derives from either the discounted cash flow (DCF) method or the comparative accounting earnings (CAE) method or the average of the two estimates. Composite governance index is calculated with the IOD assigned weights (WCGI) or equal weights (EQCGI). All other variables are as described in Table 2. The values of *t*-statistics are reported in parenthesis. ***, ** and * denote significance at the 1, 5, and 10 percent levels respectively.

	WACC		WACC-DCF		WACC-CAE	
	WCGI	EQCGI	WCGI	EQCGI	WCGI	EQCGI
CGI	-0.155** (-2.220)	-0.149** (-2.170)	-0.155** (-2.260)	-0.148** (-2.210)	-0.155** (-2.140)	-0.149** (-2.100)
Leverage (t-1)	0.159*** (2.840)	0.156*** (2.760)	0.155*** (2.830)	0.151*** (2.740)	0.164*** (2.820)	0.160*** (2.730)
ROA (t-1)	0.217** (2.160)	0.208** (2.060)	0.226** (2.290)	0.217** (2.190)	0.208** (2.000)	0.200* (1.910)
Firm size	0.022 (1.200)	0.023 (1.210)	0.013 (0.720)	0.014 (0.740)	0.032 (1.630)	0.032 (1.640)
MV/BV	-0.006 (-1.300)	-0.005 (-1.220)	-0.007 (-1.600)	-0.006 (-1.520)	-0.004 (-1.000)	-0.004 (-0.930)
CAPEX/ASSETS	0.085* (1.710)	0.086* (1.740)	0.086* (1.780)	0.088* (1.800)	0.084 (1.630)	0.085 (1.650)
FAM_BOARDSH	0.016 (0.350)	0.019 (0.420)	0.0002 (0.000)	0.003 (0.070)	0.031 (0.680)	0.034 (0.740)
Beta	0.031*** (2.690)	0.032*** (2.720)	0.031*** (2.720)	0.031*** (2.740)	0.032*** (2.630)	0.032*** (2.660)
Constant	-0.269* (-1.670)	-0.267 (-1.660)	-0.183 (-1.160)	-0.181 (-1.150)	-0.354** (-2.130)	-0.353** (-2.110)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Hausman	35.79***	35.91***	36.00***	36.02***	34.76***	34.69***
R-squared	0.2187	0.2170	0.2177	0.2158	0.2271	0.2256
Number of groups	182	182	182	182	182	182
Number of observations	283	283	283	283	283	283

Although the earlier part of this section presents the overall impact of good governance practices on the firms' cost of financing, it is then important to identify which area of governance practice benefits the firms in general. The following part focuses on the individual effects of sub-components of governance practices, i.e., to

examine whether each of the five categories – the right of shareholders, the equitable treatment of shareholders, the role of stakeholders, disclosure and transparency, and board responsibilities – has an influential impact on the cost of capital. However, the indices however are highly correlated and may impose the problem of multicollinearity in the regression. We therefore estimate the model separately using each component at a time to mitigate the problem.

Table 7 reports more specific association between the cost of capital and the governance role. Of the five sub-components, the right of shareholders, the role of stakeholders and the board responsibility are three components that show expected negative sign. Nevertheless, the board responsibility is the only factor that is highly significantly related with the cost of capital, implying that effective monitoring of management by the board and its accountability to the firm and stakeholders are essential to bring confidence to investors. This result confirms the role of organizational mechanisms in controlling agency conflicts (Fama and Jensen, 1983) and in reducing the cost of dysfunctional behavior of the management (Jensen and Meckling, 1976).

To examine further the role of governance specific to the board responsibilities, we use three other sub-indices constructed from the baseline survey consisting of quality audit report, conflict of interests, and board composition. The regression results in Table 8 show that the coefficients on these variables enter the regressions with expected sign. However, only the coefficient on board composition is statistically significant, and thus partly confirms the importance of the board of directors in effective monitoring of the management. With respect to the control variables, most results are qualitatively and quantitatively similar to those reported in Table 6. Particularly, the coefficients on leverage, firm profitability and beta risk keep their signs and remain significant. Overall, the results revealed in the section provide support to the first hypothesis, consistent with theoretical expectation that good governance practices influence the reduction in the cost of capital. Therefore, the firms should benefit from implementing better corporate governance practices.

Table 7
Cost of capital and the five components of corporate governance

This table presents regression results of governance index and other firm characteristics on the cost of capital by using a panel fixed effects regression method. The cost of capital is computed based on the weighted average cost of capital (WACC) method that combines the cost of equity and the cost of debt with weighting factors. The realized cost of debt is measured by scaling total interest expenses with total short-term and long-term debts. The cost of equity is the average estimates derived from discounted cash flow (DCF) and comparative accounting earnings (CAE) methods. The governance index is divided into five main components. All other variables are as described in Table 2. The values of *t*-statistics are reported in parenthesis. ***, ** and * denote significance at the 1, 5, and 10 percent levels respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
A. Right of shareholder	-0.098 (-1.200)					-0.056 (-0.680)
B. Equitable treatment		0.126 (0.880)				0.108 (0.750)
C. Role of stakeholders			-0.078 (-1.530)			-0.054 (-1.050)
D. Disclosure				0.024 (0.180)		0.150 (1.080)
E. Board responsibilities					-0.090*** (-2.730)	-0.095*** (-2.630)
Leverage (t-1)	0.179*** (3.200)	0.186*** (3.330)	0.160*** (2.770)	0.185*** (3.300)	0.172*** (3.170)	0.149** (2.610)
ROA (t-1)	0.227** (2.220)	0.236** (2.300)	0.201* (1.940)	0.231** (2.220)	0.240** (2.430)	0.203* (1.980)
Firm size	0.018 (0.970)	0.014 (0.720)	0.019 (1.010)	0.016 (0.820)	0.019 (1.050)	0.020 (1.090)
MV/BV	-0.005 (-1.090)	-0.004 (-0.900)	-0.004 (-0.890)	-0.004 (-0.860)	-0.006 (-1.430)	-0.006 (-1.400)
CAPEX/ASSETS	0.077 (1.520)	0.080 (1.580)	0.089* (1.750)	0.080 (1.570)	0.084* (1.720)	0.091* (1.840)
FAM_BOARDSDH	0.007 (0.150)	0.007 (0.150)	0.020 (0.440)	0.008 (0.170)	0.004 (0.090)	0.010 (0.230)
Beta	0.027** (2.300)	0.022* (1.950)	0.028** (2.420)	0.023** (2.040)	0.026** (2.400)	0.030** (2.570)
Constant	-0.120 (-0.760)	-0.201 (-1.220)	-0.135 (-0.870)	-0.164 (-0.970)	-0.238 (-1.550)	-0.324* (-1.760)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Hausman	33.71***	33.86***	35.08***	31.89***	38.04***	45.23***
R-squared	0.1898	0.1838	0.1975	0.1773	0.2385	0.2711
Number of groups	182	182	182	182	182	182
Number of Obs.	283	283	283	283	283	283

Table 8
Cost of capital and the sub-components of the board responsibilities category

This table presents regression results of governance index and other firm characteristics on the cost of capital by using a panel fixed effects regression method. The cost of capital is computed based on the weighted average cost of capital (WACC) method that combines the cost of equity and the cost of debt with weighting factors. The realized cost of debt is measured by scaling total interest expenses with total short-term and long-term debts. The cost of equity is the average estimates derived from discounted cash flow (DCF) and comparative accounting earnings (CAE) methods. The sub-indices in the board responsibilities category are used. All other variables are as described in Table 2. The values of *t*-statistics are reported in parenthesis. ***, ** and * denote significance at the 1, 5, and 10 percent levels respectively.

	(1)	(2)	(3)	(4)
Quality audit report	-0.041 (-0.910)			-0.034 (-0.770)
Board composition		-0.132** (-2.090)		-0.122* (-1.870)
Conflict of interest			-0.052 (-0.900)	-0.029 (-0.500)
Leverage (t-1)	0.185*** (3.320)	0.204*** (3.670)	0.183*** (3.260)	0.201*** (3.580)
ROA (t-1)	0.016 (0.830)	0.023 (1.220)	0.017 (0.900)	0.023 (1.220)
Firm size	-0.004 (-0.840)	-0.005 (-1.120)	-0.004 (-1.020)	-0.005 (-1.120)
MV/BV	0.228** (2.220)	0.278*** (2.700)	0.236** (2.300)	0.272*** (2.620)
CAPEX/ASSETS	0.086* (1.680)	0.087* (1.750)	0.077 (1.520)	0.090* (1.780)
FAM_BOARDSH	0.004 (0.080)	0.016 (0.360)	0.007 (0.160)	0.012 (0.260)
Beta	0.021* (1.880)	0.028** (2.510)	0.024** (2.130)	0.027** (2.340)
Constant	-0.129 (-0.820)	-0.173 (-1.130)	-0.143 (-0.920)	-0.146 (-0.930)
Year dummy	Yes	Yes	Yes	Yes
Hausman	32.83***	37.86***	31.88***	38.60***
R-squared	0.1844	0.2143	0.1842	0.2215
Number of groups	182	182	182	182
Number of observations	283	283	283	283

6. Corporate governance and financial status

The main aim of this section is to investigate whether good governance practices are found in more financially viable firms, or in other words, whether they affect the likelihood of being a financially strong firm. We present cross-sectional logit estimates in Tables 9-11.

Table 9 details the results of the logit regressions estimated using equation (2). If the coefficient on governance variable is positive and significant at conventional level, we cannot reject the second hypothesis that a firm with good governance is likely to be financially viable. The corporate governance measures used in the model are the weighted governance index based on IOD weights and equal weights respectively. No matter which of the two measures is used, the regressions show similar result, saying that as firms have better governance practices, the likelihood of the firms' financial strength also increases. Both measures are significant with the signs of the coefficients as hypothesized. The positive coefficient on corporate governance index means that firms with higher governance index are likely to be more financially viable than firms with lower index.

The results further show that the firms that are financially viable have lower liabilities-to-assets ratio and beta in the past, suggesting that the financially strong firms are less risky relative to the weak-to-medium firms since the former are exposed to lower probability of default and bankruptcy. For example, the strong firms on average have a leverage ratio of only 0.43 (0.60) and a beta of 0.63 (0.88). In comparison, the weak-to-medium firms have a higher leverage ratio of 0.60 and a beta of 0.88. Moreover, the strong firms generally have higher return on assets, indicating that their operating profitability is higher. The profitable firms are considered having more cushions and to better manage their liquidity and exposure to credit risk. For other control variables such as growth opportunities, liquidity, capital expenditure ratio, and the largest family's board ownership, their coefficients are not significant.

In parallel with previous section, we additionally attempt to investigate in which area of governance practice is useful in disentangling between strong firms and weak-to-medium firms. However, in the discussion of the findings that follow, we concentrate

on the governance effect only because the results of control variables that are statistically significant are qualitatively and quantitatively similar to our earlier findings.

Table 9
Financial strength and overall corporate governance

This table presents logit regression analysis of financial strength which is regressed on governance variables and other control variables by using the pooled data of firms in 2002 and 2004. Financial strength (FINST) is a binary value that takes the value one if the financial conditions of a firm meet the SEC criteria for strong financial conditions, and zero for weak and medium financial conditions as described in Section 3. Composite governance index is calculated with the IOD assigned weights (WCGI) or equal weights (EQCGI). All other variables are as described in Table 2. The reported values of *t*-statistics in the parenthesis are corrected using standard errors that are heteroskedasticity-robust. ***, **, and * denote significance at the 1, 5, and 10 percent levels respectively.

	WCGI	EQCGI
CGI	4.003*** (2.630)	3.586** (2.440)
Leverage (t-1)	-2.975*** (-2.590)	-2.879** (-2.500)
MV/BV	0.033 (1.070)	0.033 (1.090)
Liquidity	-0.260 (-0.940)	-0.244 (-0.880)
ROA (t-1)	10.150*** (2.660)	10.210*** (2.660)
CAPEX/ASSETS	0.862 (0.580)	0.934 (0.620)
Operating efficiency	0.166 (0.420)	0.157 (0.390)
FAM_BOARDSH	0.119 (0.160)	0.001 (0.160)
Beta	-0.801** (-2.070)	-0.787** (-2.010)
Constant	1.616 (1.030)	1.336 (0.870)
Year & Industry dummies	Yes	Yes
Wald stastic	125.50***	103.77***
Pseudo <i>R</i> -Squared	0.1951	0.1932
Percent correctly predicted	78.80%	78.45%
Number of observations	283	283

Table 10
Financial strength and the five components of corporate governance

This table presents logit regression analysis of financial strength which is regressed on governance variables and other control variables by using the pooled data of 283 firms. Financial strength (FINST) is a binary value that takes the value one if the financial conditions of a firm meet the SEC criteria for strong financial conditions, and zero for weak and medium financial conditions as described in Section 3. The governance index is divided into five main components. All other variables are as described in Table 2. The reported values of *t*-statistics in the parenthesis are corrected using standard errors that are heteroskedasticity-robust. ***, **, and * denote significance at the 1, 5, and 10 percent levels respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
A. Right of shareholder	3.304** (2.010)					1.462 (0.820)
B. Equitable treatment		-2.203 (-0.510)				-2.763 (-0.620)
C. Role of stakeholders			1.146 (1.070)			0.454 (0.390)
D. Disclosure				9.786*** (2.570)		7.810** (1.980)
E. Board responsibilities					1.609** (2.230)	0.633 (0.830)
Leverage (t-1)	-2.849** (-2.460)	-2.740** (-2.380)	-2.681** (-2.320)	-3.570*** (-2.910)	-2.862** (-2.520)	-3.372*** (-2.760)
MV/BV	0.035 (1.120)	0.032 (1.060)	0.033 (1.080)	0.033 (1.080)	0.032 (1.070)	0.030 (0.940)
Liquidity	-0.237 (-0.860)	-0.219 (-0.790)	-0.212 (-0.760)	-0.345 (-1.230)	-0.267 (-0.980)	-0.307 (-1.060)
ROA (t-1)	10.691*** (2.650)	11.023*** (2.760)	10.774*** (2.740)	10.223*** (2.700)	10.687*** (2.780)	10.085*** (2.670)
CAPEX/ASSETS	1.387 (0.910)	1.330 (0.850)	1.220 (0.790)	0.525 (0.340)	0.955 (0.630)	0.632 (0.410)
Operating efficiency	0.106 (0.260)	-0.036 (-0.090)	0.025 (0.060)	0.050 (0.140)	0.032 (0.080)	0.112 (0.290)
FAM_BOARDSH	0.043 (0.060)	0.147 (0.200)	0.143 (0.200)	0.238 (0.330)	0.149 (0.200)	0.163 (0.230)
Beta	-0.700* (-1.890)	-0.577 (-1.570)	-0.635* (-1.660)	-0.615* (-1.680)	-0.688* (-1.840)	-0.744** (-1.980)
Constant	-2.109 (-1.300)	0.857 (0.360)	-0.877 (-0.610)	-4.968** (-2.290)	1.025 (0.710)	-3.182 (-0.950)
Year & Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Wald stastic	64.74***	62.60***	64.26***	68.33***	72.61***	75.58***
Pseudo R-Squared	0.2424	0.2344	0.2365	0.2557	0.2463	0.2617
Percent correctly predicted	80.21%	78.45%	79.15%	79.86%	77.74%	80.57%

Table 11**Financial strength and the sub-components of the disclosure and transparency category**

This table presents logit regression analysis of financial strength which is regressed on governance variables and other control variables by using the pooled data of 283 firms. Financial strength is a binary value that takes the value one if the financial conditions of a firm meet the SEC criteria for strong financial conditions, and zero for weak and medium financial conditions as described in Section 3. The sub-indices in the board responsibilities category are used. All other variables are as described in Table 2. The reported values of *t*-statistics in the parenthesis are corrected using standard errors that are heteroskedasticity-robust. ***, **, and * denote significance at the 1, 5, and 10 percent levels respectively.

	(1)	(2)	(3)
Web-based disclosure	3.848*** (3.190)		4.344*** (3.410)
Transparent ownership structure		2.530 (1.300)	4.584** (2.260)
Leverage (t-1)	-3.713*** (-3.010)	-2.773** (-2.390)	-3.696*** (-2.980)
MV/BV	0.016 (0.520)	0.039 (1.260)	0.017 (0.560)
Liquidity	-0.181 (-0.690)	-0.228 (-0.820)	-0.158 (-0.590)
ROA (t-1)	9.461** (2.460)	11.355*** (2.790)	9.290** (2.510)
CAPEX/ASSETS	1.267 (0.840)	1.482 (0.910)	1.472 (0.930)
Operating efficiency	-0.039 (-0.110)	-0.004 (-0.010)	0.066 (0.180)
FAM_BOARDSH	0.259 (0.360)	-0.204 (-0.280)	0.004 (0.010)
Beta	-0.809** (-2.030)	-0.631 (-1.640)	-0.906** (-2.170)
Constant	-0.892 (-0.680)	-1.525 (-0.930)	-3.576** (-2.030)
Year & Industry dummies	Yes	Yes	Yes
Wald stastic	62.35***	61.51***	64.72***
Pseudo <i>R</i> -Squared	0.2755	0.2406	0.2864
Percent correctly predicted	81.49%	78.65%	81.49%

Table 10 presents that, of the five components, disclosure and transparency category is the only component that has positive and significant impact on the probability of being financially viable, although the coefficients on the shareholders' right and board responsibilities are significant when separately estimated. Overall, the

firms become much easier monitored because a diversity of disclosed information related to ownership structure, corporate risk and financial performance and others allows the investors to gain insights into the firms' on-going operating and strategic activities. As more information is disclosed, the information asymmetry between the management and the investors is narrowed. The management may then behave more responsibly, causing the firms less prone to ineffective operations and financial distress.

To be more specific about the disclosure and transparency category, we construct two other sub-indices based on selected questions in the survey for this category to capture the effect of transparent ownership structure and web-based disclosure. The results in Table 11 show that the probability of being a financially strong firm is higher when the firm has its own website for information dissemination over the internet. The coefficient on web-based disclosure is economically significant. The firm's transparent ownership structure might be an important element that mitigates agency problems influenced by non-transparent structure that makes the interests between shareholders and controlling shareholders unaligned. However, its coefficient is not statistically significant. Overall, the disclosure of up-to-date information through the channel of easy access could be one important mechanism that helps disseminate information to investors for decision-making.

7. Conclusion and discussion

From the literature, it is commonly believed that good governance is important to the economic development in both public and private sectors. This study contributes to the existing literature on Thai corporate governance by analyzing the effect of corporate governance on the cost of capital and financial viability of Thai listed firms. Good corporate governance measure primarily comes from the comprehensive baseline survey of corporate governance practices for the years 2002 and 2004.

The overall governance scores show that firms improved their governance practices especially the standards of disclosure and transparency, and equitable treatment of shareholders. Average governance indices for both years are found to be particularly high in the equitable treatment of shareholders and disclosure and transparency, while lowest in the responsibilities of the board. Moreover, the financially

strong firms on average have better governance standards relative to the weak firms. Although the overall governance scores are found to be higher, but there is still a plenty of room for firms to further improve their governance practices to be in line with best practices documented by the authority.

The analysis further confirms that better improvement in governance practices could be an initial requirement to increase the confidence of investors – both lenders and shareholders. Based on the results, better governance practices reduce the cost of capital. And the improvement in the responsibilities of the board is an important element towards better alignment of interests between management and investors.

Moreover, good governance attributes may constrain management from imprudent management relating with investment and resource allocation. By improving the quality of disclosure and transparency, the dissemination of quality information lessens information differences between insiders and outsiders. The general requirements of the regulator that are imposed on listed firms to follow the principles of good corporate governance practices may make the corporate governance of Thai stock market stronger. As the governance system is improved and becomes more compelling, the managers and/or controlling shareholders may be reluctant to behave irresponsibly. But if they pursue excessive expropriation and the firms subsequently are driven into financial distress, they are at risk themselves or pose a threat to their management and control power. If this happens, it will reduce their channels of rent extraction.

The implication in this study should not be limited to only firms listed in the exchange. Its implication shall be extended to those outside the exchange, including small and medium sized firms because good corporate governance practices may help them attain competitive advantage and gain access to cheaper sources of fund. The government should therefore help foster and strengthen better corporate governance practices in these firms, and continually create an environment that facilitate monitoring and easy access to information by the investors and stakeholders.

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