THE EFFECT OF CORPORATE GOVERNANCE ON COST OF CAPITAL: AN EMPIRICAL INVESTIGATION OF LISTED COMPANIES ON THE STOCK EXCHANGE OF THAILAND

AILADDA ONGKLANG

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY PROGRAM IN BUSINESS ADMINISTRATION FACULTY OF BUSINESS ADMINISTRATION RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI ACADEMIC YEAR 2016

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Name – Surname	Mrs. Ailadda Ongklang
Program	Business Administration
Dissertation Advisor	Assistant Professor Kusuma Dampitakse, Ph.D.
Dissertation Co-advisor	Associate Professor Panarat Panmanee, Ph.D.
Academic Years	2016

DISSERTATION COMMITTEE

……..…..……. Chairman
(Associate Professor Kanibhatti Nitirojntanad, D.B.A.)

…….……. Committee
(Assistant Professor Sungworn Ngudgratoke, Ph.D.)

…….……. Committee
(Assistant Professor Supa Tongkong, Ph.D.)

……. Committee
(Associate Professor Panarat Panmanee, Ph.D.)

……. Committee
(Assistant Professor Kusuma Dampitakse, Ph.D.)

Approved by the Faculty of Business Administration Rajamangala University of Technology Thanyaburi in Partial Fulfillment of the Requirments for the Degree of Doctor of Philosophy

……..…… Dean of Faculty of Business Administration
(Assistant Professor Nartraphee Chaimongkol, Ph.D.)
May , 2017

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ABSTRACT

This study investigated the effects of corporate governance on the cost of capital in the following areas: a) cost of debt, b) cost of equity, and c) weighted average cost of capital. The value of corporate governance was measured by considering the rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosures and transparency, and responsibilities of the board. On the other hand, cost of capital was determined by cost of debt, cost of equity and weighted average cost of capital.

The secondary data was obtained from 303 listed companies on the Stock Exchange of Thailand in the year 2014. The samples were companies from all industrial groups excluding the companies in financial and securities businesses, banking and insurance businesses, and companies under rehabilitation. The data were analyzed by Multiple Linear Regression at the statistical significant level of 0.05.

The results revealed that a) the rights of shareholders and disclosures and transparency had a significant negative effect on cost of debt, 2) the rights of shareholders, disclosures and transparency, and responsibilities of the board had a negative effect on cost of equity, and 3) the rights of shareholders, equitable treatment of shareholders, disclosures and transparency, and responsibilities of the board had a negative effect on weighted average cost of capital. In addition, the effect of corporate governance with five sections and the cost of capital with three methods indicated that corporate governance had a strong effect on weight average cost of capital, cost of equity and cost of debt respectively. The results also showed that the firms with higher

corporate governance had lower cost of capital. The firm's cost of capital, moreover, influenced the availability of further funding and its possibilities for investment projects. Therefore, the implementation of corporate governance principles should be the main concern.

Keywords: corporate governance, cost of debt, cost of equity, weighted average cost of capital

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Ailadda Ongklang

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CHAPTER 1
INTRODUCTION

1.1 Background and Statement of the Problem

Thailand's economic crisis in the past in 1997 had the impacts on the country. The registered companies in the Stock Exchange of Thailand cannot immediately adjust themselves to handle the situations. Some of them were withdrawn or closed while some had to compromise of debts and recovered their businesses (Limpaphayom and Connelly, 2004). These resulted from the bad loaning manner and spending without the real benefit. The cover of the fact and the conflicts between the principal and the agent, the wrong acts amount the management, lack of good governance, and business running with the emphasis on as much as highly profits caused the pressure among the executives to achieve the goals. These led to the decoration of financial report as well as the business lacked of good audit, which resulted in the destruction of the whole economic either the circumstances in the national capital market or financial market including sub-shareholder, group of investors, the institutions either domestic or international, and the company's staff.

Currently, the businesses running has faced with the high competition and fluctuation in economic either domestic or international with the complicated and violent strategies. Also, Thailand has joined into AEC in 2015; therefore, the executives must prompt to run the businesses under the inconstant status with any risks as well as the business opportunities to effectively achieve the effective goals and objectives. This will result in the ongoing and sustainable growth. The main composition to promote and leverage the stability of the operational standard is the good corporate governance which will help investors to have confidence in their investment and provide the advantages in the competition of the country in order to add values into the business and the financial security in the long run as well as the stability of growth and the overall sustainable business development (Sthienchoak, 2013). These can be done through the effective, transparent, and traceable management systems which will form the confidence for the shareholders, investors, the parties of interest, and all relevant parties. It results in the reliability of the preparing financial reports which will form the

confidence among the domestic and international investors. In the view of investors, they expect the well treat as the shareholder with transparency, fairness, and receiving the complete and accurate information for investment on time. Therefore, the good corporate governance is the key factor to help facilitate and promote the investment, especially for the international and institution investment that the good company image will lead to the convenience in fund raising and confident in the decision to own or invest in the Stock Exchange of Thailand.

The Stock Exchange of Thailand is the source of fund raising to support the economic and industry development which is aware of the crucial of good governance and continual operation. It brings the good governance concept to be used in control and audit on the executives operation in order to perform across the established policy with the honesty and carefulness. Having the acceptable form of management with the universal operational standard in the strategic management to form the confidence for investors to see that the firm has transparency as well as to reduce the risks from seeking of advantages among the executives. These are the key factors and starting point to create the good corporate governance which is the responsibility of the board of committees as the agent of the shareholders to control the management department and to have the key role in auditing and balancing the business management. Thus, to promote for the company registration for the good governance system, the Stock Exchange has set for 15 principals in good corporate governance for the firms to process at the initial state and disclose according to the principals including the reasons that they cannot comply to them in the annual report form (Form 56-1) and the company's annual report. It is confidently believed by the Stock Exchange that the operation due to the principals will be benefit for the company business, and the company will gain more acceptance from both domestic and international.

Recently, the Stock Exchange of Thailand brings the good corporate governance concept to control and audit the committee and corporate management by setting the code of best practices to reduce the agency problem as well as help reduce the financial report decoration and corruption behavior of the management (Chen et al., 2009). In addition, this concept is for the committees and the executives' management to process honestly and carefully according to the policy. This will result in the form of

the company's management to be accepted as having the universal operational standard. This is to form the confidence for investors to see that the firm has the transparency and to reduce the risks from advantages seeking by the committees and the management. It is expected that the good governance will make the company's parties of interest accept the fairly treatment. From the evaluation of corporate governance which is to stimulate for the alertness to the serious and ongoing development of the corporate governance mechanism, it would help add economic value to the business. Moreover, it is be the information for investors to bring the evaluation results to make decision for their further investment (Srichanphet, 2009). Cost of capital functions to connect between the decision of investment and decision to find out the company's fund together that it will reflect the ratio of capital which the company arranges to use in its investment.

It also considers bringing cost of capital to assist the firm in their insufficient resources calculation for the long-term investment (Gitman and Vandenberg, 2000). Recently, the businesses have to rely on the financing fund, either from liability or from capital. For either the economy or the firm, financing costs are important as they can affect the decision of investment and, eventually, economic growth since capital is the key financing structure component of the firm (Zorn, 2007).

In order to get the funding, there is also a financial cost since the loaner and owner need some investment return. The absolute advantages go to any firms that can lessen their cost of capital rather than others. While compensating the risk, investors require more returns from the company with higher risk and for the company with lower risk that it should have the lower cost of capital from the investor's point of view. For the financial decision in the connection with the future growth of the firm and firm evaluation, cost of capital is crucial. Based on the financial stability and the successful development of the enterprise and the investment decisions benchmark, cost of capital creates the optimal structure of capital and the measurement of performance (Davari et al., 2005). Due to applying cost of capital in any decision, the firm which registered in the Stock Exchange of Thailand, which is a part that joins in the key fund raising, will be considered as the representative in the study regarding cost of capital. This is to recognize about the methods and factors being brought to be considered in cost of

capital calculation in the real practice. It will also be the key information to enter to be the owner or invest in the company.

It can be termed that cost of capital is the expected returns from the common stock of the firm which represents as the compensation demanded from shareholders in capital providing and assuming for the risk during this return waiting (Zorn, 2007). The cost of capital is the discount rate which investors apply to value the underlying future cash flows of the firm which is immensely crucial for the capital funds raising ability of the firm. The higher cost of capital is charged by investors on firms which they believe to have the difficulty in their funds ensuring on not being stolen or wasted (Huang, 2009).

It is the intention of the Stock Exchange of Thailand (SET) to register the companies into the corporate governance mechanisms which meet the standard of the Organization for Economic and Cooperation and Development (OECD) which integrated the corporate governance concept with the SET concept of corporate governance. This can lead to the transparency, reliability, and increasing competitiveness of the firm and more adopted of best practices by other firms in Thailand capital market (The Organization for Economic Cooperation and Development, 2004). The registered companies' campaign is organized by SET to reap the corporate governance benefits either from the companies or the stakeholders such as partnership, creditors, employees, stockholders, community, and so on to enhance more knowledge on corporate governance applying in real practice. Moreover, the beneficial protection of investors is relied on SET in order to ensure and encourage trust for investors to form the decision on SET investment.

As one of the most influential organizations in Thailand, the Stock Exchange of Thailand (SET) facilitates the investment and funds gathering for the private companies both from within and outside Thailand. Nevertheless, the stock market companies will require having the transparent financial information, marketing, economics, and status management. Financial analysis and companies' performance will pursue investors; thus, the SET committee and accounting auditors are important to make sure of their investment and stock market trust by investors. Things that required by investors are the shareholders wealth. Therefore, this study measured wealth from

the firm performance. Many of studies have demonstrated the positive effects of good corporate governance on the firms' economic-financial performance; however, very few studies explored on the relationship between corporate governance and cost of capital (Regalli and Soana, 2012).

Present research aimed to determine the crucial of each corporate governance practice on the investor cost of capital and measure their significance from quantity computing on each attribute dimension. This is done via the corporate governance evaluation effect on each of specific attribute. There is a gap in these studies which is that most of them have only focused on the cost of capital. However, the management of the firm and its resources is also a concern to firms and can play a role in risk evaluation and financial assessment (Johnson et al., 2016). Thus, it is possible that the cost of debt would also be influenced by corporate governance indicators, as indicated by the limited studies which have taken place (Chava et al., 2009). The evidence that does exist suggests that the effects of at least some forms of corporate governance (shareholder rights) may increase cost of debt even as it decreases cost of equity (Chava et al., 2009). Furthermore, the interaction of debt and equity cost within the firm and corporate governance is dynamic, and thus it could be difficult to identify if only one source of funding is considered (Chang et al., 2014). This study examined this potential effect, using a broader perspective on both cost of capital and corporate governance that the previous studies reviewed.

1.2 Theoretical Perspective

The theories which this study adopted were adjustment agency theory, stakeholder theory, capital structure substitution theory, risk theory, and governance which were discussed briefly below.

First of all, agency theory has been differently used by many researchers; for instance, the concept incorporating widely held by the share ownership and the departed managerial actions from those required for shareholder returns maximizing (Zeckhauser and Pratt, 1985). In terms of the agency theory, the principals are the owner while the agents are the managers. If the return to the residual claimants' extent of the owners falls below, there will be the agency loss on what they would be if the owners or the

principals exercised direct corporation control (Jensen and Meckling, 1976). Agency theory specifies the mechanisms that lessen the loss of agency (Eisenhardt, 1989). These include the managers' incentive schemes to offer them the financial reward in shareholder interests maximizing. Typically, such schemes consist of the plans whereby the shares are obtained by senior executives for sometimes at the cheaper price, thus aligning the executive's financial interests with those of shareholders (Jensen and Meckling, 1976). In addition, similar schemes tie the levels of shareholder's return benefits with the executive compensation, and part of executive compensation deferred to the long-run corporation reward value maximization in the future of the executive action in short-term which can be harmful for the corporate value.

Agency problems come from the divergences of interests between shareholders and managers resulting in a loss of value to shareholders. Agency problems exhibit themselves in a variety of ways:

1. Conflict of interest: The managers do business more for themselves than for the benefit of their organizations.

2. Moral hazard: The business owner does not ensure that his managers do business efficiently or to the full of their potential.

3. Adverse selection: This business owner does not ensure that managers can make returns consistent with expectations.

Second, stakeholder theory has been gradually developed since the 1970s. One of the first expositions of stakeholder theory, couched in the management discipline, was presented by Freeman (1984), who proposed a general theory of the firm, incorporating corporate accountability to a broad range of stakeholders. Stakeholders include shareholders, employees, suppliers, customers, creditors, and communities in the vicinity of the company's operations and the general public (Solomon and Solomon, 2004).

Third, in the dividend policy context from previous studies of Hicks and Allen (1934), Donaldson (1961), Myers (1984), Myers and Majluf (1984), and Damodaran (1994), the capital structure theory in particular is regarded as the capital structure forming issue and for the dividend policies indirectly. In the economics theory, particularly on finances, the different attitudes to the most favorable sources of activity

financing shaping issue can be observed, and it is described in substitution and hierarchy theories (Auken, 2005). In finance, the capital structure substitution theory (CSS) is described as the relationship between stock price, earning, and the public companies' capital structure shown in the study of Modigliani and Miller (1963) that it is not the case. This is the two identical firms in contention, but the difference is only on the capital structure which must have the total values in identical. If not, the individuals would engage in arbitrage to form the market efforts which drive toward the two equally values. It is hypothesized by the CSS theory that the public companies' managements manipulate on the capital structure such that maximized on the earnings per share (EPS). There is the incentive for the managements to do so since the EPS growth value analysis is by the shareholders. The theory can be used to explain the capital structure, dividend policy, stock market valuation, the monetary transmission mechanism, and stock volatility trends to offer the choices to the Modigliani–Miller theorem that has limited for the real markets' descriptive validity. It can be only applied the CSS theory in the markets which allowed for share repurchasing. CSS theory can also be used to identify the undervalued stocks.

Furthermore, risk theory has been identified and recognized as an important part of actuarial education. Bowman (1982) and Kahneman and Tversky (1979) prospect theory to explain the risk paradox as risk taking by troubled firms. Kahneman and Tversky (1979) based their theory on experimental studies of individuals' risk preference which they offered a mathematical model whereas Bowman (1982) and those who followed in this line (Fiegenbaum and Thomas, 1990; Jegers, 1991) have taken a qualitative approach to the theory. They argue that low performing firms will seek risk, and high performing firms will avoid risk.

Within prospect theory, the framing of alternatives explains the expressed risk preferences. This implies that to test prospect theory at the firm level, most studies infer from prospect theory that risk seeking and risk aversion increase as the firm moves away from the reference point (Fiegenbaum and Thomas, 1990; Fiegenbaum, 1990; Lehner, 2000). However, Kahneman and Tversky (1979) simply asserted risk aversion in the domain of gains and risk seeking in the domain of losses, but did not increase risk aversion and risk seeking with distance from an expected payoff of zero. Most

researchers ignore this issue and assume prospect theory predicts minimum risk aversion and risk seeking near the reference point (Bromiley and Harris, 2006). Finally, the board of directors is intended to operate as a corporate governance mechanism overseeing managerial actions and ensuring they are in shareholders' best interests. Unfortunately, in companies where top managers have engaged in unethical activities, board members are prominently visible largely by their absent voice (Bromiley and Harris, 2006). Corporate governance in these cases may be more problematic when the CEO engages in such activities and also serves as chair of the board of directors. Ownership in a company may contribute to effective governance and prevent inappropriate managerial actions. For example, some studies have shown that where the ownership in a particular company is concentrated and when outside members of the board of directors own capital in the company, firms are more likely to sell unrelated businesses in order to enhance firm performance (Bergh, 1995). Evidence also shows that the more capital owned by managers of target firms, the more they act in the best interest of the shareholders in situations where their firm is acquired (Hubbard and Palia, 1995). For instance, when managers of the firm targeted for takeover have greater capital in the firm, there tend to be fewer anti-takeover provisions which discourage or prevent takeovers (Petry and Settle, 1991). When managers own capital in their firm, it may also strengthen the relationship within the top management team and between the managers and major shareholders which would tend to reduce internal corporate politics and improve the effectiveness of decision-making processes in the firm (Green et al., 1992).

In summary, the perspectives of agency theory were used to explain the need for corporate governance to improve cost of capital. There is much literature which studies the effect of corporate governance (rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board) on cost of capital. Most of these studies construct their own research framework based on agency theory.

1.3 Purpose of the Study

According to the background research and theoretical perspective, this study aimed to examine corporate governance and cost of capital of listed companies on the Stock Exchange of Thailand which comprised three purposes as follows:

1.3.1 To investigate the effect of corporate governance, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board on cost of debt of listed companies on the Stock Exchange of Thailand.

1.3.2 To investigate the effect of corporate governance, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board on cost of equity of listed companies on the Stock Exchange of Thailand.

1.3.3 To investigate the effect of corporate governance, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board on weighted average cost of capital of listed companies on the Stock Exchange of Thailand.

1.4 Research Questions

This study intended to provide empirical evidence of corporate governance and cost of capital of Thai listed companies. In this quantitative study, it was hypothesized that Thai listed companies experience corporate governance and cost of capital. This study aimed to answer research questions and test the following hypotheses.

1.4.1 Research Question 1: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of debt of listed companies on the Stock Exchange of Thailand?

1.4.2 Research Question 2: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of equity of listed companies on the Stock Exchange of Thailand?

1.4.3 Research Question 3: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect weighted average cost of capital of listed companies on the Stock Exchange of Thailand?

1.5 Research Hypotheses

In this study, the researcher has placed more importance on corporate governance, which is believed to have an influence on cost of capital. According to many theories and studies related to this topic along with the other reasons, the hypotheses were generated as follows.

1.5.1 Influence of Corporate Governance on Cost of Capital

Corporate governance and cost of capital could be seen in various conceptions via different literatures which conducted the studies in different ways such as the impact, relationship, and the corporate governance effect on cost of capital. The investigation is done by Ashbaugh-Skaife et al. (2004) on the governance attributes impact, such as the quality of financial information, board structure, ownership structure, and shareholder rights related to the cost of capital of the firm. The evidence is found by Chen et al. (2009) that corporate governance at firm-level has a crucially negative impact on the cost of capital. The investigation is also done by Byun et al. (2008) on corporate governance is negatively related to the estimated implication of cost of capital. Mazzotta and Veltri's (2014) evidence is given from the outcomes that present the significant association between the score of corporate governance and the cost of capital of the firm. Corporate governance evaluation with standard and poor developed comprehensive framework is based on the four components of governance consisting of ownership structure and influence, board structure and processes, financial stakeholder's rights and relations, and financial transparency and disclosure. The cost of capital corporate governance effect was explored by many researchers (Mazzotta and Veltri, 2014; Tran, 2014; Huang et al., 2014; Bozec et al., 2014; Sthienchoak, 2013; Regalli and Soana, 2012; Anuchitworawon, 2008; Bozec et al., 2010; Chen et al., 2009; Reverte, 2009; Byun et al., 2008; Derwall and Verwijmeren, 2007; Ashbaugh-Skaife et

al., 2004; Chen et al., 2003; Stulz, 1999) where they presented the negative results in association between cost of capital and corporate governance.

The corporate governance theory formed in many researches (Alba et al., 1998; Kangarlouei et al., 2012; Core et al., 2010; Skaife et al., 2009; Attig et al.,2008; Trangadisaikul, 2007; Hail and Leuz, 2006; Anderson and Reeb, 2003; Solomon and Solomon, 2004; Johnson et al., 2000; Shleifer and Vishny, 1997) included five corporate governance characteristics consisting of rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board. According to all of these researches, the corporate governance effect can be recognized from cost of capital. By the way, the outcomes of these researches may not be steady in Thailand since it is an emerging market with the weak protection on investor and few Stock Exchange listed firms.

1.5.1.1 Influence of rights of shareholders on cost of capital

The rights of shareholders include basic right and management right. The basic rights are secure methods of transferring share, ownership registration, obtaining relevant and material information on the corporation on a timely and the regular basis, participating and voting in general shareholder meeting, removing members of the board, and sharing the profit of corporation.

An important mechanism which impulses good corporate governance is the practice that shareholders exercise their rights in inquiring, monitoring, and voting in the shareholders' meeting to ensure that management acts for the best interest of the firm.

Cheung et al. (2010) and Connelly et al. (2012) measure rights of shareholders in two perspective shareholder rights disclosed and shareholder participation in Annual General Meeting. This study followed the studies of OECD (2004), Cheung et al. (2010), and Connelly et al. (2012) to measure rights of shareholders which included:Rating of shareholder participation in Annual General Meeting: Management right is voting and meeting in general meeting. It can be measured from the Annual General Meeting assessment project.

1) Dividend yield: Agency problems between bondholders and shareholder or between managers and shareholder can affect also, in theory, a firm's

dividend policy, the payment dividends forced the manager to obtain found from the financial market in order to maintain the investment policy (Lambert et al. 1989).

Rights of shareholders related to theory have an influence on cost of capital as developed by LaPorta et al. (2000) which found that the outcome hypothesis explains thin which presented in their results about the negative effect of rights of shareholders on the cost empirical linkages between the agency cost of capital, minority shareholder rights, and observed dividend payouts. Truong and Heaney (2007) examined cross-sectional variations in dividend policy and the impact of largest shareholder on policy choice.

Ashbaugh et al. (2004) used governance score as a proxy for shareholder rights when testing the effect of corporate governance on the bond rating. Cheung et al. (2005) examined the effect of shareholder rights on cost of capital, and the results showed that weak firm-level shareholder rights are harmful to cost of capital.

Stulz's (1999) globalization is suggested from the results to help reduce cost of capital while shareholder must be truly become on the global base. This seems to not take place by decree while stock prices mean everything else equal and relate on the negative way with the cost of capital. Consequently, it is considered in globalization as a process not the event. It required convincing the investors to grasp the advantage of it.

1.5.1.2 Influence of equitable treatment of shareholders on cost of capital

The board of directors must be aware of and equally pay attention to the rights of shareholders and do not act on anything that will breach or reduce the shareholder's right as well as facilitate the shareholder who is the owner of the money to equally make decision on the important issue of the firm. OECD principles document which states that the corporate governance framework should ensure the equitable treatment of all shareholders should have the opportunity to obtain effective redress for violation of their rights.

Connelly et al. (2012) measure treatment of shareholders from voting rights for shares, shareholder conflict, proxy voting, and information alert for shareholders. This study followed the work of OECD (2004) and Connelly et al. (2012) to measure equitable treatment of shareholders which included proxy voting, which is

OECD principle document that shareholders should be able to vote on person or in absentia, and equal effect should be given to vote whether cast in person or in absentia. Furthermore, IOD measures equitable of shareholder from the company facilitates voting by proxy, and the notice to shareholders specifies the document required to give proxy and there is any requirement for a proxy appointment to notarize. This study measured by equaling one if sent proxy voting form to shareholders with Annual General Meeting notice and zero otherwise.

There are many concepts of equitable treatment of shareholders on cost of capital from different literatures which are studied in different ways such as the relationship, the impact, and the effect of equitable treatment of shareholders on cost of capital (Rad et al., 2013; Kangarlouei et al., 2012; Core et al., 2010; Skaife et al., 2009; Attig et al., 2008; Hail and Leuz, 2006). These studies assert a negative association between equitable treatment of shareholders and cost of capital.

The theory about equitable treatment of shareholders was developed by various authors (Rad et al., 2013; Kangarlouei et al., 2012; Core et al., 2010; Skaife et al., 2009; Attig et al., 2008; Trangadisaikul, 2007; Hail and Leuz, 2006; Kwonna, 2002) where the three characteristics of equitable treatment of shareholders are shareholder conflict, proxy voting, and one share is one vote. The information gained by different authors were summarized in many studies including Demsetz and Lehn (1985), Berle and Means (1932), Leech and Leahy (1991), Prowse (1992), Kang and Shivdasani (1997), Cole and Lin (2000), Lehmann and Weigand (2000), Demsetz and Villalonga (2001), Claessens (2003), Mahrt-Smith (2005), and Reddy et al. (2008). The results of these empirical studies examined the relationship between ownership structure and cost of capital and found that there was no significant relationship between ownership structure and cost of capital.

1.5.1.3 Influence of role of stakeholders on cost of capital

The board structure should be appropriately balanced, and each board should independently present their role and function to set the crucial policy, look after the conflicts of interest, and follow up the management operation to be in accordance with the policy effectively under the acceptable risks for the utmost benefits of the firm and overall shareholders. OECD principle document states that the company should

recognize the role of stakeholder established law or through mutual agreements and encourage active cooperation between corporations and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises. Stakeholders can be divided into internal stakeholders (shareholders and employees) and external stakeholders (employees, creditors, customers, business partners, competitors, environment, and society). This study measured the role of stakeholders from remuneration of internal stakeholders (employees) by considering meeting allowance and salary and bonus that the pay-performance link is important if measure the extent to which the CEO' s remuneration is tied to change cost of capital. Haye (1997) studies the remuneration in small- and medium-size banks to holding companies located throughout the United States and accounted for all executives within the senior hierarchy.

The existing literatures followed and measured cost of capital which is computed by Fama and French (1992).

1.5.1.4 Influence of disclosure and transparency on cost of capital

A varying crucial success of corporate governance relies on the financial disclosure and transparency since investors, regulators, and shareholders depend on financial reports for the management monitoring and corporate performance assessment. Cost of capital disclosure and transparency contains many conceptions in various literatures that are studied in diverse ways as mentioned. Many of these studies reveal that the costs from agency results from the information asymmetries which can be alleviated by a set of corporate governance mechanism, especially on the financial information quality and other firm-related information disclosure aspect. The effects of disclosure and other capital liquidity corporate governance mechanisms were investigated by Chen et al. (2007), and the results showed that those poor disclosure practices and information transparency firms encounter the greater liquidity on economic cost of capital. Tran (2014) suggested from the results that the high levels of financial transparency and bonus compensations companies have lower cost of capital. Empirically, it was shown from the study of Botosan (1997) and Sengupta (1998) that the disclosure can reduce cost of capital and cost of issuing debt, respectively. Ashbaugh et al. (2004) conjectured from the similar view that, since the attributes of governance are intended to lessen the costs of agency, they must have the crucial effect

on cost of capital for the firm. It was found that the firm's financial information quality was negatively related to its cost of capital. In the capital market of Spanish, it is indicated by Reverte (2009) that the firms with stronger governance enjoy a reduction in cost of capital. Moreover, it is examined by Chen et al. (2004) showing the impacts of firm-level corporate governance and disclosure on cost of capital. Disclosure is found to be able to significantly lower the emerging markets cost of capital, and the effect is only observed from the relatively well investors' protection countries. Therefore, the firm-level disclosure and country-level legal protection seem to have the complementary role to reduce cost of capital of the firm. Furthermore, they found that corporate governance has always had a crucial negative effect on cost of capital under diverse regression specifications. Besides, the significant effect is only on the relatively poor legal protection provided to investor countries.

This study measured disclosure and transparency based on the following measures:

1) Share held by the five largest shareholders: The investigation is made by Chen et al. (2003) on the role of disclosure levels, firm-level corporate governance, and country level investor protection for cost of capital reduction within nine Asian countries. In addition, Botosan (1997) and Sengupta (1998) found that the greater disclosure level, the lower cost of capital. The fraction of shares owned by the five largest shareholding interests is more likely to be representative of the ability of shareholders and control professional management, and the fraction of shares owned by management is likely to be representative of the ability of professional management to ignore shareholders (Demsetz and Villalonga, 2001).

2) Rating of corporate governance reporting: Good corporate governance should involve data disclosure as it reveals the transparency of the firm. Disclosure that is transparent will help owners who are outside of the firm receive information as well as be aware of the behavior and potential of the top management of the firm. When outside owners have knowledge, they can ascertain any mismanagement and be aware of the cause of the low performance of the firm. Outside owners can pressure managers via a management committee or stop their support through their capital by selling their stocks to another party. This shows that the firm will operate

with difficultly. Top management will see that they must improve or adjust themselves as much as they can to be consistent with the firm's objectives which intend to build enterprise valuation. Disclosure and transparency consists of the result of the corporate governance rating in the Corporate Governance Report (CGR).

1.5.1.5 Influence of responsibilities of the board on cost of capital

There are many concepts of responsibilities of the board on cost of capital from different literatures which are studied in different ways such as the relationship, the impact, and the effect of the responsibilities of the board on cost of capital. Shah (2009) found the negative relationship as seen between the board size and managerial ownership with the cost of capital, and the corporate governance on board independence and audit committee independence have positive relationship with cost of capital. Limpaphayom and Connelly (2004) presented from the results of their study that every firm has the independent directors in their boards while majority from the sample firms have three or more independent directors in the board, and it is revealed from the results of survey that the responsibilities of Thai boards are active and engaged seriously (Rad et al., 2013; Kangarlouei et al., 2012; Core et al., 2010; Skaife et al., 2009; Attig et al., 2008; Hail and Leuz, 2006). These studies assert a negative association responsibilities of the board and cost of capital. Anderson et al. (2003) found that founding family responsibilities of the board and lower cost of debt financing are related. Himmelberg et al. (2004) proposed that managers' risk aversion can lead to a second effect of responsibilities of the board on cost of capital.

The theory about responsibilities of the board was developed by many authors (Rad et al., 2013; Kangarlouei et al., 2012; Core et al., 2010; Skaife et al., 2009; Attig et al., 2008; Trangadisaikul, 2007; Hail and Leuz, 2006) where the characteristics of responsibilities of the board are board size, duality, chairman independence, board independence, board of executive director, board family, board skill, board of meeting, board of compensation and audit committee. The information gained by different authors can be summarized as follows. According to the studies by Demsetz and Lehn (1985), Berle and Means (1932), Leech and Leahy (1991), Prowse (1992), Kang and Shivdasani (1997), Cole and Lin (2000), Lehmann and Weigand (2000), Demsetz and Villalonga (2001), Claessens (2003), Mahrt-Smith (2005), and Reddy et al. (2008), they

studied on examining the relationship between responsibilities of the board and cost of capital, and the results of the empirical studies revealed no significant relationship between responsibilities of the board and cost of capital. This study followed the work of OECD (2004) and Connelly et al. (2012) to measure responsibilities of the board through the following measures:

Audit Committees: The audit committee plays an important role in ensuring good corporate governance. The hypothesis related to the agency costs stated that the emerging of conflicts in the organization can partly control by the balancing of power between audit committee and the committees that were not responsible for the management. In this study, there is the hypothesis that there are different percentage of audit committees from each company, and it partly leads to the different costs of investment. The degree of audit committees can have an impact on the firm's cost of capital in the opposite way.

1) CEO duality: Usually, the chairman of the enterprise will have the important duties to investigate or evaluate the CEO's performance based on the maximum benefits of the enterprise. Therefore, the chairman should be independent in the control and evaluation of all the ideas of the management team and so on since the good corporate governance considers that merging the positions of board chairman and CEO the management shall clearly segregate the authority, functions, and roles. Besides, since this can result in the company's performance, it is therefore considered that the company which merges the positions of chairman and the management could have an impact on cost of capital in the same direction.

2) Board size: The research by Shaw (1981) and Chaganti et al. (1985) were to investigate the relationship between corporate governance and cost of capital, and the results of the company that are relevant between the company's board of directors' size and the operation result. It revealed that the variable whether the small or large one can have the effects between the business cost of equity and corporate governance. Shah (2009) found the negative relationship between the board size and managerial ownership and cost of equity, and corporate governance on board independence and audit committee independence also have a positive relationship with cost of equity. The management of the boards of the registered company is free from the

majority of shareholders or the management of that company. The board independence must have the full qualification according to the criteria as set by the Office of the Securities and Exchange Commission. Whether the amount of management board or the comprising ratio of the executive directors or non- executive directors, it is the issue that the board of directors is set due to the agreement in the shareholders meeting by considering from the announcement of the Stock Exchange of Thailand on the qualifications and the scope of operation of the auditing board. Besides, there is the research by Millstein and Paul (1998) that studied on the working by board of directors and the performance of the registered company on large business trade which found that the efficiency and independent of the board of directors have the relationship with the economic profits of the business. This shows that the ratio of the board independence is not suitable for the balance in the management power.

3) Board compensation: Board compensation set as the compensation for the board of directors of the company is measured by the monthly compensation and the compensation from attending a meeting each time. Compensation paid to the committee must be approved by the Annual General Meeting by collecting the amount of compensation to pay to the company committee in each year and gathering the data from annual data sheet (Form 56-1) as shown in the database of the Stock Exchange of Thailand and the company's website. Compensation of the committee partly comes from the company's performance result such as the annual bonus according to the annual ratio of the net profits, etc. For the motivation to audit, control and effectively manage the company and get the higher returns, it shall consider the board compensation according to the policy and criteria as follows: The compensation rate to pay must be considered based on the fairness for the companies, shareholders, and the board who receive the compensation, and the fairness for the executive management as well. The board compensation shall categorize in a form of comparison to the level that practice in the industry, experience, burden and the scope of accountability and responsibility as well as the benefits expected to gain from each committee. The board that being assigned with more accountability and responsibility are such as the member of sub-board shall get more compensation as proper. Another important element of corporate governance is board compensation. Jensen (2000) shows that compensation

plans can mitigate, inter alia, two sources of conflicts: 1) choice of effort (which means additional effort generally increases the value of a firm but is bad for managers) and 2) differential horizons (which mean managers' claims are limited to their tenure in a firm, debt providers are limited to their contract duration and stock holder tenure is indefinite).

1.5.2 Development of Research Questions and Hypotheses

The research questions and the subsequent research hypotheses of this study were conducted as follows:

1.5.2.1 Research question 1 and hypotheses

Research question 1: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of debt of listed companies on the Stock Exchange of Thailand?

Research hypotheses: The hypotheses developed to answer the first research question included:

H1: There is a negative effect of control variables on cost of debt.

H1a: There is a negative effect of the firm size on cost of debt.

H1b: There is a negative effect of the leverage on cost of debt.

H2: There is a negative effect of rights of shareholders on cost of debt.

H2a: There is a negative effect of the annual general meeting on cost of debt.

H2b: There is a negative effect of the dividend yield on cost of debt.

H3: There is negative effect of equitable treatment of shareholders on cost of debt.

H3a: There is a negative effect of the proxy voting on cost of debt.

H4: There is negative effect of role of stakeholders on cost of debt.

H4a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on cost of debt.

H5: There is negative effect of disclosure and transparency on cost of debt.

H5a: There is a negative effect of the share held by the five largest shareholders on cost of debt.

H5b: There is a negative effect of the corporate governance reporting on cost of debt.

H6: There is a negative effect of responsibilities of the board on cost of debt.

H6a: There is a negative effect of the audit committees on cost of debt.

H6b: There is a negative effect of the CEO duality on cost of debt.

H6c: There is a negative effect of the board size on cost of debt.

H6d: There is a negative effect of the board compensation on cost of debt.

1.5.2.2 Research question 2 and hypotheses

Research question 2: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of equity of listed companies on the Stock Exchange of Thailand?

Research hypotheses: The hypotheses developed to answer the second research question included:

H7: There is a negative effect of control variables on cost of equity.

H7a: There is a negative effect of the firm size on cost of equity.

H7b: There is a negative effect of the leverage on cost of equity.

H8: There is negative effect of rights of shareholders on cost of equity.

H8a: There is a negative effect of the annual general meeting on cost of equity.

H8b: There is a negative effect of the dividend yield on cost of equity.

H9: There is negative effect of equitable treatment of shareholders on cost of equity.

H9a: There is a negative effect of the proxy voting on cost of equity.

H10: There is negative effect of role of stakeholders on cost of equity.

H10a: There is a negative effect of the director remunerations meeting allowance, salary and bonus on cost of equity.

H11: There is negative effect of disclosure and transparency on cost of equity.

H11a: There is a negative effect of the share held by the five largest shareholders on cost of equity.

H11b: There is a negative effect of the corporate governance reporting on cost of equity.

H12: There is negative effect of responsibilities of the board on cost of equity.

H12a: There is a negative effect of the audit committees on cost of equity.

H12b: There is a negative effect of the board compensation on cost of equity.

H12c: There is a negative effect of the board size on cost of equity.

H12d: There is a negative effect of board compensation on cost of equity.

1.5.2.3 Research question 3 and hypotheses

Research question 3: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect weighted average cost of capital of listed companies on the Stock Exchange of Thailand?

Research hypotheses: The hypotheses developed to answer the third research question included:

H13: There is a negative effect of control variables on weighted average cost of capital.

H13a: There is a negative effect of the firm size on weighted average cost of capital.

H13b: There is a negative effect of the leverage on weighted average cost of capital.

H14: There is negative effect of rights of shareholders on weighted average cost of capital.

H14a: There is a negative effect of the annual general meeting on weighted average cost of capital.

H14b: There is a negative effect of the dividend yield on weighted average cost of capital.

H15: There is negative effect of equitable treatment of shareholders on weighted average cost of capital.

H15a: There is a negative effect of the proxy voting on weighted average cost of capital.

H16: There is negative effect of role of stakeholders on weighted average cost of capital.

H16a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on weighted average cost of capital.

H17: There is negative effect of disclosure and transparency on weighted average cost of capital.

H17a: There is a negative effect of the share held by the five largest shareholders on weighted average cost of capital.

H17b: There is a negative effect of the corporate governance reporting on weighted average cost of capital.

H18: There is negative effect of responsibilities of the board on weighted average cost of capital.

H18a: There is a negative effect of the audit committees on weighted average cost of capital.

H18b: There is a negative effect of the CEO duality on weighted average cost of capital.

H18c: There is a negative effect of the board size on weighted average cost of capital.

H18d: There is a negative effect of the board compensation on weighted average cost of capital.

1.6 Definition of Terms

1.6.1 Corporate governance as defined by the Organization for Economic Cooperation and Development (OECD) is involving in the directing and controlling processes via the rights distribution and responsibilities specifying among various of organization participants such as the board, shareholders, managers, and other stakeholders to place the procedures and rules in decision making based primarily on the organization objectives. Corporate governance can also mean each corporate governance characteristic that can be divided into five variables: rights of shareholders, role of stakeholders, equitable treatment of shareholders, disclosure and transparency, and responsibilities of the board.

1.6.2 Rights of shareholders mean the business ownership rights of the shareholders which able to control the business via the board of directors appointment to work on their behalf with the decision making rights on the key business changes. Thus, shareholders must be facilitated by the business to exercise their rights. Regarding to this, the main focus is on the crucial placed on ownership of the business with the independence in decision making without any of impact. For instance, the business matters like business strategy or investment changes in the large project scale, the need for shareholders meeting approval.

1.6.3 Equitable treatment of shareholders refers to the equality per shareholding of foreign and minority shareholders, and it can also be said that though the different amounts of shares are held by every shareholder, both shareholders either the management or non-management should be equally and fairly treated regardless of race, age, gender, religious, and political affiliation. Moreover, for minority shareholders that usually face with rights violation, they must have the chance to

properly address such of situation. For instance, the representative of minority shareholders should be appointed as the board directors. The minority shareholders can fully exercise their rights in voting and ensure that their interests are protected.

1.6.4 Role of stakeholders with the rights recognition and the corporation and information-sharing encouragement are required to be established in the company law. Undoubtedly, there are ranges of stakeholders in any business including shareholders, the board of directors, management, staff, creditors, customers, communities, competitors, nation, and world communities. The process should be established by the board of directors to promote the active cooperation between the stakeholders and the organization to form the financially sound enterprises, wealth, and sustainability. This is, for example, the environmental impact assessment (EIA) implementing in the project that poses with the particular risk that direct toward the lifestyles changing in the society and community and so on.

1.6.5 Disclosure and transparency means that all related crucial information for the firm must be ensured from the board of directors either financial or non-financial to be disclosed in the accurate way, with the correctly content and on timely basis with the transparently channel of easy-to-access with trustworthy and fair. The firm's financial reports quality is crucial to all shareholders and outsiders in their determination for investment. Thus, the confidence should be formed by the board that all presented information in the financial reports is accurate and has been independently audited by the external auditor.

1.6.6 Responsibilities of the board refer to the crucial role plays by the board of directors in corporate governance regarding the act for the company's best interests. The board must be accountable among the shareholders with the independent of management.

1.6.7 Cost of capital consists of cost of debt, cost of equity, and weighted average cost of capital

1.6.8 Cost of debt is traditionally defined as the effective rate that a company pays on its current debt. The company will use various bonds, loans, and other forms of debt, so this measure is useful for giving an idea as to the overall rate being paid by the

company to use debt financing. The cost of debt is calculated as the average interest rate on the debt of the company.

1.6.9 Cost of equity is the return (often expressed as a rate of return) a firm theoretically pays to its equity investors, shareholders, to compensate for the risk they undertake by investing their capital (Brav et al., 2002). This study used the Capital Asset Pricing model (CAPM model) to measure the cost of equity which is the expected return from the investors' perspective.

1.6.10 Weighted average cost of capital means the return rate as the ordinary shareholders of the company required in order for that investor to hold the risk from the company's shares holding. The return consists of either the capital or dividend gains, and it means the expected of future returns, not the historical returns which is that the cost of capital is the weighted average of the after-tax cost of debt capital and cost of equity based on the proportion of debt and equity in capital structure of the firm.

1.7 Delimitations and Limitations of the Study

This study used the secondary data obtained from the financial reports of Thai listed companies in 2014 which are available in the database of setsmart.com, and other data were obtained from the website of the Stock Exchange of Thailand or the company's own website. This study has some important limitations which are required to be considered when interpreting the results. To start with, corporate governance variables for this study were small as there are many unknown corporate governance variables which have a significant impact on cost of capital. This could result in a spurious association between corporate governance and cost of capital. Even though this study attempts to control the factors suggested by prior studies, there are still some other factors which have not been controlled. Second, corporate governance measures in this study did not differ from prior studies in some respects. The findings would have been enhanced if more new corporate governance measures had been suggested. Finally, the access to the accounting policy of some organization was simply not possible for reasons of commercial confidentiality.

1.8 Scope of the Study

The sample group used for this study was the listed companies on the Stock Exchange of Thailand which have annual accounting period that end at 31st of December 2014. The industrial group used for this study consisted of seven industrial groups and the companies were selected from all industrial groups except those with the characteristics including financial businesses, finance and securities, banking, and insurance since the property and debt of such industrial groups are different from the others. These companies excluded from the study were delisting companies, possible delisting companies, companies which are under a rehabilitation plan, newly listed companies for 2014, and companies which have incomplete data in the database. A total of 303 firms were analyzed, and all the data requirements for purpose analysis which describes the links between information risk and financial data were considered. In addition, the researcher collected the information from annual report 56-1, book, and reliable reference journals. This collection from annual reports of companies and financial data were obtained from the Stock Exchange of Thailand.

1.9 Significance of the Study

This present study was constructed on the concept of how to make firms have lower cost of capital from the investor's point of view. Previous studies have addressed many issues related to this area. Corporate governance has come under increasing focus in line with this trend. However, the use of proxies to represent corporate governance is somewhat controversial because they are subjective and depend on the judgment of researchers. Therefore, this present study endeavored to point out corporate governance proxies to represent the corporate governance measurement of firms. Almost all corporate governance measurements were collected from publicly available data.

The study contributed to the existing body of knowledge as well as making up for the paucity of scholarly papers in Thailand on firm's corporate governance and cost of capital. Besides, the findings of this study could aid an effective and efficient financing decision of firms in Thailand. This study could be useful in providing insight and knowledge for students and others who are interested in corporate governance and cost of capital. Definitely, academic and business interests do overlap, particularly in

financial management and operations research. The students who learn information in the academy will then use it in the world of business, and the businesspersons may also return knowledge to the academy. This is why this study was designed to benefit both academic and business research. Moreover, consultants or financial advisors could also use the findings in order to provide suggestions for their clients. Executive would adopt the findings in order to improve corporate governance organization and planning.

Investors can use the cost of capital technique for supporting better investment decisions while legislators could adapt the findings from this study for establishing the new regulations for listed companies. SEC can also use the findings from this study to facilitate useful information in order to find suitable solution to enhance level of good corporate governance in listed companies. As a result, the Stock Exchange of Thailand would be trustworthy institution on stage of the Association of South East Asian Nations: ASEAN and Global Community. SEC also monitors efficiency of criteria which the Stock Exchange of Thailand try to improve good governance level of listed companies on the Stock Exchange of Thailand. Finally, this present study mainly contributed two main issues to the relevant literature. The first issue of contributions is that it fills the gap regarding what proxies are used to measure corporate governance mechanisms in emerging markets. Second, it attempts to fill the gap among previous studies which introduced new scoring systems and were somewhat subjective in their use of publicly available data.

1.10 Procedure Used to Present the Research Results

Chapter one provided the research background and significance of the problems, theoretical views, purpose of the study, scope of the study, research questions, research hypotheses, definition of terms, limitations and delimitations of the study, and the results presenting procedure of the study.

Chapter two presented the relevant research theories and concept as well as the relevant documents and research survey. This chapter contained with main parts including 1) explanatory and dependent variables concept and 2) related theories and research studies.

Chapter three presented the methodology of this study regarding the model/ theoretical framework development, the areas of study, population and samples, data collection, processing and analysis, method of measurement, summary of variables, and research conclusion.

Chapter four discussed the data analysis which consisted of descriptive statistics and inferential statistics, data analysis on the effect of corporate governance on cost of capital, empirical data in Thailand, the results of this study from the suitability model test, hypothesis testing, and controlled variables testing results.

Chapter five summarized the major findings of the study and the discussion of the research results including recommendations for future researches. The importance research references for the extended research papers were also provided in appendices.

CHAPTER 2
REVIEW OF THE LITERATURE

2.1 Introduction

The main purpose of this chapter was to provide a review of the literature which were considered as the key theoretical issues related to the research study proposal of corporate governance mechanisms and cost of capital. This chapter started with the background of the corporate governance mechanisms and cost of capital and introduced the procedure to separate variable corporate governance. Moreover, discussion of the theoretical concepts which guided this study was also necessary to understand management's incentive. The first theoretical underpinning came out of the theory of corporate governance (agency theory and stakeholder theory). The second theoretical underpinning came out of the theory of cost of capital (capital structure substitution theory and risk theory). The final was that board of directors is intended to operate as a governance mechanism overseeing managerial actions and ensuring they are in shareholders' best interests. This study integrated two research areas which were corporate governance mechanisms and cost of capital.

2.2 The Theoretical Concept

2.2.1 Agency Theory

Agency theory (Demsetz, 1985; Fama, 1980; Jensen and Meckling, 1976) recognizes that managers may not have free reign to pursue their own risk preferences. It focuses on the problem of a principal owner, shareholder, and higher-level manager trying to get an agent employee, CEO, lower-level manager to act in the principal's interest. Although the details vary somewhat, the models usually assume a risk-neutral principal and a risk-averse agent. The agent gains utility from income and some activities which are not in the principal's interest such as shirking and providing excess benefits to managers. The models assume that the principal cannot observe the agent's behavior. In other words, the models generally assume the principal can be trusted, and there is a random component to the relation between effort and performance. Even though agency models have been widely applied in strategic management, their

application in the organizational risk literature has been limited. Wiseman, Gomez, and Mejia (1998) developed a behavioral model of agency and risk by incorporating prospect theory arguments into and agency framework. Due to the capital structure agency, its cost theory as propounded by Jensen and Meckling (1976) is stated that an optimal capital structure could be determined from the arising of costs minimizing from the conflicts of the involved parties. The argument is made that the important role is played by the agency costs in financing decisions according to the potential conflict to exist between debt holders and shareholders. When the firms are approaching the financial distress, shareholders may be able to enhance the decision-making by management which will influence on the debt holders expropriate funds on capital holders. In this extension, the common result is the related costs leverage, such as agency and bankruptcy costs, and a tax advantage of debt produces in combination with the structure of optimal capital for lesser than a 100 percent debt financing when trading off the tax advantage against potential of cost incurring (Babalunde and Sankay, 2011). However, this is empirically estimated by Parrino and Weisbach (1999) that the agency cost of debt is too few to offset the benefits from tax. By the way, debt moderates the conflict between manager shareholders and lessen the cost of capital of the agency by raising the ownership share of manager in the firm. In addition, debt can reduce the cost of capital of agency via the available free cash amount reduction for managers to engage in the pursuits because the firm is committed to pay off the cast to debt (Jensen, 1986). It is cited by Srichanphet (2009) on the agency theory which Jensen and Mecking (1976) have developed in the concept that the ownership cannot solely manage on their business. They need to have an agent or find someone to assist them in the organization's business management. The principle or ownership will decentralize their managerial power to the agent and the relationship of the agent, and the principal will be efficient if the agent manages the business with the consistent profits maximization with the ownership needs. If the agents have self-opportunism via the management by themselves, the relationship will be inefficient and direct toward the agency problems. The agent is managed under the board of directors' control as the business owners or shareholders have assigned. The board of directors will specify the organization strategies and direction for the business objectives achievement. Managers and agents

are employed for work supervision the employees in such strategies execution. It can be measured on the management by the agents on their account which is able performance.

2.2.2 Stakeholder Theory

Stakeholder theory is the heart of corporate governance in which the rational or interpretation on the composition of the stakeholder is mainly depended on the characteristic of the company not the repetition. It is the applying to use for the appropriateness in each organization or situation. This theory stresses on the consideration and understanding of organizational stakeholders either directly or indirectly. The organization should analyze to acquire the right and completely organizational stakeholders. According to the stakeholders theory by Freeman (1984; 2007; 2010), though Freeman is accepted to be the founder of the stakeholders theory (Green and Donovan, 2010), but as a humble scholar, he has never admitted being the founder of this theory. On the contrary, he accepts that the Stanford research institution has brought the concept of stakeholder onto the academic venue for the first time in 1963 (Freeman, 1984; 2010). This theory needed to pass so many years of test since it was announced by Freeman in 1984 (Freeman, 1984). Until 2010, the list of associate academicians to this theory was revealed, and many of them are to support and criticize for the stronger of this theory since it had the links with the management theory from many branches such as organization theory, CSR concept, system theory, and strategic management (Freeman, 2010).

Stakeholders theory according to Freeman has been developed for more than 30 years until it gains the widely acceptance from the academics and organization management. In the current world that the management's ethical problems begin to have the negative effects on global industry, this theory provides the exit that the management must shift from the management only toward the benefits of the shareholders to be the management for stakeholders. The values from this theory in the management are to form the shared values between all stakeholders and thing to manage for the stakeholders is ethic and management leadership. This conforms to post Lawrence (2002) who defined stakeholder as a person or group with the impact or being affected from the decision, policy, and the organizational operation. Stakeholders theory extends the understanding of the nature of the company that should reconsider on the

stakeholders on the wider perspective. The company is expected to be responsible for the society and take care more of the stakeholders as well as take care the quiet stakeholders such as local community and environment. Stakeholders theory is the key root for the CSR concept development that the management should process on the right things by considering other stakeholders together besides the benefits of the shareholders or the business owners. This also connects with the characteristic of leadership with changes in qualification (Waldman et al., 2006). Besides, it requires the counter balance through the connection with the participation of stakeholders. In brief, this can be said that stakeholders theory is the theory that related to the rising of CSR and linked with the factors of leadership for changes and participation of stakeholders.

Stakeholders theory accepts that the management who rules the business according to the guideline of stakeholders theory shall be much sacrificed for all stakeholder parties being affected under their management not only the shareholders. In the beginning step of this theory, there are three very important dimensions: descriptive ethics, ethical instrument, and ethical norm. It is to form the relationship with all stakeholders' parties and reflect that the stakeholders are partly crucial for the business success, and thus emphasizing on the ethical responsibility of the management toward the stakeholders as well (Green and Donovan, 2010). The argument on the concept recently may state that the concept of "stakeholders" by Freeman gained acceptance from the evidence of published researches in the Journal of Business Ethics which used stakeholders theory as the core for the research in any aspects. The examples are on the stakeholders' management aspect as another potential among the three in CSR (Torugsa et al., 2012) and on the stakeholders theory development aspect due to the academics request for the strategic and ethic integration and develop the dynamic standpoint for stakeholders management. On another aspect, it can be seen as another level of development of stakeholders theory that aims to present the ethical responsibility toward the stakeholders. Stakeholder's management according to this theory shall be done toward sustainability (Gibson, 2012). Before this, some came out to place the question on the stakeholders theory whether how to fairly manage on the relevant parties (Orts and Struder, 2010). However, even the theory owner has also suggested

that to be best understood on the stakeholders theory, it shall be brought to practice in the management level (Freeman et al., 2012).

Besides, some suggested in different perspectives; for instance, many academics suggested that stakeholders were affected from the complementary on each other (Fassin, 2012) while some groups considered that in the past stakeholders researches were conducted only in the big organization or only domestic research for the SMEs organizations. Therefore, this group has conducted the study with SMEs organizations in six European countries. After the study, it is suggested that stakeholders' management shall pay more attention on the issue of institution environment, language, and culture which can shape up the national economic forms for those in Europe (Schlierer et al., 2012). As mentioned above, it can be seen that Freeman's stakeholders theory is also the main theory used in the business ethic management and industry management.

According to the above information, stakeholders theory consists of three main parts including (1) the stakeholder groups both internal and external to the organization, (2) the aim at management for stakeholders that is "to form the shared value between stakeholders," and (3) moral leader is the proper management person that suits management for the stakeholders and can apply this theory to support the study on the impact of corporate governance on cost of capital. It is the main theory used as the ethic in business management which directly related to the stakeholders.

2.3 The Concept of Corporate Governance Mechanisms

Organization management that would lead to the growth, prosperity, and wealth required any members of the organization to clearly understand the overall of good corporate governance mechanisms. Each business is expected that the good corporate governance mechanism will leverage the operation performance and create the confidence for investors as well as all relevant parties. In the management, the agency which is executive directors who work on behalf of the principal which is the shareholder party who assigned the agency to work instead of them. Therefore, the good corporate governance will help control the executive directors to try to generate the highest values to the business rather than for their own benefits.

In 1997, Thailand faced with the financial crisis that had been attributed to poor corporate governance. It is indicated in the study by Alba, Clasessens, and Djankov (1998) that the finance, banks, and securities organizations were lack of enough cautious on lend providing. It is reported from Prowse (1998) about the efficient corporate governance mechanism and the economic crises relationship while it was found by Maher and Anderson (1999) on the inefficient corporate governance mechanism that could be an accelerating factor for Thailand economic crisis.

The issues were investigated by Alba, Clasessens, and Djankov (1998) on the problems of Thai corporate governance which they concluded that the most significant task for the corporate financing structure and the corporate governance framework improvement was to shift the incentives through the enhancing on enterprise monitoring, disclosure improving, better enforcement on the rules of corporate governance, accounting practices, capital institutions facilitation, and institutions strengthening. The evidence is presented from Johnson et al. (2000) that the legally weakness for the corporate governance can have crucial impact on the extent of the declining of stock market and currency depreciations in the Asian crisis. Suggestion is made that in common corporate governance and the de facto protection from the rights of minority shareholder have mattered a great deal in particular in the extent of depreciation in exchange rates and stock market declining during 1997 – 1998.

In Thailand, the Asian financial crisis had been commenced in 1997. Some of the basic issues were analyzed by Khan (1999) in associated with the post corporate governance mechanisms reforming after Asian crisis. The thinness bond and equity markets of many developing economies in Asia were addressed as one among the problems. Moreover, problems also come from the weaknesses or absence for the appropriate regulatory structures with accountability and transparency. The poor corporate governance is claimed as one of the key contributing factors toward the vulnerabilities forming on the affected nations which at last is led toward the financial crisis in Asia in 1997 (Alba et al., 1998, Keong, 2002; Claessens, Djankov, and Lang, 2000).

Due to the global corporate governance, in 2001 the corporate crises in the U.S. took place at Enron, Tyco International, WorldCom, Global crossing, Adelphia communications, computer Associates, Quest communications, and Arthur Andersen where these led the U.S. congress to enact the Sarbanes-Oxley Act (2002). It was stated by Kiel et al. (2004) that the attempt of the U.S. was to achieve the good corporate governance where the report of the NYSE on the Corporate Accountability and Listing Standards committee, and the Report of the NACD Blue Ribbon commission on the role of the board in corporate strategy were established with the introduction of 2002 Sarbanes-Oxley Act. As suggested by Denis and McConnell (2003), the publicly traded firm's ownership is crucially more focused by other countries than in the U.S. It appears that the private ownership concentration has the positive influence on the firm values. The case of study on Enron's downfall by Solomon and Solomon (2004) illustrated the crucial of good corporate governance as they mentioned that all balances and checks in the corporate governance mechanism possess the ultimate goal to control and monitor on the organization management. The investigation was conducted by La Porta et al. (1998) on whether the legal system has a fundamentally importance for the corporate governance mechanism. Particularly, it was argued that in the extent where the laws of the country protect the rights of investors and the extent to which those laws are enforced could be the most basic determinants for that country evolving the corporate governance and corporate finance.

The new principles were accepted by OECD governments in April 2004, where it covers on six major areas of corporate governance. Those are to ensure for the effective corporate governance framework basis, the shareholders' rights, their equitable treatment, their role in corporate governance, transparency and disclosure, and the board responsibilities (OECD, 2004). In the corporate governance principles, the following information was offered from OECD (2004) as "corporate governance involves a set of its board, its shareholders, and other stakeholders and the firm's management relationship." Also, the structure was provided from corporate governance though which the company's objectives are established with the mean to attain on these objectives via the determined performance monitoring.

Increasingly, the emphasis of corporate governance has been on either the academic or practice research (Sarbanes-Oxley, 2002; Bebchuk and Cohen, 2009). This emphasis can be seen in the highly publicized and egregious financial reporting frauds prevalence part just like n Aldelphia, Enron, Parmalat, and WorldCom, an unprecedented restatements earnings amount (Richardson et al., 2002; Palmrose and Scholz, 2004; Larcker et al., 2004) and the blatant earnings claims as manipulated by the management of the corporate (Krugman, 2002). Moreover, the association is found from the academic research between the poor quality of financial reporting and the governance weaknesses as well as the financial statement fraud, weaker internal controls, and earnings manipulation (Dechow et al., 1996; Beasley, 1996). There has been the emphasis on the requirement for the corporate governance improvement over the process of financial reporting within this development. For example, Levitt (1998) enacted the reformation of the audit committee effectiveness improvement and make more accountable on the management and board of directors in confirming for the financial reports integrity and the fast corporate governance research body expansion.

Determination of corporate governance practices can be done via the nature and scope of the problems from associated agency firms (characteristics of agency) such as their external investors or external investment attractive requirements which is difficult for firms monitoring. As argued by La Porta et al. (1998), the good corporate governance required for the for better stepping into the external financing at a lower cost which indicated that the companies should have a good deal with the external financing such as the fast growing businesses with the incentive for their corporate governance improvement. Hubbard and Palia (1999) make additional argument that the large information asymmetries will be faced by the firm since its own characteristics may signal the market to intent on better investors' protection via the good corporate governance policies adopting. This could be the large and young or the firms with the relatively huge intangible assets case.

In the previous decades, the governance concept obtained the central place among the discussion by scholars on the public authorities, the civil, and business companies relationship (Lewis, 2011). The corporate governance concept refers to the structures and processes in the corporation management and the business systems

(Zlatkovic, 2014). A managed and controlled mechanisms set by the corporation leads to the corporate governance where it has the role to form up the framework for the most crucial goals and decide the means to achieve them and monitor the effectiveness in the implementation to ensure for the corporation social and economic balancing (OECD, 2004). Corporate governance is a key investors' confidence improvement element in which it boosts up the economic progress and of the competitiveness (Todorovic, 2012).

The mechanisms for corporate governance are included with the monitoring on the corporations and their agents' policies, action, and decisions. The practices of corporate governance can be affected by the aims to align the stakeholders' interests from the modern corporation governance practices, in particular the association with the accountability that will come with the increase of high-profile collapses among the number of large corporations just as in 2001–2002 that most of them involved accounting fraud. In addition, after the 2008 financial crisis various forms of corporate scandals have been maintained with public and political interest on the corporate governance regulation. These include Enron and MCI Inc. (formerly WorldCom) in the U.S. where they have the associate demise with the federal government of the U.S. who passed the Sarbanes-Oxley Act in 2002 with the intent on public confidence on corporate governance restoration. The corporate governance is defined by La Porta et al. (2000) as the mechanisms set in which the external investors can guard themselves from the insider expropriation. The corporate governance regarding Caramanolis (1995) will be determined from the allocation of equity among the insiders (including CEOs, directors, executives, or any individual, and the institutional or corporate investors with management affiliation) plus the external investors. It is suggested from Hart (1995) that the issues of corporate governance pop up in the firm whenever the two conditions exist. First, it is the problem from an agency or the involving organization members' conflict of interest, and they can come from the manager, workers, owners, or even the consumers. Second, the transaction costs annot deal by the agency via contract. The corporate governance as defined by Shleifer and Vishny (1997) is said to deal with the ways that the financial suppliers of the firm can make sure that they will get the investment returns. This is included since the stakeholders are not only the shareholders

but also the holders of debt and even for the non-financial stakeholders like suppliers, employees, customers, and other interested parties.

Broadly, the term “corporate governance” refers to the processes, mechanisms, and the relations directed and controlled by the corporations. The term is also defined by Srichanphet (2010) as “a system with the leadership and corporate control structure and process to establish the transparent working environment and to enhance the competitiveness of the firm to increase the long term value of shareholders and to preserve the capital taking into account the business ethics, society and the other stakeholders interests.” Rights and responsibilities distribution among many corporation’s participants is addressed as the structures of governance, such as the board of directors, shareholders, creditors, managers, regulators, auditors, and other stakeholders, including the corporate affairs decision making rules and procedures. Corporate governance also accounts for the processes that the corporations’ objectives are set to pursue in the regulatory, market, and social environment context.

Frequently, corporate governance is seen as either the structure or the relationships that shape up the corporate performance and direction. Typically, board of directors is the hub of corporate governance where it has the relationship to other primary participants which is normally critical management and shareholders. The employees, creditors, suppliers, and customers are included as the additional participants.

Corporate governance on cost of capital is presented with diverse concepts from many literatures which conducted the research in different ways, such as on the impact and relationship of the corporate governance on cost of capital. The impact from the attributes of the governance is investigated by Ashbaugh-Skaife et al. (2005) on the quality of financial information, structure of ownership, the board structure, and rights of shareholder on cost of capital of the firm. They presented in the results that both the board structure and the quality of financial information are negatively implied on the estimation of capital cost of capital while concentrating on the ownership in form of block holders amount seems to be positively related to the implied cost of capital.

The corporate governance impact on cost of capital was explored by various authors (Mazzotta and Veltri, 2014; Tran et al., 2014; Huang et al., 2014; Bozec et al., 2014; Sthienchoak, 2013; Regalli and Soana, 2012; Anuchitworawon, 2010; Bozec et al., 2010; Shah, 2009; Chen et al., 2009; Reverte, 2009; Byun et al., 2008; Derwall and Verwijmeren, 2007; Ashbaugh-Skaife et al., 2005; Chen et al., 2003; Stulz, 1999) while the outcomes from them presented the negative association between cost of capital and corporate governance.

The corporate governance theory is formed by various authors (Rad et al., 2013; Kangarlouei et al., 2012; Core et al., 2010; Skaife et al., 2009; Attig et al., 2008; Trangadisaikul, 2007; Hail and Leuz, 2006; Anderson and Reeb, 2004; Shleifer and Vishny, 1997; Fama and French, 1993) which is said to consist of five characteristics including the rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board. It is asserted by the National Corporate Governance Committee that the governance can be defined through various perspectives as shown in the following examples:The relationship between the firm's board of directors, its shareholders, and other stakeholders, and its management team to lead the firm toward its operation with direction and monitoring;

1) The internal process and structure to ensure that the performance of management team is transparently and effectively assessed by the board of directors; and

2) There is the leadership and corporate control structure and process in the system which is for capital preservation, increases the long-term values of shareholder by stating about the business concerns on the ethics as well as the stakeholders and social interests, and enhance the company's competitiveness form the transparent working environment.

As mentioned above, the corporate governance definition as provided from each researcher tends to have the same meaning by giving the essential to the ownership structure, board of directors, transparency and disclosure process. These concepts of corporate governance have been used in many studies as the research fundamental. The strong evidence is shown the negative relationship of corporate governance to cost of

capital. In Thailand, the corporate governance report is done by the Thai Institute of Directors Association (IOD) which presents the evaluation results of the Thai listed companies' corporate governance since 2001. The importance of this research is recognized by Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) as they supported on this project with the hope to raise the corporate governance standards which will benefit to both the companies and investors. The current criteria for evaluation are the ratings or the corporate governance indexes (CGI) based on the code of practice components. Thai listed companies are assessed by 132 criteria within the five following categories as given corporate governance principles by the Organization for Economic Cooperation and Development (OECD):

1) Rights of shareholders
2) Equitable treatment of shareholders
3) Role of stakeholders
4) Disclosure and transparency
5) Board responsibilities

2.3.1 Rights of Shareholders

Stakeholder shall receive the good care from the company according to the relevant rights from the laws. The board of directors shall consider the promotion on the cooperation between the company and the stakeholders to build the wealthy and financial security for the business sustainability.

The basic rights of the shareholder are buying and selling or stocks transferring, receiving the dividends, receiving sufficient news and information about the business, attending the meeting to exercise the rights to vote in the meeting of shareholders to appoint or sack the board, appointing the audit board, and any impact issues to the company such as dividends arrangement, setting or amending the regulations and memorandum of association, cutting or increasing the cost, approving for the special issue, and so on.

Shareholder should acknowledge the rules and procedures to attend the meeting and sufficient information to consider on each agenda before meeting as well as has the chance to ask the board either in the meeting and submit the questions in advance, and suggest the meeting agenda and the right to assign the proxy to join the

meeting. The structure of shareholder must be clear and fair. The board of directors and large shareholder has no benefits which may have conflict with the best business benefits and nothing to doubt that the management mechanism cannot preserve the right of shareholder or is unable to treat the shareholder in fair manner (Securities and Exchange Commission, Thailand, 2015). Therefore, the board of directors shall arrange the meeting with shareholders in a form that supports the equal treatment on all shareholders since the role of stakeholders partly helps forming the value adding to the business which conforms to the research by Chi et al. (2005) which revealed that the corporate governance on the rights of shareholder has the positive relationship with the shareholder in protecting the reign on the business. The disclosure of corporate governance as well as the structure of board function is conformed to the research by Bauer et al., (2004) that the level of corporate governance (rights and responsibilities of shareholder) have the positive relationship with the company value by measuring from the higher profits and the returns per ratio of shareholder.

There are many groups of stakeholders in the corporate governance mechanism, thus the board of director shall know about the right of stakeholders as stated by laws and make sure that the rights will be protected and treated so well. Moreover, it should promote for the cooperation between the companies and stakeholders to form up the security, employment, and secure financial business.

The category of rights of shareholders intends to evaluate whether the firm acknowledges on the rights of shareholders in its business affairs while the firm with good-governed will be able to ensure the well facilitated of the shareholder's rights. Shareholders must be capable of their ownership rights exercising where this includes the rights to join in annual general meeting (AGM), the get the dividends, and the company's directors election.

Good corporate governance is essential since most of the big firms will not let the business to be managed by the owners of funds while the managers cannot own the funds. The company's rules, mechanisms, and regulations are described in terms of "good corporate governance" to ensure the shareholders' rights protection (owners of funds), and the company management should be at best and gain the long-term interests

from shareholders and management which they have the key role in good corporate governance placing.

Shareholders can vote once on each holding share at the general meeting, and they have the right on any equal share dividend as well as on any surplus assets or the remaining assets when the firm paid its creditors prior to removal from the registration. All of these rights can be varied in a constitution. The previous theory and empirical researches documents suggest a link between the strength of corporate governance and cost of capital. In the theoretical views, weak mechanism of corporate governance is suggested to direct toward the higher risk for agency and the uncertainty for the future cash flows (Jensen and Meckling, 1976; Jensen, 1986; Bhojraj and Sengupta, 2003). The examining can be seen from a body of work on the corporate governance role to explain the performance by the firm and to lessen the costs for agency and relevant works by Gompers et al.'s (2003) G-score to the performance of the firm. As cited in Monks (2002), the evidence from some surveys suggest that the institutional investors can contribute 20 to 40 percent of a firm's value to corporate governance. Previously, Gompers et al. (2003) noted that the stronger corporate governance seems to link to the positive unusual returns, higher firm values, profits, sales growth, and lower capital expenditures as well as fewer corporate acquisitions. It is found by La Porta et al. (2002) that the firm's value is positively related to the minority level of shareholder rights. The greater institutional ownership and stronger outside control is linked by Bhojraj and Sengupta (2003) to the two corporate governance mechanisms and the lower yielded bond with the higher ratings bond from the new bond issues. It is documented by other researches that the stronger corporate governance is linked with the lower managerial opportunism likelihood (Frankel et al., 1995; Klein, 2002) and more timely information on accounting and more informative earnings (Anderson et al., 2003). Therefore, these empirical findings suggest on the positive implication on shareholder wealth in the firms with the stronger rights of shareholder.

Direct tests on the connection between the strength corporate governance and the implication of capital cost of capital have recently been formed. Value Line adoption by Ashbaugh et al. (2004) was expected for the returns as their implied proxy for cost of capital, and they stidied on the influence of various current governance

mechanisms on the cost of capital. The prediction is made that the stronger mechanisms on corporate governance must be linked with the lower capital costs. In fact, it is found that the governance attribute numbers are related to the anticipated returns. In addition, they examine the entrenchment index by Bebchuk (2005) as part of their tests; however, none of significant association is found between the index and expected returns.

2.3.2 Equitable Treatment of Shareholders

The board of directors must be aware and equally pay attention to the rights of shareholder and do not act on anything that will breach or reduce the shareholder's right as well as facilitate the shareholder who is the owner of the money to equally make decision on the important issue of the firm either the large shareholder that has authority to control or the small shareholder and other stakeholders such as staff, partner, customer, or creditor that differently expected from the company. The board shall take care on the right protection and treat each group well for the company and stakeholders to cooperate in forming the security and advancement for the business.

In the shareholder meeting, the chairman of the meeting shall arrange the appropriate time and promote shareholders to have equal opportunity in giving opinion and any questions to the meeting.

The shareholders' equitable treatment category states on whether the treat on minority (noncontrolling) shareholders is equally and fairly with the controlling shareholders. The process of AGM, for instance, must allow the participation of every shareholder without undue complexity in the meeting. Moreover, the external shareholders should be guarded from potential (tunneling) via the direct and indirect shareholders' act through nonpublic information material used and the relevant party transactions (RPTs) (The Securities and Exchange Commission, Thailand, 2015).

2.3.3 Role of Stakeholders

The board structure should be appropriately balanced, and each board should independently present their role and function to set the crucial policy, look after the conflicts of interest, and follow up the management operation to be in accordance with the policy effectively under the acceptable risks for the utmost benefits of the firm and overall shareholders (The Securities and Exchange Commission, Thailand, 2015).

The category of role of stakeholders defined the corporate responsibilities issue to every of stakeholders. The corporate responsibility objective is to push for the positive effect in the activities of the firm related to the business partners, employees, environment, communities, creditors, other stakeholders, and consumers. This company's policies and practices will be examined in this category in pertaining to the stakeholders' acknowledgement and treatment.

2.3.4 Disclosure and Transparency

The very crucial thing for the corporate governance success is the financial disclosure and transparency since the financial report will be referred to by the shareholders, regulators, and investors in the management monitoring and the corporate performance assessment. Moreover, cost of capital disclosure and transparency consists of many conceptions according to different literatures which conducted the studies in various ways such as on the impact, the effect, and relationship of cost of capital disclosure and transparency.

The disclosure effect and the mechanisms of corporate governance is investigated by Chen et al. (2007) on the capital liquidity which they found that the poor transparency and disclosure of information practices companies have to face with greater economic cost of capital liquidity. Ashbaugh et al. (2004) support on the same view in conjectured that since the intent of the governance attributes on the agency costs reduction, they may have the crucial effect on cost of capital of the firm which the quality of financial information of the firm is negatively associated with cost of capital of the firm. The effect of disclosure level of the firm and corporate governance on cost of capital is examined by Chen et al. (2004) which they found that cost of capital in emerging markets can be significantly lower by the disclosure, and the effect can be only observed in the well investors protection countries. Thus, the disclosure level of the firm and the legal protection level of the country tend to have the complementary role in cost of capital reduction of the firm. The corporate governance usually has the key negative effect on tcost of capital under various specifications of regression. Moreover, this effect is only crucial for the nations that offer quite poor investors' protection. It is investigated by Chen et al. (2003) on the role of firm-level corporate governance, disclosure levels, and investor protection at the country level in nine Asian

countries' cost of capital reduction. The transparency and disclosure chosen is the sum of transparency and disclosure.

The board shall look after the firm in important information disclosure either the financial or non-financial information is correct, complete, and on time through the channel which can be easily accessed, equally, and reliable.

The board shall prepare the report to explain on their responsibility in making the financial report by presenting together with the report from the accounting auditor in the annual report. The report by the board shall cover the important issues according to the best practices for the board of the company registered on the Stock Exchange as suggested.

Furthermore, the board should ensure that the company has disclosed the important information in correct way, on time, and in transparent manner. There shall be the unit or responsible staff on the investor relations to be the representative to communicate with the institution investors, shareholders, as well as general analysts and related governmental units. The board shall seek for sufficient resources to help develop the knowledge and ability of the staff who present the information and communication. The roles and responsibilities of the board related to the information disclosure and transparency are as follows:

1) The board has the duty to disclose the information such as the financial information, performance result, and other relevant information that are accurate, complete, transparent, thorough, and on time for the company's shareholder and stakeholders to get the equal information.

2) The board should set the investor relations unit to be the representative to communicate on the company's information and the beneficial news to the shareholders, investors, properties analysts, and the relevance to know about the company's information.

3) The company has the policy to disclose the crucial information to the public related to the company objectives, financial status, and the company's performance, shareholder structure, and rights to vote, list of boards and sub-boards'name, president, managing director, and compensation. Moreover, the material foreseeable, risk factors, corporate governance structures and policies, as well as the responsibilities of the board

in the financial auditing report and the report of chairman of the executive board, and so on shall be considered. In addition, the company shall disclose the annual report about the number of meetings among the board and sub- board attended by comparing with the number of their attendance in each year and the information as required by the legal and regulation.

The news and information of the company should be deliberately arranged and thoroughly disclosed to the shareholders and stakeholders. It must use the easy understanding language, clear, transparent, and on time. The disclosure information includes financial status, the company's performance, and other information such as shareholding structure, company's objectives, and background and responsibilities of the board.

The category of disclosure and transparency focuses on the completeness, accuracy, and punctuality of the information disclosure by the corporate. The firm must disclose the corporate information material on timely basis with cost-effective manner via various channels which can be accessed by all the relevant and interested parties. The ownership structure of the firm, financial, RPTs, and other company performance information are the crucial items of disclosure.

Most theory of disclosure forecasts on the negative link between the levels of financial disclosure and cost of capital (Healy and Palepu, 2001) for a capital literature review by Core (2001) in this review discussion. Particularly, the firms serve to increase disclosures for information asymmetry reduction between investors and managers, thus lessen the cost of capital of the firm (Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994; Botosan, 1997; Verrecchia, 1999). Information asymmetry reduction will lessen cost of capital of the firm in three ways. First, a risk premium is demanded by investors to bear the risk of information. In the extent that the information risk is reduced from the disclosure, it results in effectively risk premium reduction on cost of capital (Handa and Linn, 1993; Merton, 1987). Second, more disclosure must lessen the risk pertaining estimation to the payoff distribution values of the firm (Barry and Brown, 1984; Clarkson et al., 1996). Finally, lower asymmetry is conjectured for the stock market liquidity enhancement and lessens cost of capital via the costs of transaction reduction (Kim and Verrecchia, 1994). The information risk, estimation risk,

and transaction costs extent seem to be impounded by the market, thus the cost of capital must be reduced from the more disclosures increasing.

2.3.5 Responsibilities of the Board

The category of board's responsibilities will describe the shareholders and other stakeholders the responsibilities, duties, and accountabilities of the board of directors (BOD). By taking all stakeholders' interests into account, the high ethical standards must apply by BOD to the business in order for the effective responsibilities fulfillment. The main responsibility of the board is guiding on the managerial performance, monitoring conflicts of interest preventing, and shareholders' decent return achieving.

The assessing category for board's responsibilities aspect is such as the corporate strategy development, monitoring schemes implementation, the pledge on transparent business practices, the acting of appropriate financial controls, prerequisites articulation for the candidates of directions, new board members orientation as well as the periodic and comprehensive performance evaluation for them, high ethical standards and legal norms adherence, the careful searching to seek for the best qualified chief executive officer (CEO), and supporting for CEO assessment. Due to the study on previous researches, it can be concluded in table 2.1 as follows.

Table 2.1 Summary of the effect of corporate governance variables on cost of capital

Corporate Governance Variables	Symbol	Measurement	Sign	Author
Rights of Shareholders - Annual general meeting	R_AGM	Rating of shareholder participation in Annual General Meeting	-	OECD (2004), Cheung et al. (2010), Connelly et al. (2012), La Porta et al. (2000), Trung and Heaney (2007), Thai Institute of Directors (2012), Ashbaugh et al. (2004), Hodges et al. (2004), and Apostolides (2007)
- Dividend policy	R_DIVI	Percentage of dividend payment	-	La Porta et al. (2000), Thanatawee (2013) Hicks and Allen (1934), Donaldson (1961), Myers (1984), Myers and Majluf (1984), Damodaran (1994), Lambert et al. (1989), and Trung and Heaney (2007)
Equitable Treatment of Shareholders - Proxy voting	E_PROXY	Dummy variable: 1 if the firm sent proxy voting form to shareholders with Annual General Meeting notice, and 0 otherwise	-	OECD (2004), Connelly et al. (2012), Gillan and Bethel (2002), and Romano (2003)

Table 2.1 Summary of the effect of corporate governance variables on cost of capital (Cont.)

Corporate Governance Variables	Symbol	Measurement	Sign	Author
Role of Stakeholders - Salary and bonus	S_MBS	Director remunerations (meeting allowance, salary and bonus)	-	The Stock Exchange of Thailand and Thai Institute of Directors (2012), Limpaphayom and Connelly (2004), Abbott et al. (2003), Tran et al., (2014), Botosan (1997), Sengupta (1998), Haye (1997), and Fama and French (1992)
Disclose and Transparency - Share held by the five largest shareholders	D_FIVE	Percentage of share held by the five largest shareholders	-	Demsetz and Villalonga (2001), Anuchitworawon (2008), Bozec et al. (2010), Core (2001), Botosan (1997), and Sengupta (1998)
- Rating of corporate governance reporting	D_CGR	Rating of corporate governance reporting	-	Brown and Caylor (2004), Gompers et al. (2003), Bauer,Guenster, and Otten (2003), Kelton and Yang (2008), and Klapper and Love (2004)

Table 2.1 Summary of the effect of corporate governance variables on cost of capital (Cont.)

Corporate Governance Variables	Symbol	Measurement	Sign	Author
Responsibilities of the Board - Audit committees	B_AUCOM	Number of audit committees	-	OECD (2004), Cheung et al. (2010), Connelly et al. (2012), La Porta et al. (2000), Demsetz and Villalonga (2001), Jensen (2000), Limpaphayom and Connelly (2004), Himmelberg et al. (2004), Abbott et al. (2003), and Anderson et al. (2003)
- CEO duality	B_DUAL	Dummy variable: 1 = CEO is not chairman of the board, 0 otherwise	-	Cavalho and Gorga (2010), Yermack (1996), Vafeas and Theodorou (1998), Anderson and Anthony (1986), Brown and Caylor (2004), and Brickley, et al. (1997)
- Board size	B_SIZE	Number on board of directors	-	Shah (2009), Limpaphayom and Connelly (2004), Shaw (1981), Chaganti et al. (1985), Mazzotta and Veltri (2014), and Reverte (2009)

Table 2.1 Summary of the effect of corporate governance variables on cost of capital (Cont.)

Corporate Governance Variables	Symbol	Measurement	Sign	Author
Responsibilities of the Board - Board compensation	B_COM	Total cash compensation, paid to board, estimated as the ratio of board compensation to the total number of board	-	Jensen (2000), Tran et al. (2014), Stuart and Robert (2004), Bryan et al. (2000), Conyon (1997), and Takao et al. (2003)

2.4 The Concept of Cost of Capital

2.4.1 Cost of Debt

Cost of debt is traditionally defined as the effective rate that a company pays on its current debt. The company will use various bonds, loans, and other forms of debt, so this measure is useful for giving an idea as the overall rate being paid by the company to use debt financing. Cost of debt measure can also give investors an idea as the riskiness of the company compared to others because riskier companies generally have a higher cost of debt. The cost of debt of any firms is impacted by numerous factors such as the characteristics of the firm, agency costs, and default risk for the bond issue, the information asymmetry problem (Bhojraj and Sengupta, 2003), interest rate (Diamond, 1989), leverage and cash flow from operations (Petersen and Rajan, 1994), and firm size. As stated in previous section, if corporate tax avoidance serves as a substitute for the use of debt (Graham and Tucker, 2006; Lim, 2011), it could increase financial slack, enhance credit quality, lower default risk, reduce expected bankruptcy costs, and consequently reduce the cost of debt (Lim, 2011). On the other hand, since firms use less debt when they take part in tax avoidance activity (Graham and Tucker, 2006), tax shelters serve as a substitute for interest deductions in determining the capital structure and cost.

The cost of capital is the suitable capital structure that mixes between the cost of capital of the shareholder such as the preference share and ordinary share while in the part of cost of debt such as debt that the business sets their goal to find the capital in the future in order to make the highest price of stocks and has the lowest cost of capital.

The cost of debt uses credit ratings and bond yield spread to measure a firm's cost of debt. These measures are commonly used to measure cost of debt (Minton and Schrand, 1999; Anderson et al., 2003; Elyasiani et al., 2010).

2.4.2 Cost of Equity

Cost of equity refers to the minimum investment return as wished by the investors. The measurement is done on the accounting framework with strong benefits for the investor decisions. The financing cost should be assigned by the company management to determine for the proper financial resources and these resources risk and efficient impact of the company (Alarm, et al., 2010). Normally, the cost of equity is termed as the expected return required on the uncertain future cash flows. Cost of equity is the opportunity for the firm shall apply to discount a proposed future cash flows as expected by the project by deciding on its added value and whether or not to make the investment accordingly (Debono and James, 1997). Cost of equity seems to be the very crucial accounting variable, and it is another reason to test the relationship between expected returns and information uncertainty by using the implied costs of capital. Cost of equity is an investment determination benchmark to create the optimal capital structure and performance measurement (Davari et al., 2005). It is revealed by Easley and O'Hara (2004) that the information quality and the information structure of the firm can affect its cost of equity. It is reported from the authors that the higher returns are required by investors in order to acquire the more private information on the firm's stock. This refers to that the better the information, the lesser the information asymmetry and the lower demand of return from investors because they consider the lesser risk of stocks (Stephen and De Jong, 2012). Holding the consistence of the expected future cash flows would lessen the prices equity; therefore, it is willing to pay by the investors. Total cost of equity is the fund cost aggregation from particular sources. Cost of equity can be measured using the capital asset pricing model (CAPM). CAPM is the concept related to risk and return. This concept states that the level of

return from any investment should depend on the risk of investment, and the high-risk investment shall give the high return as well. The principle of investment in CAPM concept can consider that the investor shall receive specific compensation from the risk of market since it is the kind of risk that cannot be avoided or managed by the investor. Therefore, any investment with risks shall give the return at least equal to the return from risk free rate investment plus risk compensation which is the proportion from the market risk premium. Government-issued instruments are considered to have low risk. In the calculation for the return of investment from risk-free rate, they usually use treasury bills and government bonds. From the past literature study, it is found that Model and Frontier (1967), Merton (1973), Abdesselam et.al (2002), and Damodaran (2010) use the government bond yield as the risk-free instruments since it is the instrument with very least risk from the miss payment of interest and capital which can be assumed as the free risk instrument. Thus, there are also other risk aspects such as price risk when there is the change in interest rates. For the treasury bill, it is the short term instrument not over than 1 year issued from the government for the short-term loan. This type of instrument has no interest, but the investor can trade it with the sale prices that are lower than the amount placed on the ticket, and the gap is the return to receive. From the studies by Fama and Gibbons (1984), Chen et.al (1986), Bollerslev et. al. (1988), Frazzini and Pedersen (2014), Attanasio et. al. (2002), Bali and Engle (2010), and Dempsey (2013), short term treasury bill is used as the representative to find out the rate of return from the asset with risk-free rate. In this case, this study therefore used treasury bill to calculate the return rate of asset with risk-free rate by collecting the data from the Bank of Thailand.

1. Cost of equity can be measured by using the capital asset pricing model of Fama and French (1992,1993): CAPM model

$$CE_{i,t} = R_{f,t} + \beta_{i,t} \left[E(R_m) - R_{f,t}\right]$$

Where:

$CE_{i,t}$ = the cost of equity of firm i at year *t* based on the CAPM model,

$R_{f,t}$ = the risk-free interest rate at year *t*,

$E(R_m)$ = the expected return on the market index (SET) and calculated from ten years historical returns of SET index.

$\beta_{i,t}$ = the CAPM risk of stock of firm *i* at time *t*, is the slope in the regression of its excess return the market's excess return in last three years. The regression equation is run on a weekly basis and is shown as below.

$$R_i - R_f = +\gamma_i + \beta_i \left[R_m - R_f\right] + \varepsilon_i$$

However, recent empirical work suggests that the CAPM is not a good explanation of expected returns.

10Cost of equity (Ke), the dependent variable, is estimated by using the one-stage Dividend Discount Model. This model, also known as the Gordon model (1959), shows that the price of a share at time *t* is the product of the ratio between the dividend at time *t*+1 and the difference between the cost of equity and growth rate of the share, or:

$$P_0 = D_0 \times \frac{(1+g)}{(K_e - g)} = \frac{(D_1)}{(K_e - g)} \qquad (1)$$

Where:

P_0 = the share price at time *t*;

D_0 = the dividend per share at time *t*;

g = the rate of growth of the dividends;

K_e = the cost of the equity;

D_1 = the dividend per share at time *t*+1.

Therefore, inverting (1), the cost of equity as:

$$K_e = \frac{(D_1)}{(P_0)} + g \qquad (2)$$

The growth rate g is estimated as:

g = ROE *x* (1 - Payout Ratio) (3)

3. Prior studies by Ohlson, Jeuttner, and Nauroth (2005) the cost of equity is calculated as:

$$K_e = A + \sqrt{A^2 + \frac{e_1}{P_o}[g_2 - (y-1)]}$$

Where:

K_e = cost of equity

A = [(y-1) + $D1/P_0$]

e_1 = Earnings per share for year 1

$g_2 = e_2 - e_1/e_1$

e_2 = Earnings per share for year 2

Y = constant (1+ growth rate g)

$D_1 = e_1 *$ dividend payout ratio

2.4.3 Weighted Average Cost of Capital

As the firm selects to use the different cost structuring ratio, it will have different impact on the weighted average cost of capital (WACC). The cost of debt will be lower than the cost of equity since the loan capital has the right to request before the preference share and the common share and the payment interests can be cut as discount for the income tax. Therefore, if the company chooses to use the loan capital in the high ratio, it will result on the reduction of the weighted average cost of capital while, at the same time, it makes the cost of capital risk and agent cost increase. On the other hand, if the company chooses to use the financial source from the shareholder in the high ratio, it will result on the higher weighted average cost of capital. From the differences in the weighted average cost of capital as mentioned, it will result in the difference in the economy value added accordingly.

The evidences are presented by many studies between cost of capital and corporate governance. For instance, Elton (1999) as stated in his 1999 AFA presidential address that “the applying of common equity, preferred equity, and debt are the three keys of most capital structures components.” As mentioned in the objectives, the focus of this study was on cost of common equity for cost of capital evaluation as derived from the common stock issue. The rights to claim on the company value during the time that the common shares are announced by firm are possessed by the common shareholders where the claim will be repaid after debt. It is indicated in the study of Reverte (2007) that the firms with stronger governance will be pleased with the cost of capital reduction such as in the Spanish capital market after the controlling size, beta, and market-to-book. According to the minimum rate of return, cost of capital is offered by the company for the shareholders in general. Literature review of cost of capital illustrates that the high quality of public information disclosing is related to the low cost of capital (Botosan, 1997; Botosan and Plumlee, 2002; Diamond, 1985; Diamond and Verrecchia, 1991; Easley et al., 2002; Lang and Lundholm, 1996; Welker, 1995). To

keep consistency with the top accounting researches, PEG model will be employed by this study to measure cost of capital (Botosan and Plumlee, 2005; Chen et al., 2004; Easton, 2004; Francis et al., 2004; Easton and Monahan, 2005; Li et al., 2010).

There are two dimensions for cost of capital: the internal and external. For the internal, cost of capital is applied in the evaluation on the firm's securities and performance while in the externally the key role of cost of capital is on the capital at optimal level and investment decisions (Osmani, 2002).

Despite the fact that the cost of capital is implied as so essential as the accounting variable, another reason to apply the implied cost of capital is to test on the information uncertainty relation with the expected returns. Many existing studies have pointed out with the realization on the poor proxies of the stock returns to expect for stock returns. The capital is obtained by the firms from two types of sources: lenders and capital investors. In the capital providers' view, interest is the reward aimed by lenders while the dividends are sought by the capital investors and/or the value appreciation from their investment (capital gain). In the view of the firms, the capital as obtained from others must be paid so called cost of capital. The firms separate such costs into cost of debt and cost of capital then attributed on the two kinds of capital sources. Cost of debt presented by the firm is relatively simple to determine from the capital market interest rates observation while the current cost of capital which cannot be observed should be estimated. Various cost of capital estimating models of the firm are offered from the financial practice and theory such as CAPM (Capital Asset Pricing Model).

Another method results from the discounted cash flow model by Gordon Model (1959) based on the returns of dividend and eventual capital return from investment sale. In addition, overall cost of capital of the firm consists of two capital cost types which can be estimated through the model of weighted average cost of equity. In reference with the finance theory, decreasing and increasing risks of the firm also affect the increases/decreases in its cost of capital. There is the link of this theory on the human behavior and logic observation: the reward is expected by capital providers in order to offer the funds to others. Normally, such providers are rational and prudent risk safety preference. Naturally, they need an extra incentive reward to place

the capital in the investment with higher risk instead of the safer one. If there is an increasing in the risk of investment, the demand of capital providers will be on higher returns in order to place their capital in somewhere else. From the study on previous researches, it could be concluded as follows:

1. Due to prior studies (Farber, 2006; Modigliani and Miller, 1958, 1963; Miles and Ezzell, 1980), the weighted average cost of capital is calculated as:

WACC = (net worth / total assets) * K_e + (total external liabilities / total assets) * K_d.

Where :

WACC = Weighted Average Cost of Capital

EBIT = Earnings before Interest and Tax

EBT = Earnings before Tax

K_e = Cost of Equity

K_d = Cost of Debt

WACC , weighted to K_e and K_d is computed by book value as well as market value. If there is a diffierence between book value and market value rates, the WACC would differ. Hence, in practice the market value weights cannot be used as they are difficult to ascertain. Even if they are ascertained, they fluctuate according to the market conditions. In the study the researcher has calculated weight on the basis of book value. In assigning weight to cost of equity, the total net worth was divided by the total assets for finding out the relative weights to be assigned to equity capital and debt capital. Different models of calculating cost of equity have been developed in prior studies. Among these methods, weighted average cost of capital captures the effect of cost of equity and cost of debt together. Weighted average cost of capital (WACC) is obtained from the studies of Modigliani and Miller (1958, 1963) and Miles and Ezzell (1980). Ross et al. (1996) argue that WACC is the most widely used method of calculating cost of capital in the real world so far. Basic definition of WACC, which is the cost of capital coming from both equity and debt, makes it one of the fundamental concepts in corporate finance (Farber et al., 2007).

2. This measure of a firm's cost of capital is used to calculate the Stern Stewart EVA measure which is widely accepted performance benchmark. The weighted average cost of capital is calculated as:

$$\mathrm{WACC} = (\mathrm{D/EV} \times (1\text{-}\mathrm{T}) \times \mathrm{K_d}) + (\mathrm{E/EV} \times \mathrm{K_e}) \qquad (1)$$

Where:

D/EV = Debt to Enterprise Value ratio which is established by using athree year trailing average of D/EV levels,

E/EV = the ratio of the firm's equity to its enterprise value. *t* is the income tax rate for companies,

K_d = the cost of debt. As debt is not listed for most firms, the yield to maturity is difficult to estimate. The method, therefore, makes the simplifying assumption that all debt is BBB rated and uses the BBB spread above the risk free to estimate the pre-tax cost of debt,

K_e = the cost of capital, ERP is the Equity Risk Premium calculated by using the Capital Asset Pricing Model as follows:

$$K_e = Rf + ERP \times ß \qquad (2)$$

Different models of calculating cost of capital have been developed in prior studies. Among these methods, weighted average cost of capital captures the effect of cost of equity and cost of debt together. Weighted average cost of capital (WACC) is obtained from Modigliani and Miller (1958, 1963) and Miles and Ezzell (1980) studies. Ross et al. (1996) argue that WACC is the most widely used method of calculating cost of capital in the real world so far. Basic definition of WACC, which is the cost of capital coming from both equity and debt, makes it one of the fundamental concepts in corporate finance (Farber et al., 2007).

3. Brav et al. (2002) determine ex ante cost of capital estimates by using the VL analyst's 4-year out target price (TP), as well as the forecast of next period dividends (DIV) and dividend growth (g). Assuming that interim dividends are reinvested at the firm cost of capital (CofC), Brav et al. (2002) arrive at the following expression for the ex ante expected return:

$$(1 + CofC)^4 = \frac{TP}{P} + \frac{DIV\left[\frac{(1+CofC)^4 - (1+g)^4}{CofC-g}\right]}{P}$$

Where:

CofC = cost of capital,

TP = VL 4 – year out target price,

P = stock price nine days prior to the date of the VL report,

DIV = VL forecast of next period dividends,

g = VL forecast of growth rate of dividends.

The value of cost of capital that satisfies the equality is the estimate of the ex-ante cost of capital.

4. Prior studies (Bierman, 1993; Bruner et al., 1998; Meier and Tarhan, 2007, Brealey et al., 2011, and Titman and Martin, 2011) examined that cost of capital is the weighted average of the after-tax cost of debt capital and cost of equity based on the proportion of debt and equity in capital structure of the firm (WACC) measure to estimate cost of capital.

WAC = The weighted average cost of capital which is calculated by:

$$\text{WACC} = \frac{\text{E}}{\text{E+D}} r_e + \frac{\text{D}}{\text{E+D}} r_d (1 - T)$$

Where:

D = The cost of capital rate from debt sources (short-term debt plus long-erm debt),

E = The cost of capital rate from equity sources,

T = The marginal corporate tax rate,

r_d = The cost of debt (pre-tax) of firm *i*,

r_e = The cost of equity of firm *i*.

5. As documented in the studies by Bierman (1993) and Meier and Tarhan (2007), the WACC is widely used in practice to assess a firm's cost of capital. WACC is calculated as follows:

$$\text{WACC}_{\text{i}} = \frac{\text{D}}{\text{D+S}} (1 - T_c) r_{D,i} + \frac{\text{E}}{\text{D+E}} r_{E,i}$$

Where:

D = the market value of debt,

S = the market value of equity,

T = the marginal corporate tax rate,

r_D = the cost of debt (pre-tax) of firm *i*,

r_E = the cost of equity of firm *i*,

E = estimated using monthly returns from Center of Research in Security Prices (CRSP).

6. As documented in Harris and Higgins (1998) and Meier and Tarhan (2007), the WACC is widely used in practice to assess a firm's cost of capital. WACC is calculated as follows:

$$\text{WACC}_{\text{i}} = \frac{\text{D}}{\text{D+E}}(1 - T_c)r_{D,i} + \frac{\text{E}}{\text{D+E}}r_{E,i}$$

Where:

D = the market value of debt,

S = the market value of equity,

T_c = the marginal corporate tax rate,

$r_{D,i}$ = the cost of debt (pre-tax) of firm *i*,

$r_{E,i}$ = the cost of equity of firm *i*,

E = estimated using monthly returns from Center of Research in Security Prices (CRSP).

In calculation for cost of capital, the suitable method to the firm should be chosen and considered on any risk factors that will bring to improve in the calculation for discount rate and cash flows in that business in any project estimation. In the consideration for any factors which can affect the weighted average cost of capital (WACC) of the firm as well as the applying of cost of capital in any decision, the firm that registered in the Stock Exchange of Thailand and new Stock Exchange market which is a part that participates in crucial fund raising in the country will be considered as the representative in the study of cost of capital. This is to know about the methods and any factors in consideration for the calculation of cost of capital in the real practice and to be the key information to determine to own or to invest in the company.

From the study on previous researches, it can be concluded in table 2.2 as follows:

Table 2.2 Summary of cost of capital variables

Cost of Capital Variables	Symbol	Measurement	Author
Cost of Debt	C_DEBT	Percentage of interest expense divided by the average total debt	Jensen, (1986), Parrino and Weisbach (1999), Bhojraj and Sengupta (2003), Anderson et al. (2004), Francis et al. (2005), Bozec et al. (2010), and Juniarti and Natalia (2012)
Cost of Equity	C_EQUITY	CAPM model	Gordon model (1959), Gode and Mohanram (2003), Abbott et al. (2003), Easton (2004), Limpaphayom and Connelly (2004), Ohlson and Nauroth (2005), Shah, S. Z. A. (2009), Bozec, et al.,(2010) and Tran, et al., (2014**)**
Weighted Average Cost of Capital	WACC	Weighted average of the after-tax cost of debt capital and cost of equity based on the proportion of debt and equity in capital structure of the firm	Modigliani and Miller (1958, 1963), Sharpe (1964), Lintmer (1965), Miles and Ezzell (1980), Fama and French (1992), Ross et al. (1996), O'Hanlon and Steele (2000), Brav et al. (2002), and Farber (2006),

2.5 The Concept of Control Variables

The regression models had included additional explanatory variables since the significant impact from risk was shown from the previous research. It is predicted by Lintner (1965) and Sharpe (1964) that there was the positive relationship between an expected return of the firm. However, it is argued by Modigliani and Miller (1958) that the cost of equity raises with the firm's leverage (LEV). Additionally, this was presented by Berk (1995) that negative association of size (SIZE) with the expected returns as the factor of residual risk. It is indicated from the result here that in general the larger firms would face with lower risk and thus seemed to expect for the lower capital cost. Then, SIZE was calculated as the natural market value of equity log.

2.5.1 Firm Size

The firm's size is applied to control the effect of cost of capital. Size of the firm can be computed from the total assets, book value of assets, market value of equity, and sales. In this study, size of the firm was computed from the total assets since it is normally used to examine cost of capital and corporate governance according to Brow and Caylor (2006) and Connelly et al. (2012) method. The natural net sales log of the firm, the total capital, or the market value of equity log is the choices of firm size measures which can offer the same results (Daines, 2001).

Firm size is considered to have many measures including with the firm's market value of equity natural logarithm. It is found by Ferreira and Laux (2007) that since it tends for the bigger firms to more present in news, it seems their market price is aggregated for more publicly recognition on the firm information rather than the smaller firms including as the publicly-known information is the accounting and non-accounting information. It is found by Collins and Kothari (1989) that window expanding over the measuring on security returns from the substantially relationship improved between the large firm's earnings and returns. This is steady with the expected changes in market toward the sooner earnings of the large firms. Accordingly, there is the association between the informativeness of earnings and the firm's size where the firm's size is measured by the firm's market value of equity natural log.

2.5.2 Firm Leverage

There are two popular measures of firm leverage. First, firm leverage is measured as the debts to equities ratio of the firm (Wiwattanakantang, 2001; Gillan et al., 2003; Zahra and Sharma, 2004). Second, firm leverage is measured as the ratio of total debts to total equities that the firm has (Lee and Park, 2010). This study used the ratio of the firm's total debts to total assets, instead of the ratio of total debts to total equities, as a measure of firm leverage (Wiwattanakantang, 2001; Barako, 2007).

Leverage is included as a control variable in the model of cost of capital. Besides, leverage represents the proportion of debt and equity, concerning which managers may have incentives to manage earnings upward to improve financial ratios to prevent the violation of debt covenants. According to UBS Investment Bank (2004), companies with high leverage tend to have lower credit ratings because companies with a higher proportion of debt may run the risk of not paying back the principal and interest in time.

Furthermore, leverage is included in cost of capital analysis as previous researches by Anderson et al. (2004) and Francis et al. (2005) show that a firm with a high leverage ratio will generate a high cost of debt. This is consistent with Francis et al. (2005), Gray et al. (2009), and Chen et al. (2011), who found that the firm with a high leverage ratio will have a high cost of equity, too.

Therefore, the researcher expects a negative association between financial leverage and cost of capital. Moreover, the researcher expects a negative association between financial leverage and cost of capital. The financial leverage here is defined as the ratio of total debt divided by total assets. Cheng et al. (2006) examined the relationship between shareholder rights and cost of equity, suggesting that most prior studies used some measure of firm leverage as a control variable in generally documenting a positive association (Botosan,1997; Botosan and Plumlee, 2002; Gebhardt et al., 2001; Gode and Mohanram, 2003; Eston, 2004). Firms with higher leverage ratio have greater incentives to conduct earnings in order to avoid convent violation and/or to prevent adverse effects on their debt ratings. (The presence of agency cost in such firms gives rise to a demand for monitoring, and the quality of governance may be used to mitigate agency cost). (DeFond and Jiambalvo, 1994; Watts

and Zimmerman, 1990). Higher leverage suggests greater credit risk (Cheung, 2005). Furthermore, Dey (2008) expected a positive association between governance quality and reporting credibility.

In addition, Cheung et al. (2008) documented firm leverage and liquidity as being able to affect corporate governance. They used the debt-to-equity ratio as the control variable for the risk factors of a firm. The coefficient for the debt-to-equity ratio has a statistically significantly positive relationship to market valuation. This study computes leverage from total long-term debt at the end of the fiscal year divided by the market value of common equity at the fourth month after the end of the firm's fiscal year.

From the study on previous researches about summary of the effect of control variables and cost of capital, it can be concluded in table 2.3 as follows:

Table 2.3 Summary of the effect of control variables and cost of capital

Control Variables	**Symbol**	**Measurement**	**Sign**	**Author**
Firm size	F_SIZE	Natural logarithm of total assets of firm	-	Brow and Caylor (2006), Connelly et al. (2012), Daines (2001), Ferreira and Laux (2007), Collins and Kothari (1989), Anderson et al. (2004), Francis et al. (2004), Gray et al. (2009), Shen and Huang (2013), Pham et al., (2011), and Piot and Missonier-Piera (2007)

Table 2.3 Summary of the effect of control variables and cost of capital (Cont.)

Control Variables	Symbol	Measurement	Sign	Author
Firm leverage	LEV	The total debt over total assets	-	Modigliani and Miller (1958), Tran et al. (2014**),** Sthienchoak (2013), Cheung et al. (2008), Lee and Park (2008), Dey (2008), Watts and Zimmerman (1990), Anderson et al. (2004), Francis et al. (2005), Gray et al. (2009), and Chen et al. (2011)

From the study on over all previous researches about effect of corporate governance on cost of capital, it can be concluded in table 2.4 as follows:

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Tran, D. H. (2014**)**	1.Cost of Debt 2.Cost of Equity	Corporate governance is captured along multiple dimensions: 1. Financial information quality 2. Ownership structure 3. Board compensation. Control variables: 1. Firm's leverage (LEV) 2. Market-to-book ratio (MTB) 3. Size (SIZE)	Germany	Multiple Regression	It is suggested from the results that the high levels of financial transparency and bonus compensations companies have lower cost of equity. Moreover, there is the negative relation of block ownership and cost of equity of the firm if the other firms are the managers, blockholders, or founding-family members.
Mazzotta, R. and Veltri, S. (2014)	Cost of Equity Capital	Corporate governance attributes (board independence, board size, existence of the audit and the nomination/remuneration committees and independence of board committees)	Italy	Multiple Regression	Evidence is given from the outcomes that present the significant association between the score of corporate governance and the capital cost of equity of the firm.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Ashbaugh, H., Collins, D. W., and LaFond, R. (2004)	Cost of Equity Capital	1. Financial information quality, 2. Ownership structure, 3. Shareholder rights, and 4. Board structure	USA	Multiple Regression	It is suggested from the results that there is the negative relation of the firm between the board independent and the cost of equity as well as the percentage of the stock owner board.
Ali Shah, S. Z. and Butt, S. A. (2009)	Cost of Equity	Corporate governance: 1. Board structure 2. Ownership structure 3. Audit committee independence	Pakistan	Multiple Regression	It is suggested from the results that there is negative relationship between board size and managerial ownership of the firm with the cost of equity, and there is the positive relationship between corporate governance, audit committee independence, and board independence with the cost of equity.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Huang, H. W., Dao, M., and Fornaro, J. M. (2016)	Cost of Equity Capital	Governance variables including 1. Board independence 2. Audit committee financial expertise 3. Auditor industry specialization 4. No internal control material weakness	USA	Multiple Regression	It is recommended from the results that there is a positive relationship between the assets value with the verifiable fare, and the capital cost of equity can be mitigated by the stronger corporate governance.
Regalli, M. and Soana, M. G. (2012)	Cost of Equity	Corporate governance "external" (measured by the GIM Index, an index of protection from takeover) and "internal" (measured by the percentage of institutional investors among the shareholders)	USA	Multiple Regression	The best governance financial companies (either external or internal) are related to the higher capital cost of equity.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Todorovic, Z. and Todorovic, I. (2012)	Scorecard Analysis	1. Commitment to corporate governance principles 2. Rights of shareholders 3. Equal treatment of shareholders 4. Role of stakeholders in governance of joint stock companies 5. Publishing and transparency of information 6. Role and responsibility of the boards 7. Audit and internal control system	Banja Luka	Scorecard analysis	The corporate governance principles implementation results in the firms within Republic of Srpska will be shown by applying the scorecard analysis to evaluate the implementation of the corporate governance good practices and principles of the firms listed in the official market of the Banja Luka Stock Exchange.
Anuchitworawong, C. (2010).	Cost of Capital	1. Disclosure and transparency 2. Equitable treatment of shareholders 3. Responsibilities of the board	Thailand	Multiple Regression	Totally, it is suggested by the results that in average, the companies have significantly improved on the major corporate governance practice areas such as the transparency and disclosure, the shareholders' equitable treatment and the board responsibilities.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Shah, S. Z. A. (2009)	Cost of Equity Capital	Eight corporate governance: 1. Disclosure and transparency 2. Dilution through share issuance 3. Asset stripping and transfer pricing 4. Dilution through a merger or restructuring 5. Bankruptcy 6. Limits on foreign ownership 7. Management's attitude toward shareholders 8. Registrar risk	Pakistan	Multiple Regression	There is the negative relationship as seen between the board size and managerial ownership with the cost of equity, and the corporate governance on board independence, and audit committee independence has positive relationship with the cost of equity.
Chen, K. C., Chen, Z., and Wei, K. C. (2009)	Cost of equity	Corporate governance 1. Transparency (TRAN) 2. Discipline (DSPL) 3. Independence (INDP) 4. Accountability (ACCT) 5. Responsibility (RESP) 6. Fairness (FAIR)	Credit Lyonnais Securities Asia (CLSA)	Multiple Regression	It is suggested from the results on the significant negative effect of corporate governance on these market cost of equity capital.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Reverte, C. (2009)	Cost of Equity Capital	Corporate governance 1. Board independence 2. Board size 3. Existence of both audit and nomination/remuneration committees 4. CEO duality 5. Independence of board committees	Spain	Regression Analysis	It is shown in the results on the lower cost of equity capital for the firms with stronger governance while the weaker governance is also found though after implementing differences controls on the risk factors from Fama and French (i.e. beta, size and market-to-book).
Moeinaddin, M. and Keshavarzian AN, S. M. (2013)	Cost of Debt, Cost of Owner's Equity and the Weighted Average of Cost of Equity	1. The ratio of the non-executive members of the board 2. CEO Duality 3. Board Size 4. CEO Influence 5. Audit firm size	Tehran	Multiple Regression	The significantly negative relationship is found between the variables of corporate governance and cost of debts, cost of owners' equity and the average weighted of the cost of equity.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Jiraporn, P., Chintrakarn, P., Kim, J. C., and Liu, Y. (2013)	Cost of Debt	1. Audit issues 2. Board structure and composition 3. Other charter and bylaw provisions 4. Director education 5. Executive and director compensation 6. Director and officer ownership 7. Progressive practices 8. Laws of the state of incorporation related to takeover defenses	USA	Multivariate Regression Analysis	It is presented in the outcomes that the stronger corporate governance seems to relate to the higher cost of debt.
Shoroki, M. R., Addin, M. M., and Jamalabadi, H. R. R. (2013)	Debt Structure	1. Institutional investors 2. Percentage of out director 3. State-owned company's possession of the firm 4. Main stockholder	Tehran	Multiple Regression	The relation between fundamental investors and debt structure intensity has no reason as well as between the out director and debt structure intensity percentage.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Juniarti and Natalia (2012)	Cost of Debt (COD)	GCG Score Good Corporate Governance	Indonesia	Multiple Regression	There is no support from the results on the hypothesis. By many Explanations are given including the low level confidence from the creditor on the practices of good corporate governance that being discussed for research findings support.
Funchal, B., Galdi, F. C., and Lopes, A. B. (2008)	Cost of Debt	1. Disclosure 2. Ownership structure 3. Board composition 4. Shareholder rights	Brazilian	Multiple Regression	According to the results, the higher the score of corporate governance on BCGI, the lower the cost of debt, better arrangement of corporate governance is connected the firms with the higher amount of debt and the better governance while the harsher bankruptcy law shows with positive effect on debt.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Tu, T. T. T., Khanh, P. B., and Quyen, P. D. (2014)	Quality of Corporate Governance	1. Shareholders and general shareholders' meeting 2. Board of directors 3. Supervisory board 4. Disclosure and transparency 5. Auditing and Violations	Vietnamese	ANOVA F-test and the Welch F-test	The banks listing status results show that the banks have better practices on corporate governance, thus it has essentially higher CGI. Lastly, the assets' size results indicate that the large banks seem to show better of corporate governance quality compared to the smaller one.
Martynova, M. V., and Renneboog, L. (2010)	Ownership and Control	1. Corporate shareholders 2. Minority shareholders 3. Creditors	European countries and the US	Time-series analysis	English legal origin nations keep providing the highest quality protection on shareholder. While many nations in European continent have improved their legal system with the English legal system sets standard.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Sthienchoak, J. (2013)	Costs of Equity	Corporate Governance 1. Ownership structure 2. Firm profitability 3. Firm Characteristic 4. Political connection	Thailand	Multiple Regression	This study offers the results which can be generalized into any widespread political connections economies which should apply for the good corporate governance.
Abdullah, A. B. M., Murad, M. W., and Hasan, M. M. (2015)	Cost Control	Corporate governance internal and external stakeholders	Malaysia	Multiple Regression	It is suggested from the results that all the internal and external stakeholders and safeguard of the organization retaining must be facilitated by the corporate governance.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Bozec, Y., Laurin, C., and Meier, I. (2014)	Cost of Capital WACC	1. Ownership structure 2. Law 3. Firm-specific controls	Canada	fixed-effect regressions in a two-stage least squares	It is also confirmed by the study that the firms under the less protective Quebec incorporation law incorporated the excess control thus, they have the higher cost of capital compared to the firms that incorporated with other provinces under the regime of common law.
Robicheaux, S. H., Fu, X., and Ligon, J. A. (2007)	Debt structure	1. Executive compensation 2. Board independence	Moody's Industrial and Public Utility Manuals	Sample statistics regressions and correlation	The results present the positive relationship between the convertible debt and option and it found the complementary relationship that consistent with the firm's proposition that control on cost of equity of agency via the strong structure of governance.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Chalevas, C. and Tzovas, C. (2010)	Management of the firm discretionary accruals cost capital (WACC)	Corporate governance mechanisms	Greece Athens Stock Exchange	Cross-sectional analysis	The corporate governance mechanisms are suggested in the results with the association with the firm's cost of capital reduction and the higher of financial leverage.
Natalia (2012)	Cost of Debt	GCG Score Good Corporate Governance	Indonesia	Multiple Regression	The hypothesis is not supported by the results. Many of explanations include the low level of confidence among the creditor on the good practices of corporate governance as discussed in support to the finding of the research.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Stulz, R. M. (1999)	Cost of Equity	Monitor management: 1. The board of directors 2. The capital markets 3. The legal system 4. Active shareholders 5. The market for corporate control 6. Disclosure	U.S. Stock Market	Regression	Globalization is suggested from the results to help reduce the cost of capital while shareholder must be truly become on the global base. This seems not to take place by decree while stock prices mean everything else equal and relate on the negative way with the cost of equity. Consequently, it is considered on globalization as a process not the event. It required convincing the investors to grasp the advantage of it.
Davis, G. F. (2005)	Institutional Matrix Itself	Corporate governance systems 1. Boards of directors 2. Takeover market	USA	Regression	Corporate governance is suggested from the results to explain on the structures, institutions and processes in and around the firms where the control on resource and power is allocated among the participants.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Black, B. S., Jang, H., and Kim, W. (2006)	Firm Value: Tobin's Q	Corporate Governance Index: 1. Shareholder Rights Subindex 2. Board Structure Subindex 3. Board Procedure Subindex 4. Disclosure Subindex 5. Ownership Parity Subindex	Korea	Multiple Regression	Corporate governance as suggested from the result is the main factor to describe on the of Korean public companies' market value, and evidence of instrumental variable is suggested for the likely effect to be causal.
Bradley, M., Schipani, C. A., Sundaram, A. K., and Walsh, J. P. (1999)	-Stock returns - Accounting earnings	internal organization and external environment of the public corporation: 1. The nature of work 2. The capital market 3. Product-market competition 4. Organizational forms 5. Regulatory environment	USA	Multiple Regression	It is suggested from the results that simply the good corporate governance requires an agency problem solution between the capital providers and the firms as mediated by the firm's top management.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Liu, Q. (2006)	Firm Performance Tobin's Q	1. Ownership structure 2. Executive compensation 3. The board of directors 4. Financial disclosure	China	Multiple Regression	The firms in Chinese where the practices on corporate governance are deviated from the control-based model that shows the stronger performance with tend to result on the decision in line with the interest of the shareholders.
Leng, A. C. A. (2004)	Firm Performance -ROE -Dividend payout	1. Non-executive directors on the board of directors 2. Chairman of the audit committee 3. Chairman of the board of directors 4. Institutional investors owning shares in the company 5. Gearing ratio 6. Concentrated ownership of the firm 7. Size	Malaysia	Multiple Regression	It is suggested in the result that the firm's size, the proportion of share as held by the institutional investors are established in ROE in which have the significant impact on the firm performance.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Li, D., Moshirian, F., Nguyen, P., and Tan, L.W. (2007)	-Return on Assets (ROA) - Return on Sales (ROS)	CEO denotes the percentage shareholding of the enterprise's chief executive. ALPHA represents the total percentage ownership of the enterprise's directors and top executives. LP the percentage of legal persons ownership. STATE the percentage of state ownership.	China	Multiple Regression	It is indicated in the results on the positive impact of managerial ownership on the performance of the enterprise. Although there is the declining of the return on assets (ROA) and return on sales (ROS) on post-privatization, the with high managerial ownership enterprises, in particular the high CEO ownership will present with the small declining of performance.
Abbott, L.J., Parker, S., and Peters, G.F. (2003)	ROA, ROE	1. Independence of audit committee 2. Audit committee size 3. Audit committee's skill 4. Amount of audit committee meetings	USA	Multiple Regression	The concept of Blue Ribbon Committee is shown from the results with the positively relation with the performance of the enterprise.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Limpaphayom, P., and Connelly, J. T. (2004)	Tobin's Q ROA	1. Shareholder rights 2. Effectiveness of boards of directors 3. The role of stakeholders	Thailand	Multiple Regression	1. It is presented from the results that every firm has the independent directors in their boards, while majority from the sample firms present to have three or more independent directors in the board. 2. it is revealed from the results of survey that the responsibilities of Thai boards are active and engaged seriously.
Derwall, J., and Verwijmeren, P. (2007)	Cost of Equity Capital	1. Board quality and independence 2. Executive compensation 3. Remuneration schemes adopted by the firm,	Governance metrics international (GMI) U.S. firms	Multiple Regression	It is suggested from the results that investors' price protection from the weak governance via the lowering of the equity prices (increasing the cost of equity) in the firm with weak governed could lead them to expose more with the debt in the market.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Bozec et al., (2010)	Dependent variables the two main components of WACC cost of equity (CE) cost of debt (CD)	1. Board composition 2. Compensation 3. Shareholder rights 4. Disclosure	Canada	2SLS panel regressions	According to these results, the firms with higher governance scores are suggested to be with lower cost of debt and cost of equity.
Jiraporn, P., and Kitsabunnarat, P. (2007)	Debt Maturity	Governance Index Shareholder rights	Thailand	Multiple Regression	The robust results are found though after the previously identified debt maturity determinants are controlled.

Table 2.4 Summary of previous researches about the effect of corporate governance on cost of capital (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Shleifer, A., and Vishny, R. W. (1997)	Corporate Finance	Ownership	UK and US and those in Germany and Japan	Multiple Regression	Ownership and control is suggested to be the different financial systems' distinguishing features rather than corporate finance, incentives, disciplining.
Ashbaugh-Skaife, H., Collins, D. W., and LaFond, R. (2006)	Firms'credit rating Investment grade	Corporate governance 1. Ownership structure 2. Financial stakeholder rights and relations 3. Financial transparency 4. Board structure and processes 5. Firm characteristics	U.S. companies	Multiple Regression	There is the negative link between the credit ratings and the blockholders number, And CEO power as well as the positive relation to the takeover defenses, timeliness earnings, accrual quality, board stock ownership, independence board and board expertise.

2.6 Conclusion

From the literature review on the relevant research, it can be concluded that the business that can manage according to the best practice of corporate governance mechanisms will result in the reduction of cost of capital. The study used the corporate governance mechanisms recommended by OECD in the analysis. On the part of cost of capital, the researcher conducted the literature review both domestic and overseas to get the measurement tool for cost of capital which suits the sample group which here were the listed companies in the Stock Exchange of Thailand. This resulted in the study to fill in a research gap by studying on the corporate governance mechanisms in five completely elements consisting rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board. As for the part of cost of capital, the researcher studied in all three methods consisting of cost of debt, cost of equity, and weighted average cost of capital by average interest payment, CAPM, and WACC, respectively. In summary, this study has successfully reviewed on the previous literature related to various dimensions with the sufficient strength to support on the methodology and findings of the study in the upcoming chapters.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

This study was an empirical study which intended to examine the effect of corporate governance as recommended by OECD (including the rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and board responsibility) on cost of capital. Listed companies on the Stock Exchange of Thailand were selected for observing this effective. This chapter covered the subsequent research areas included the discussion of the model/ theoretical framework, hypotheses and research questions, studying area, population and sample selection, measurement instrument, data collection and procedures, and variables and statistical analysis. The analysis was divided into descriptive statistics and multiple regressions.

The main purposes of this study were as follows:

1. To investigate the effect of corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, on cost of debt of listed companies on the Stock Exchange of Thailand.

2. To investigate the effect of corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, on cost of equity of listed companies on the Stock Exchange of Thailand.

3. To investigate the effect of corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, on weighted average cost of capital of listed companies on the Stock Exchange of Thailand.

3.2 Conceptual Framework

This research aimed to study the impacts of corporate governance on cost of capital from the Stock Exchange of Thailand. The framework of corporate governance must be promoted for the transparency and efficient markets; it should be consistent

with the rules of law and apparently articulate the responsibilities division among various regulatory, supervisory, and enforcement authorities. International author has established this conceptual framework in the review of literatures. The agency theory was identified and developed by applying the concept of Jensen and Meckling (1976). In addition, the entrenchment effect theory was analyzed with the concept by Morch, Shleifer, and Vishny (1998). They said that the issue of agency has not presented between the executives and investors. However, it depends on controlling shareholders that at the same time being an executive and the non-controlling shareholders. The previous researches confirm the negative relationship as expected between cost of capital and corporate governance, including Mazzotta and Veltri (2014), Tran (2014), Huang et al. (2014), Bozec et al. (2014), Sthienchoak (2013), Regalli and Soana (2012), Anuchitworawon (2010), Bozec et al. (2010), Shah (2009), Chen et al. (2009), Reverte (2009), Byun et al. (2008), Derwall and Verwijmeren (2007), Ashbaugh-Skaife et al. (2005), Chen et al. (2003), Standard and Poor (2002), and Stulz (1999)'s theory can be separated into five corporate governance following characteristics as follows:

1. Rights of Shareholders: The framework of corporate governance must facilitate and protect on the rights exercising of shareholders (The Securities and Exchange Commission, Thailand, 2015).

2. Equitable Treatment of Shareholders: The framework for corporate governance must make sure on the equitable treatment to every shareholder, including the foreign and minority shareholders. The opportunities for effective redress obtaining for their rights violation should be provided to all shareholders (The Securities and Exchange Commission, Thailand, 2015).

3. Role of Stakeholders: The framework of corporate governance should concern on the legal established stakeholder's rights or from the mutual agreements to encourage the corporations and stakeholders' active co-operation in forming of jobs, wealth, and the financial sustainability sound of enterprises (The Securities and Exchange Commission, Thailand, 2015).

4. Disclosure and Transparency: The framework for corporate governance must confirm on the all material matters accurate and timely disclosure in regard of the

corporation, including the ownership, performance, financial situation, and the firm governance (Chen et al., 2007).

5. Responsibilities of the Board: The framework of corporate governance must make sure on the company's strategic guidance, effective board monitoring on the management, and accountability of board among the shareholders and the company (Connelly et al., 2012).

The cost of capital is the suitable capital structure that mixes between cost of capital of the shareholder such as the preference share and ordinary share while in the part of cost of debt such as debt that the business sets their goal to find the capital in the future, make the highest price of stocks, and has the lowest cost of capital. The cost of capital's variable measurement offers the idea by Bhojraj and Sengupta (2003), Brav, Lehavy and Michaely (2002), and Farber (2006), and the theory can be separated into three variables of cost of capital consisting of cost of debt, cost of equity, and weighted average cost of capital as discussed in the following characteristics.

Cost of capital consists of cost of debt, cost of equity, and weighted average cost of capital which are defined below.

1. Cost of debt is traditionally defined as the effective rate that a company pays on its current debt. A company will use various bonds, loans, and other forms of debt, so this measure is useful for giving an idea as to the overall rate being paid by the company to use debt financing (Bhojraj and Sengupta, 2003).

2. Cost of equity is the return (often expressed as a rate of return) a firm theoretically pays to its equity investors, and shareholders to compensate for the risk they undertake by investing their capital (Brav et al., 2002).

3. Weighted average cost of capital means the return rate as the ordinary shareholders of the company required in order for that investor to hold the risk from that company's shares holding. The return consists of either the capital or dividend gains, and it means the expected of future returns, not the historical returns which is cost of capital coming from both equity and debt, making it one of the fundamental concepts in corporate finance (Farber, 2006; Brav et al., 2002).

The regression models had included additional explanatory variables since the significant impact from risk was shown from the previous research. It is predicted by

Modigliani and Miller (1958) that cost of equity raises the firm's leverage (LEV). Additionally, this was presented by Berk (1995) that there is a negative association of size (SIZE) with the expected returns as the factor of residual risk. It is indicated from the result here that in general the larger firms would face with lower risk and thus seemed to expect for the lower capital cost.

1. The firm's size is applied to control the effect of cost of capital. Size of the firm can be computed from the total assets, book value of assets, market value of equity, and sales. In this study, size of the firm was computed from the total assets since it is normally used to examine the cost of capital and corporate governance according to the method of Brow and Caylor (2006) and Connelly et al. (2012).

2. There are two popular measures of firm leverage. First, firm leverage is measured as the debts to equities ratio of the firm (Wiwattanakantang, 2001; Gillan et al., 2003; Zahra and Sharma, 2004). Second, firm leverage is measured as the ratio of total debts to total equities that the firm has (Lee and Park, 2008). This study used the ratio of the firm's total debts to total assets, instead of the ratio of total debts to total equities, as a measure of firm leverage (Wild, 1996; Wiwattanakantang, 2001; Barako, 2007).

The conceptual framework of this study was shown in figure 3.1.

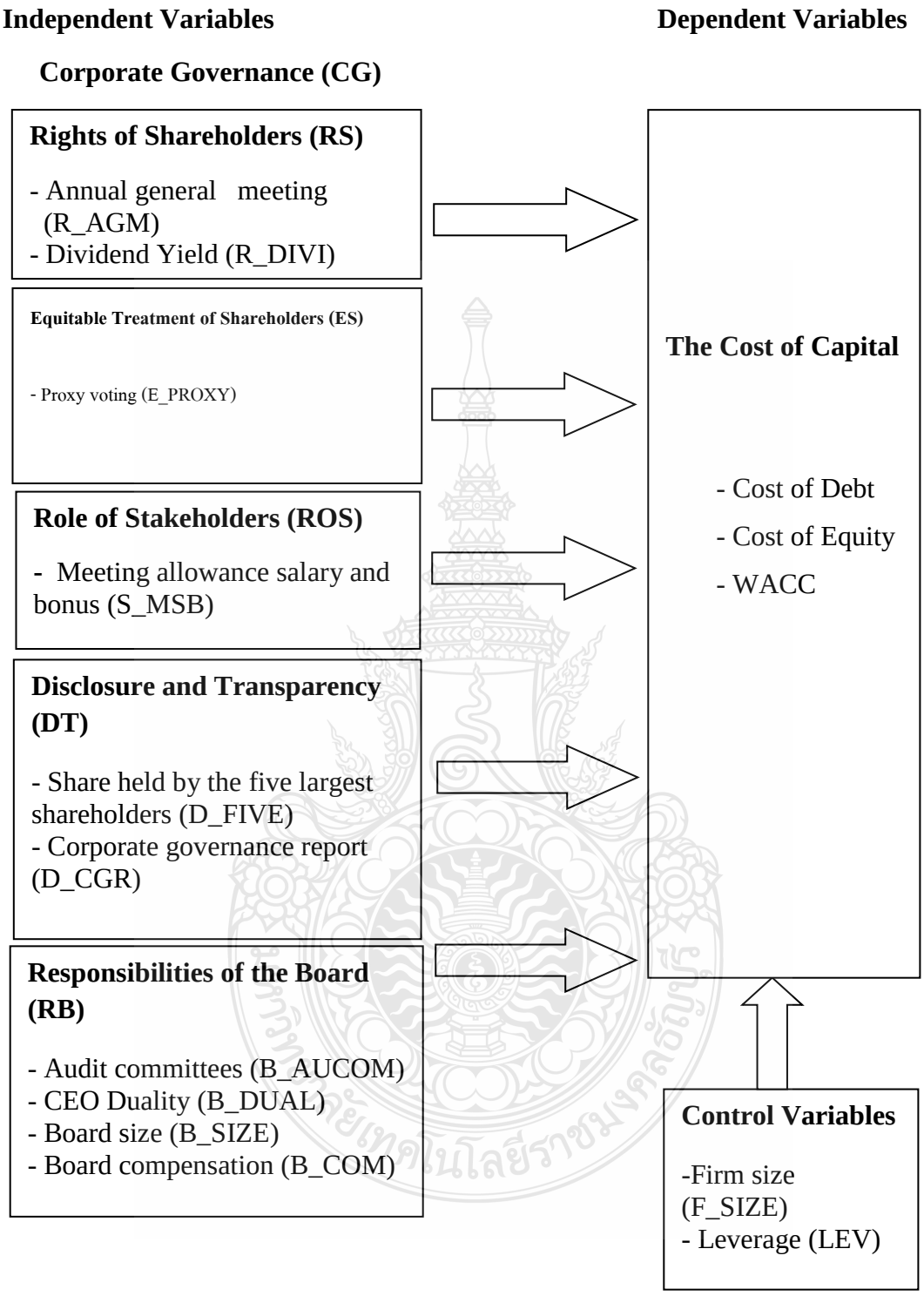

Figure 3.1 Research Framework

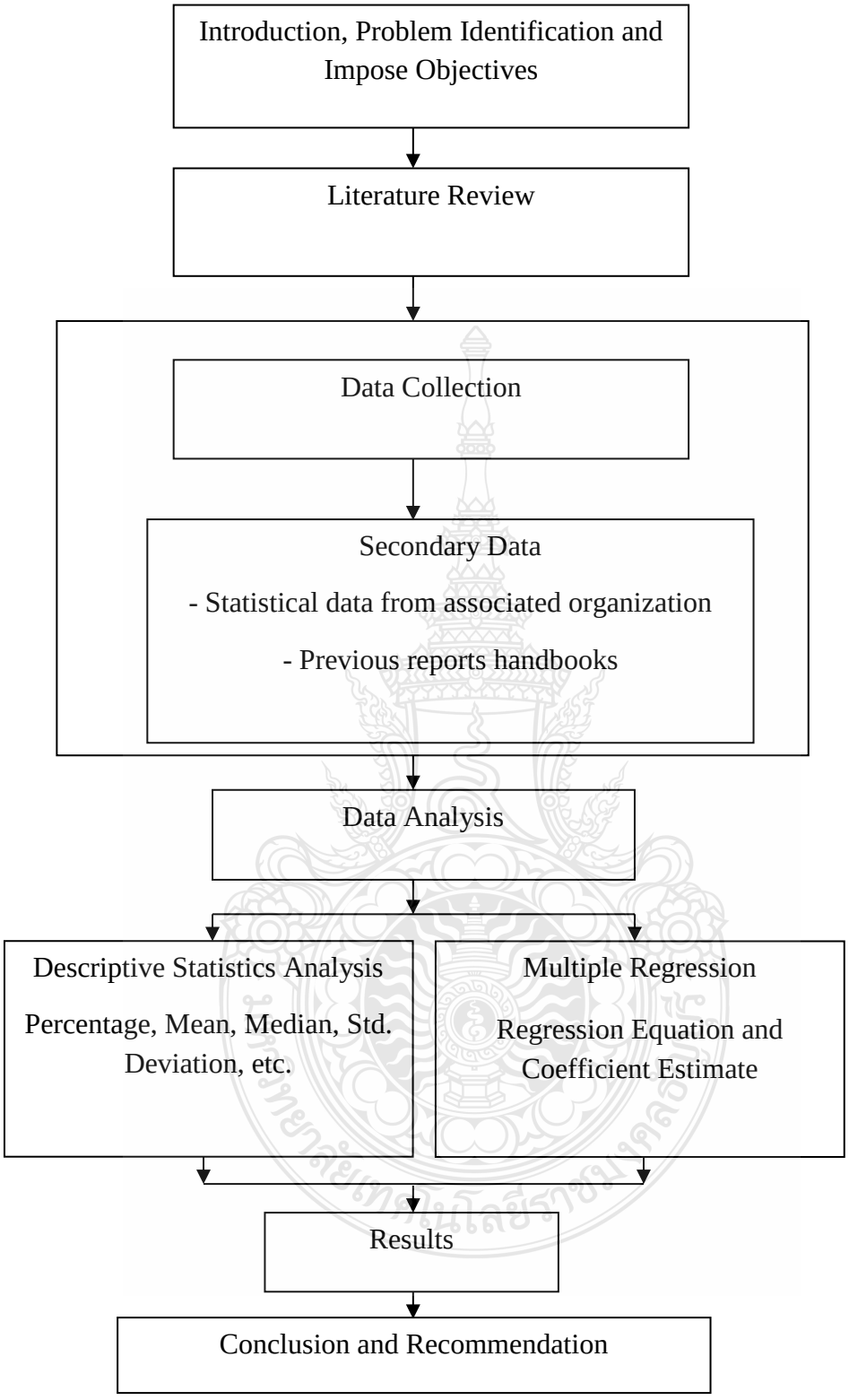

Figure 3.2 Research Framework

3.3 Research Design

Quantitative research was used in this study for analyzing the effect of the independent variables (including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and board responsibility) on the dependent variables (including cost of debt, cost of equity and weighted average cost of capital). Two sources of data were utilized in the study. The target companies for this study were those listed on the Stock Exchange of Thailand (SET). This study used the secondary data from annual reports of companies, and financial data were obtained from the Stock Exchange of Thailand (SET) for financial information through the SETSMART data service for the year 2014 containing all the data requirements of purpose analysis which describes the links among corporate governance and cost of capital financial data. The number of observations or subjects used in this study was appropriate for multivariate analysis. The level of statistical significance is 0.05 percent.

3.3.1 Population and Sample

This study examined 303 companies on the Stock Exchange of Thailand (SET) in year 2014. These companies included companies with accounting period beginning on 1st January and ending on 31st December, and they are companies in 8 industrial groups including agro and food industry, industrial, property and construction, resources, services, technology, and reserved securities in the SET Index. Financial and securities banking and insurance firms were not included into the listed companies sample of this study ince they had uniquely estimated with the assets and accruals nature that seems to be substantially diverse from other industries (Klein, 2002; Yang and Krishnan, 2005). Moreover, property fund and real estate investment trusts were also excluded from the sample since the requirements in financial reporting and business operations characteristics are diverse from different companies such as companies under rehabilitation and outlier error. The data of companies were collected from annual reports and financial data in year 2014 from the Stock Exchange of Thailand (SET) through the SETSMART data service.

Table 3.1 Samples selection

Description	**2014**	**Percent**
All companies listed on the Stock Exchange of Thailand (2014)	**554**	**100**
Excluding		
- Companies in financial industries	58	
- Firms without data available in SETSMART	10	
- Companies Under Rehabilitation	15	
- Real estate and other funds	53	
- Non-December fiscal year-end companies	34	
- Missing data	27	
- Companies with N/A Dividend yield	21	
- Outlier error	33	
Final samples	303	51.01

Source: http://www.set.or.th

3.3.2 Data Collection

This study used the secondary data based on the quantitative research method. The corporate governance related data were publicly available in the Thai Investors Association company websites and annual reports.

After the completion of data collection, multiple regressions were applied for data analysis. All five multiple regressions assumptions have been tested including error or residual to see whether they have the normal distribution. If it is found with the issue in the multicolinearity from the analysis, the natural log (ln) then will be used for data transformation. The test results were presented with the low tolerance value or toward or near to 0 and also not higher than 10 of VIF value. Therefore, there should not have multicolinearity concerns on the independent variables. Hierarchical multiple

regressions were applied for the statistical significance testing on the effect of independent variables on dependent variables.

3.4 Research Model

This study investigated the effect of corporate governance on cost of capital through the following hierarchical regression model:

3.4.1 Model Test: The Effect of Control Variables on Cost of Debt

This study investigated the effect of control variables on cost of debt (C_DEBT) by estimating the following regression model.

H1: There is a negative effect of control variables on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 F\_SIZE - \beta_2 LEV + e \quad \text{(Model 1)}$$

Hypotheses 1a and 1b were set to examine the effect of control variables on cost of debt.

H1a: There is a negative effect of the firm size on cost of debt.

H1b: There is a negative effect of the leverage on cost of debt.

Model 1 was employed to test hypotheses 1a and 1b, as the main issues of testing are the signs and significance of the coefficients of variables that are of interest.

3.4.2 Model Test: The Effect of Rights of Shareholders on Cost of Debt

This study investigated the effect of rights of shareholders on cost of debt (C_DEBT) by estimating the following regression model.

H2**:** There is a negative effect of rights of shareholders on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 R\_AGM - \beta_2 R\_DIVI - \beta_3 F\_SIZE - \beta_4 LEV + e \quad \text{(Model 2)}$$

Hypotheses 2a and 2b were set to examine the effect of rights of shareholders on cost of debt.

H2a: There is a negative effect of the annual general meeting on cost of debt.

H2b: There is a negative effect of the dividend yield on cost of debt.

Model 2 was employed to test hypotheses 2a and 2b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.3 Model Test: The Effect of Equitable Treatment of Shareholders on Cost of Debt

This study investigated the effect of equitable treatment of shareholders on cost of debt (C_DEBT) by estimating the following regression model.

H3: There is negative effect of equitable treatment of shareholders on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 E\_PROXY - \beta_2 F\_SIZE - \beta_3 LEV + e \quad \text{(Model 3)}$$

Hypotheses 3 was set to examine the effect of equitable treatment on cost of debt.

H3a: There is a negative effect of the proxy voting on cost of debt.

Model 3 was employed to test hypotheses 3a, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.4 Model Test: The Effect of Role of Stakeholders on Cost of Debt

This study investigated the effect of role of stakeholders on cost of debt (C_DEBT) by estimating the following regression model.

H4: There is negative effect of role of stakeholders on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 S\_MSB - \beta_2 F\_SIZE - \beta_3 LEV + e \quad \text{(Model 4)}$$

Hypotheses 4 was set to examine the effect of role of stakeholders on cost of debt.

H4a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on cost of debt.

Model 4 was employed to test hypotheses 4a, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.5 Model Test: The Effect of Disclosure and Transparency on Cost of Debt

This study investigated the effect of disclosures and transparency on cost of debt (C_DEBT) by estimating the following regression model.

H5: There is negative effect of disclosure and transparency on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 D\_FIVE - \beta_2 D\_CGR - \beta_3 F\_SIZE - \beta_4 LEV + e \quad \text{(Model 5)}$$

Hypotheses 5a and 5b were set to examine the effect of disclosure and transparency on cost of debt.

H5a: There is a negative effect of the share held by the five largest shareholders on cost of debt.

H5b: There is a negative effect of the corporate governance reporting on cost of debt.

Model 5 was employed to test hypotheses 5a and 5b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.6 Model Test: The Effect of Responsibilities of the Board on Cost of Debt

This study investigated the effect of responsibilities of the board on cost of debt (C_DEBT) by estimating the following regression model.

H6: There is a negative effect of responsibilities of the board on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 B\_AUCOM - \beta_2 B\_DAUL - \beta_3 B\_SIZE - \beta_4 B\_COM - \beta_5 F\_SIZE - \beta_6 LEV + e \quad \text{(Model 6)}$$

Hypotheses 6a to 6d were set to examine the effect of responsibilities of the board on cost of debt.

H6a: There is a negative effect of the audit committees on cost of debt.

H6b: There is a negative effect of the CEO duality on cost of debt.

H6c: There is a negative effect of the board size on cost of debt.

H6d: There is a negative effect of the board compensation on cost of debt.

Model 6 was employed to test hypotheses 6a to 6d, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.7 Model Test: The Effect of Control Variables on Cost of Equity

This study investigated the effect of control variables on cost of debt (C_EQUITY) by estimating the following regression model.

H7: There is a negative effect of control variables on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 F\_SIZE - \beta_2 LEV + e \quad \text{(Model 7)}$$

Hypotheses 7a and 7b were set to examine the effect of control variables on cost of equity.

H7a: There is a negative effect of the firm size on cost of equity.

H7b: There is a negative effect of the leverage on cost of equity.

Model 7 was employed to test hypotheses 7a and 7b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.8 Model Test: The Effect of Rights of Shareholders on Cost of Equity

This study investigated the effect of rights of shareholders on cost of equity (C_EQUITY) by estimating the following regression model.

H8: There is negative effect of rights of shareholders on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 R\_AGM - \beta_2 R\_DIVI - \beta_3 F\_SIZE - \beta_4 LEV + e \quad \text{(Model 8)}$$

Hypotheses 8a and 8b were set to examine the effect of rights of shareholders on cost of equity.

H8a: There is a negative effect of the annual general meeting on cost of equity.

H8b: There is a negative effect of the dividend yield on cost of equity.

Model 8 was employed to test hypotheses 8a and 8b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.9 Model Test: The Effect of Equitable Treatment of Shareholders on Cost of Equity

This study investigated the effect of equitable treatment of shareholders on cost of equity (C_EQUITY) by estimating the following regression model.

H9: There is negative effect of equitable treatment of shareholders on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 E\_PROXY - \beta_2 F\_SIZE - \beta_3 LEV + e \quad \text{(Model 9)}$$

Hypotheses 9 was set to examine the effect of equitable treatment on cost of equity.

H9a: There is a negative effect of the proxy voting on cost of equity.

Model 9 was employed to test hypotheses 9a, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.10 Model Test: The Effect of Role of Stakeholders on Cost of Equity

This study investigated the effect of role of stakeholders on cost of debt (C_EQUITY) by estimating the following regression model.

H10: There is negative effect of role of stakeholders on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 S\_MSB - \beta_2 F\_SIZE - \beta_3 LEV + e \quad \text{(Model 10)}$$

Hypotheses 10 was set to examine the effect of role of stakeholders on cost of equity.

H10a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on cost of equity.

Model 10 was employed to test hypotheses 10a, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.11 Model Test: The Effect of Disclosure and Transparency on Cost of Equity

This study investigated the effect of disclosures and transparency on cost of equity (C_EQUITY) by estimating the following regression model.

H11: There is negative effect of disclosure and transparency on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 D\_FIVE - \beta_2 D\_CGR - \beta_3 F\_SIZE - \beta_4 LEV + e \quad \text{(Model 11)}$$

Hypotheses 11a and 11b were set to examine the effect of disclosures and transparency on cost of equity.

H11a: There is a negative effect of the share held by the five largest shareholders on cost of equity.

H11b: There is a negative effect of the corporate governance reporting on cost of equity.

Model 11 was employed to test hypotheses 11a and 11b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.12 Model Test: The Effect of Responsibilities of the Board on Cost of Equity

This study investigated the effect of responsibilities of the board on cost of equity (C_EQUITY) by estimating the following regression model.

H12: There is negative effect of responsibilities of the board on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 B\_AUCOM - \beta_2 B\_DAUL - \beta_3 B\_SIZE - \beta_4 B\_COM - \beta_5 F\_SIZE - \beta_6 LEV + e \quad \text{(Model 12)}$$

Hypotheses 12a to 12d were set to examine the effect of responsibilities of the board on cost of equity.

H12a: There is a negative effect of the audit committees and cost of equity.

H12b: There is a negative effect of the CEO duality on cost of equity.

H12c: There is a negative effect of the board size on cost of equity.

H12d: There is a negative effect of the board compensation on cost of equity.

Model 12 was employed to test hypotheses 12a to 12d, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.13 Model Test: The Effect of Control Variables on Cost of Weighted Average Cost of Capital**.**

This study investigated the effect of control variables on weighted average cost of capital (WACC) by estimating the following regression model.

H13: There is a negative effect of control variables on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 F\_SIZE - \beta_2 LEV + e \quad \text{(Model 13)}$$

Hypotheses 13a and 13b were set to examine the effect of control variables on weighted average cost of capital.

H13a: There is a negative effect of the firm size on weighted average cost of capital.

H13b: There is a negative effect of the leverage on weighted average cost of capital.

Model 13 was employed to test hypotheses 13a and 13b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.14 Model Test: The Effect of Rights of Shareholders on Weighted Average Cost of Capital

This study investigated the effect of rights of shareholders on weighted average cost of capital (WACC) by estimating the following regression model.

H14: There is negative effect of rights of shareholders on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 R\_AGM - \beta_2 R\_DIVI - \beta_3 F\_SIZE - \beta_4 LEV + e \quad \text{(Model 14)}$$

Hypotheses 14a and 14b were set to examine the effect of rights of shareholders on weighted average cost of capital.

H14a: There is a negative effect of the annual general meeting on weighted average cost of capital.

H14b: There is a negative effect of the dividend yield on weighted average cost of capital.

Model 14 was employed to test hypotheses 14a and 14b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.15 Model Test: The Effect of Equitable Treatment of Shareholders on Weighted Average Cost of Capital

This study investigated the effect of equitable treatment of shareholders on weighted average cost of capital (WACC) by estimating the following regression model.

H15: There is negative effect of equitable treatment of shareholders on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 E\_PROXY - \beta_2 F\_SIZE - \beta_3 LEV + e \quad \text{(Model 15)}$$

Hypotheses 15 was set to examine the effect of equitable treatment of shareholders on weighted average cost of capital.

H15a: There is a negative effect of the proxy voting on weighted average cost of capital.

Model 15 was employed to test hypotheses 15a, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.16 Model Test: The Effect of Role of Stakeholders on Weighted Average Cost of Capital

This study investigated the effect of role of stakeholders on weighted average cost of capital (WACC) by estimating the following regression model.

H16: There is negative effect of role of stakeholders on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 S\_MSB - \beta_2 F\_SIZE - \beta_3 LEV + e \quad \text{(Model 16)}$$

Hypotheses 16 was set to examine the effect of role of stakeholders on weighted average cost of capital.

H16a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on weighted average cost of capital.

Model 16 was employed to test hypotheses 16a, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.17 Model Test: The Effect of Disclosure and Transparency on Weighted Average Cost of Capital

This study investigated the effect of disclosures and transparency on weighted average cost of capital (WACC) by estimating the following regression model.

H17: There is negative effect of disclosure and transparency on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 D\_FIVE - \beta_2 D\_CGR - \beta_3 F\_SIZE - \beta_4 LEV + e \quad \text{(Model 17)}$$

Hypotheses 17a and 17b were set to examine the effect of disclosures and transparency on weighted average cost of capital.

H17a: There is a negative effect of the share held by the five largest shareholders on weighted average cost of capital.

H17b: There is a negative effect of the corporate governance reporting on weighted average cost of capital.

Model 17 was employed to test hypotheses 17a and 17b, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

3.4.18 Model Test: The Effect of Responsibilities of the Board on Weighted Average Cost of Capital

This study investigated the effect of responsibilities of the board on weighted average cost of capital (WACC) by estimating the following regression model.

H18: There is negative effect of responsibilities of the board on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 B\_AUCOM - \beta_2 B\_DAUL - \beta_3 B\_SIZE - \beta_4 B\_COM - \beta_5 F\_SIZE - \beta_6 LEV + e \quad \text{(Model 18)}$$

Hypotheses 18a to 18d were set to examine the effect of responsibilities of the board on weighted average cost of capital.

H18a: There is a negative effect of the audit committees on weighted average cost of capital.

H18b: There is a negative effect of the CEO duality on weighted average cost of capital.

H18c: There is a negative effect of the board size on weighted average cost of capital.

H18d: There is a negative effect of the board compensation on weighted average cost of capital.

Model 18 was employed to test Hypotheses 18a to 18d, as the main issues of testing here are the signs and significance of the coefficients of variables that are of interest.

Before reaching to the findings of the research questions, a model was designed by the research for the methodology to work on. The answers were acquired from all cost of capital effect data in all corporate governance sections (independent

variables: 1) rights of shareholders, 2) equitable treatment of shareholders, 3) role of stakeholders, 4) disclosure and transparency, and 5) responsibilities of the board).

After the data collection from the annual reports of SET registered company samples, multiple regressions were applied for the testing on the effect of dependent variables (cost of debt, cost of equity, and weighted average cost of capital). Bozec (2010) recommended that the independent variables are the rights of shareholders, role of stakeholders, equitable treatment of shareholders, responsibilities of the board, and disclosure and transparency.

3.5 Measurement

3.5.1 Corporate Governance

In this study, line with the study of Klapper and Love (2002), corporate governance (CG) has been estimated by the use of following equation.

CG = f (RS, ES, ROS, DT, RB)

Where:

R_RS = Rights of Shareholders

E_ES = Equitable Treatment of Shareholders

S_ROS = Role of Stakeholders

D_DT = Disclosure and Transparency

B_RB = Responsibilities of the Board

The theoretical framework of corporate governance measurement has been shown in the above equation. These variables have been used once independently to use them as a proxy for corporate governance and collectively in the calculation of the corporate governance score for each company.

3.5.2 Cost of Capital

From the study on previous researches, cost of capital consists of cost of debt, cost of equity, and weighted average cost of capital. It could explain the measurements of them as detailed below.

3.5.2.1 Cost of debt (C_DEBT)

Several different proxies have been used in the literature to measure the cost of debt. There are three common methods of calculating cost of debt, namely yield spread, credit rating, and interest rate on the firm's debt calculated from financial statements. In this study regard, Francis and Pereira (2005) suggest this proxy of cost of debt which followed the work of Pittman and Fortin (2004); Zhu (2009); Pio, Missonier, and Piera, (2007); Soha, (2011), and Zhu, (2012).

The cost of debt is the effective rate that a company pays on its current debt. In other words, cost of debt is the average interest rate on the debt of the firm. This can be measured in either before-tax or after-tax returns; in the accounting period of 2557, the corporate tax rate for companies listed on the Stock Exchange of Thailand is 20%. Data collection for cost of debt in this study used the method of interest rate on the firm's debt calculated from financial statements. Nonetheless, because interest expense is deductible, the after-tax cost is seen most often. This is one part of the company's capital structure, which also includes the cost of equity. The cost of debt is calculated as the firms' interest expense for the year divided by the average short-term and long-term debt during the same year (Pittman and Fortin, 2004). The formula of calculation is:

$$K_d = \frac{\sum_{t=1}^{N} X_i}{N} (1\text{-}T)$$

Where:

K_d = the cost of debt

N = the average interest rate on the debt of the firm

X_i = the average debt balance

T = the tax rate

3.5.2.2 Cost of equity (C_EQUITY)

Investors are often interested in the cost of equity as it is regarded as the required rate of return for them. In this regard, several models have been suggested in the literature to calculate cost of equity. The most common models include 1) Gordon growth model (1956), 2) Gordon Model (1959), and 3) three factor pricing model

(1995). As is the case in many finance issues, there is no consensus among researchers about the best model that should be used (Fama and French, 1997).

Thus, the current study employed Capital Assets Pricing Model (CAPM) to calculate cost of equity which is in line with many past studies (Bozec et al., 2014). According to the review above (Shah and Butt,2009; Graham and Harvey, 2001; Welch, 2008), this study used the Capital Asset Pricing Model (CAPM model) to measure the cost of equity which is the expected return from the investors' perspective. The CAPM model provides the following equation.

$$K_e = R_f + \beta[R_m - R_f)]$$

Where:

K_e = Cost of equity and is calculated by CAPM Model

R_f = Risk free rate of return

β = Firm i beta coefficient

R_m = Stand for market return and calculated by using Set index.

3.5.2.3 Weighted average cost of capital (WACC)

Prior studies (Bierman, 1993; Bruner et al., 1998; Meier and Tarhan, 2007; Bozec and Bozec, 2011; Titman and Martin, 2011; Pham et at., 2012) examined that cost of capital is the weighted average of the after-tax cost of debt capital and cost of equity based on the proportion of debt and equity in capital structure of the firm (WACC) measure to estimate cost of capital.

WACC = The weighted average cost of capital is calculated based on the following equation:

$$\text{WACC} = \frac{\text{D}}{\text{E+D}} K_d(1 - T) + \frac{\text{E}}{\text{E+D}} K_e$$

Where:

WACC = Weighted average capital is based on target weights of debt and equity with respect to their cost

D = The interest-bearing debt

E = The market capital

T = The marginal corporate tax rate

K_e = The cost of equity

K_d = The cost of debt (before tax)

In the next data analysis, multiple regressions were applied for the research model analysis in this study. Multiple regressions are a technique for data analysis used to analyze the effect of variables as follows:

1) There are three quantitative dependent variables.

2) There are k quantitative independent variables or the qualitative k amount of ($k \geq 2$)

3.6. Data Analysis

3.6.1 Descriptive Statistics

Descriptive statistics describe the main features of a collection of data quantitatively. Descriptive statistics are distinguished from inferential statistics (or inductive statistics) in that descriptive statistics aim to summarize a data set quantitatively without employing a probabilistic formulation rather than use the data to make inferences about the population that the data are thought to represent. Even when a data analysis draws its main conclusions using inferential statistics, descriptive statistics are generally also presented. The specific descriptive statistic are as follows:

1) The mean or average is probably the most commonly used method of describing central tendency. To compute the mean is to add up all the values and divide by the number of values.

2) The median is the score found at the exact middle of the set of values. One way to compute the median is to list all scores in numerical order and then locate the score in the center of the sample.

3) The mode is the most frequently occurring value in the set of scores. To determine the mode, the scores order might be gained as shown above and then counted each one. The most frequently occurring value is the mode.

4) Standard deviation is a more accurate and detailed estimate of dispersion because an outlier can greatly exaggerate the range. In statistics and probability theory, the standard deviation (SD) (represented by the Greek letter sigma, σ) measures the amount of variation or dispersion from the average. A low standard deviation indicates that the data points tend to be very close to the mean (also called expected value)

whereas a high standard deviation indicates that the data points are spread out over a large range of values. The standard deviation of a random variable, statistical population, data set, or probability distribution is the square root of its variance. It is algebraically simpler though in practice less robust than the average absolute deviation. A useful property of the standard deviation is that, unlike the variance, it is expressed in the same units as the data. However, for measurements with percentage as the unit, the standard deviation will have percentage points as the unit. In addition to expressing the variability of a population, the standard deviation is commonly used to measure confidence in statistical conclusions.

3.6.2 Inferential Statistics

Inferential statistics make propositions about a population, using data drawn from the population via some from sampling. Given a hypothesis about a population, for which the researchers wish to draw inferences, statistical inference consists of selecting a statistical model of the process which generates the data and deducing propositions from the model. There are different types of inferential statistics that are used. This study used multiple regression for analysis data since the aim of this study was to measure the degree of the effect more ratio variables.

3.6.3 Multiple Regression

After testing the relationship between variables and finding no multicollinearity problem, then the researcher tested the data appropriateness in the analysis as follows:

1) Checking data outlier to test the data between dependent and independent variables whether it has linear correlation or not. The method normally used in data checking is the Scatter Plots which is a graph that shows the relationship between two variables (Appendix B). The researcher later on checked on the dependent variables and deviation values as the Normality variable, setting for the dependent variable and the deviation must come from the Normality variable using, skewness, and Kurtosis.

2) The variation value of deviation is Homoscedasticity. In order to test whether it is the Homoscedasticity, the chart of Scatter Plot distribution is considered, and if the deviation value changes near to zero or changes in the narrow zone, this means the variation value of deviation from the prediction is Homoscedasticity. From

the consideration of Scatter Plot distribution, it was found that most of the deviation values spread above and under level of 0. From the narrow distribution, no matter how Y changes in which direction, it can be concluded that the variation values of deviation are Homoscedasticity.

3) Each of deviation value is independent or Autocorrelation. A condition in multi regression analysis is that each deviation value must be autocorrelated. In order to check this, the researcher must consider from the statistical value of Durbin-Watson, and if Durbin-Watson value was closed to 2 or between1.5 – 2.5, it can be concluded that it has the autocorrelation. From data analysis, it was found that Durbin-Watson value was between 1.5 – 2.5, thus, it can be concluded that the independent variables to test has no autocorrelation.

4) Each of independent variable shall not relate or Multicollinearity, in this condition checking, the researcher used the statistical value of Tolerance and Variance Inflation Factor (VIF). It was found that the tolerance values of all the independent variables were not close to zero (> 0.5) and Variance Inflation Factor values of all independent variables were less than 10. The results of tolerance values of the exogenous variables were between 0.863 to 0.994 and 1.006 to 1.158 for VIF. Thus, it can be concluded that all the independent variables are Multicollinearity (Bowerman et. al 2000).

From the linear regression assumption, the assumption may be violated on most accounting information due to the endogeneity where the error is related to the independent variable (testing with the robustness determination) (Becketti, 2013; Mitchell, 2012). Multicollinearity in the multiple regression solution is detected by examining the standard errors for β coefficients like the multicollinearity among the independent variables, and dummy-coded independent variables zero cell since every subject has the similar variable value and completely separated into two groups of dependent event variables which can be perfectly differentiated from the scores on one of the independent variables. The analysis by Hosmer and Lemeshow (2004) indicated the numerical problems that should be left without interpretation. Variables were tested for linearity and constant variance and dependence of the error term (residual plots), normality (histograms, skewness, and kurtosis), and multicollinearity (tolerance and

VIF) to ensure that the assumptions of multiple regression were met. All assumption tests were adequate based on standard rules of thumb (visual examination of residual plots and histograms, skewness -3 to 3, kurtosis -1 to 1, tolerance < 1, VIF < 10).

This method is normally used in case it is needed to know whether each variable of the study can predict criteria variables, more or less which can be benefited for other statistical methods such as path analysis.

Analysis results from Enter Regression included:

1. Descriptive Statistics: The results of basic statistical values of the criteria variable and the predict variable like Forward Selection;

2. Correlation: The result of the simple coefficient correlation analysis between the criteria variable and predict variable and among the predict variable just like Forward Selection; and

3. Model Summary: The result in this part presents about the coefficient Multiple Correlation: R value in one form by the analysis process is to bring the predict variable into all equation.

The result from the analysis in this part tested on the effect of the criteria variables and the set of predict variable and get one form of analysis. It can be explained that the level of statistical significance is 0.05% referring to multiple regression of the population which is not equal to 0. That means the criteria variables have the significant effect, or it can be said that the criteria dependence variables can be explained by the set of variable with the statistical significance level.

3.7 Summary of Variables

Based on the literature review in chapter 2 and the newly introduced variables in this present study, table 3.2 summarized all variables in this study.

Table 3.2 Summary Definition of Variables in This Study

Variable	Definition
C_DEBT	The Average interest payment
C_EQUITY	The CAPM model
WACC	Weighted average cost of capital
F_SIZE	The natural logarithm of total assets
LEV	The total debt over total assets
R_AGM	Rating of shareholder participation in Annual General Meeting (AGM); Outstanding = 6, Excellent = 5, Very good = 4, Good = 3, Rather = 2, Need to improve = 1
R_DIVI	Percentage of Dividend Yield selected from SET SMART
E_PROXY	Proxy voting form to shareholders with Annual General Meeting notice. If the firm has a policy of proxy voting, proxy voting with Annual General Meeting = 1; otherwise = 0.
S_MSB	Director remunerations (meeting allowance, salary and bonus)
D_FIVE	Percentage of shares held by the five largest shareholders
D_CGR	Rating of CG reporting
B_AUCOM	Percentage of audit committee
B_CEODUAL	1 = CEO is not chairman of the board, 0 otherwise. Chairman of the board and CEO are the same person or dummy measurement is not used.
B_SIZE	Number of board of director
B_COM	The natural logarithm of cash compensation, paid to board of directors

3.8 Conclusion

The purpose of this chapter was to describe the research methodology approaches which this study was designed and developed. Initially, the conceptual framework was presented. The population and samples were then identified. The population used in this study comprised all listed companies traded on the Stock Exchange of Thailand (SET) in 2014. The data collection on the effect of corporate governance was publicly available in annual reports, the company's websites, and AGM assessment from the Thai Investors Association. After the data were collected, the data analysis was conducted in order to address any potential multicolinearity concerns. Multiple regressions were used to test the statistical significance of the association between the dependent variable and the independent variables.

CHAPTER 4
RESEARCH RESULTS

4.1 Introduction

This chapter discussed an empirical study aiming to investigate the effect of corporate governance variables including the rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, on cost of capital of listed companies on the Stock Exchange of Thailand in 2014. The population of this study was registered companies on the Stock Exchange of Thailand. This section reported the outputs of descriptive statistics and multiple regression results. As mentioned earlier, the purposes of the study were as follows:

1. To investigate the effect of corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, on cost of debt of listed companies on the Stock Exchange of Thailand.

2. To investigate the effect of corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency and responsibilities of the board, on cost of equity of listed companies on the Stock Exchange of Thailand.

3. To investigate the effect of corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency and responsibilities of the board, on weighted average cost of capital of listed companies on the Stock Exchange of Thailand.

4.2 Research Questions and Hypotheses

The study intended to investigate the factors influencing cost of capital by using corporate governance as the variables of interest. The study narrowed the research questions into the following hypotheses:

4.2.1 Research Question 1 and Hypotheses

Research question 1: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and

transparency, and responsibilities of the board, affect cost of debt of listed companies on the Stock Exchange of Thailand?

Research hypotheses: The hypotheses developed to answer the first research question included:

H1: There is a negative effect of control variables on cost of debt.

H1a: There is a negative effect of the firm size on cost of debt.

H1b: There is a negative effect of the leverage on cost of debt.

H2: There is a negative effect of rights of shareholders on cost of debt.

H2a: There is a negative effect of the annual general meeting on cost of debt.

H2b: There is a negative effect of the dividend yield on cost of debt.

H3: There is negative effect of equitable treatment of shareholders on cost of debt.

H3a: There is a negative effect of the proxy voting on cost of debt.

H4: There is negative effect of role of stakeholders on cost of debt.

H4a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on cost of debt.

H5: There is negative effect of disclosure and transparency on cost of debt.

H5a: There is a negative effect of the share held by the five largest shareholders on cost of debt.

H5b: There is a negative effect of the corporate governance reporting on cost of debt.

H6: There is a negative effect of responsibilities of the board on cost of debt.

H6a: There is a negative effect of the audit committees on cost of debt.

H6b: There is a negative effect of the CEO duality on cost of debt.

H6c: There is a negative effect of the board size on cost of debt.

H6d: There is a negative effect of the board compensation on cost of debt.

4.2.2 Research Question 2 and Hypotheses

Research question 2: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of equity of listed companies on the Stock Exchange of Thailand?

Research hypotheses: The hypotheses developed to answer the second research question included:

H7: There is a negative effect of control variables on cost of equity.

H7a: There is a negative effect of the firm size on cost of equity.

H7b: There is a negative effect of the leverage on cost of equity.

H8: There is negative effect of rights of shareholders on cost of equity.

H8a: There is a negative effect of the annual general meeting on cost of equity.

H8b: There is a negative effect of the dividend yield on cost of equity.

H9: There is negative effect of equitable treatment of shareholders on cost of equity.

H9a: There is a negative effect of the proxy voting on cost of equity.

H10: There is negative effect of role of stakeholders on cost of equity.

H10a: There is a negative effect of the director remunerations meeting allowance, salary and bonus on cost of equity.

H11: There is negative effect of disclosure and transparency on cost of equity.

H11a: There is a negative effect of the share held by the five largest shareholders on cost of equity.

H11b: There is a negative effect of the corporate governance reporting on cost of equity.

H12: There is negative effect of responsibilities of the board on cost of equity.

H12a: There is a negative effect of the audit committees on cost of equity.

H12b: There is a negative effect of the board compensation on cost of equity.

H12c: There is a negative effect of the board size on cost of equity.

H12d: There is a negative effect of board compensation on cost of equity.

4.2.3 Research Question 3 and Hypotheses

Research question 3: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect weighted average cost of capital of listed companies on the Stock Exchange of Thailand?

Research hypotheses: The hypotheses developed to answer the third research question included:

H13: There is a negative effect of control variables on weighted average cost of capital.

H13a: There is a negative effect of the firm size on weighted average cost of capital.

H13b: There is a negative effect of the leverage on weighted average cost of capital.

H14: There is negative effect of rights of shareholders on weighted average cost of capital.

H14a: There is a negative effect of the annual general meeting on weighted average cost of capital.

H14b: There is a negative effect of the dividend yield on weighted average cost of capital.

H15: There is negative effect of equitable treatment of shareholders on weighted average cost of capital.

H15a: There is a negative effect of the proxy voting on weighted average cost of capital.

H16: There is negative effect of role of stakeholders on weighted average cost of capital.

H16a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on weighted average cost of capital.

H17: There is negative effect of disclosure and transparency on weighted average cost of capital.

H17a: There is a negative effect of the share held by the five largest shareholders on weighted average cost of capital.

H17b: There is a negative effect of the corporate governance reporting on weighted average cost of capital.

H18: There is negative effect of responsibilities of the board on weighted average cost of capital.

H18a: There is a negative effect of the audit committees on weighted average cost of capital.

H18b: There is a negative effect of the CEO duality on weighted average cost of capital.

H18c: There is a negative effect of the board size on weighted average cost of capital.

H18d: There is a negative effect of the board compensation on weighted average cost of capital.

According to chapter 4 contextual summary, the study results were shown according to its previous stated objectives to research on the investment decision of the effect of corporate governance impact on the informative cost of capital via the empirical evidence from Thailand.

4.3 Research Findings

In this part presents descriptive statistics gathering derived from data collection. So, in its study, it would present basic statistics consisting of rudimentary data of statistical figures, including the minimum, maximum, mean, standard deviation, median, mode, skewness, and kurtosis.

Analytical results of overall descriptive statistics consisted of introductory characteristic of sampling, and it is summarized that this study pertained to the sample comprising 303 companies listed on the Stock Exchange of Thailand in 2014.

Table 4.1 Descriptive statistics

Variables	N	Min	Max	Mean	Median	Mode	SD.	Skewness	Kurtosis
C_DEBT (%)	303	1.02	12.37	5.33	5.25	6.75	1.53	0.22	0.63
C_EQUITY (%)	303	2.31	27.93	12.11	11.78	12.91	5.98	0.28	-0.87
WACC (%)	303	1.18	22.97	10.01	9.3	9.77	5.02	0.45	-0.66
R_AGM (score)	303	2.00	6.00	4.65	5.00	5.00	0.96	- 0.31	-0.63
R_DIVI (%)	303	0.00	20.22	2.58	2.21	0	2.51	1.60	6.50
E_PROXY (dummy)	303	0.00	1.00	0.74	1.00	1.00	0.44	- 1.12	-0.76
S_MSB (mb)	303	3.84	37.82	24.51	28.38	9.32	3.29	8.40	85.02
D_FIVE (%)	303	15.80	99.77	55.16	54.38	32.57	18.15	0.08	-0.41
D_CGR (score)	303	0.00	5.00	2.47	3.00	0.00	1.89	- 0.32	-1.48
B_AUCOM (%)	303	13.64	50	21.83	21.43	23.08	4.43	1.61	7.10
B_DUAL (dummy)	303	0.00	1.00	0.74	1.00	1.00	0.44	- 1.08	-0.85
B_SIZE (number)	303	6.00	28.00	14.78	14.00	13.00	2.99	0.38	1.80
B_COM(mb)	303	0.2	5,595.12	29.92	5.36	2.78	301.16	18.30	338.90
F_SIZE (mb)	303	100.29	1,779,179.16	26,706.68	4,945.45	30,975.22	113,365.11	11.93	171.11
LEV (ratio)	303	0.00	1.42	0.46	0.46	0.48	0.24	0.56	0.86

Where : C_DEBT = "Cost of Debt" is defined as the percentage of interest expense divided percentage of interest expense divided by the average total debt., C_EQUITY= "Cost of Equity" is defined as the CAPM model., WACC = "Weighted average cost of capital" is defined as the weighted average of the after-tax cost of debt capital and cost of equity based on the proportion of debt and equity in capital structure of the firm., R_AGM = Rating of Shareholder participation in Annual General Meeting ., R_DIVI =Percentage of dividend yield., E_PROXY = Dummy variable: 1 if the firm sent proxy voting form to shareholders with Annual General Meeting notice, and 0 otherwise., S_MSB = Director remunerations (meeting allowance, salary and bonus)., D_FIVE = Percentage of share held by the five largest shareholders., D_CGR = Rating of CG reporting., B_AUCOM is Number of audit committees., B_DUAL = Dummy variable: 1 = CEO is not chairman of the board, 0 otherwise. Chairman of the board and CEO are the same person or dummy measurement is not used., B_SIZE = Number on board of directors.,
B_COM = The average (per head) cash compensation, paid to board, estimated as the ratio of board compensation to the total number of board., F_SIZE = Natural logarithm of total assets of firm., LEV = The total debt over total assets, mb = Million Baht, 33 Baht = 1 US$

Tables 4.1 presented the descriptive statistics consisting of maximum, minimum, mean, standard deviation, median, mode, skewness and kurtosis of all observations in 2014.

Table 4.1 showed descriptive statistics based on observation, including basic statistics, namely minimum value, maximum value, mean, median, mode, and standard deviation of all variables. The results revealed that cost of debt (C_DEBT) ranged from 1.02 percent to 12.37 percent with an average of 5.33 percent (SD = 1.53) while the median and mode were 5.25 and 6.75, respectively (Skewness = 0.22, Kurtosis = 0.63). Thai listed firms' cost of equity (C_EQUITY) ranged from 2.31 percent to 27.93 percent with an average of 12.11 percent (SD = 5.98) while the median and mode were 11.78 and 12.91, respectively (Skewness = 0.28, Kurtosis = -0.87). Thai listed firms' weighted average cost of capital (WACC) ranged from 1.18 percent to 22.97 percent with an average of 10.01 percent (SD = 5.02) whereas the median and mode were 9.30 and 9.77, respectively (Skewness = 0.45, Kurtosis = -0.66).

The results of descriptive statistics according to the five aspects of corporate governance consisting of 1) rights of shareholders, 2) equitable treatment, 3) role of stakeholders, 4) disclosure and transparency, and 5) responsibilities of the board were also provided. Regarding the rights of shareholders in terms of shareholder participation rating in the annual general meeting (R_AGM) concerns, Thai listed firms ranged from 2.00 to 6.00 with an average of 4.65 (SD = 0.96) while the median and mode were 5.00 and 5.00, respectively (Skewness = -.31, Kurtosis = -0.63). In addition, the Thai listed firms' percentage of dividend payment (R_DIVI) ranged from 0.00 to 20.22 with an average of 2.58 (SD = 2.51) whereas the median and mode were 2.21 and 0, respectively (Skewness = 1.60, Kurtosis = 6.50).

Due to the equitable treatment regarding of the dummy variable as 1 if the Annual General Meeting notice was sent with the proxy voting form to shareholders by the firm, and 0 if it was otherwise (E_PROXY), the Thai listed firms ranged from 0.00 to 1.00 with an average of 0.74 (SD = 0.44) while the median and mode were 1.00 and 1.00, respectively (Skewness = - 1.12, Kurtosis = - 0.76).

For the role of stakeholders in terms of the Thai listed firms' director remuneration (meeting allowance, salary, and bonus) (S_MSB), it ranged from 3,839,070.50 baht to 37,872,000 baht with an average of 24,510,304 baht (SD = 3,244,289), and the median and mode were 28,384,347 and 9,315,000 baht, respectively

(Skewness = 8.40, Kurtosis = 85.02) for number of Skewness and Kurtosis adjusted to Normal distribution curve.

In terms of disclosure and transparency regarding the percentage of shares held by five largest shareholders (D_FIVE) of Thai listed firms, it ranged from 15.80 to 99.77 with an average of 55.16 (SD = 18.15) while the median and mode were 54.38 and 32.57, respectively (Skewness = 0.08, Kurtosis = -0.41). Moreover, Thai listed firms' rating of corporate governance reporting (D_CGR) ranged from 0.00 to 5.00 with an average of 2.47 (SD = 1.89) while the median and mode were 3.00 and 0.00, respectively (Skewness = -0.32, Kurtosis = -1.48).

Regarding the board's responsibilities in terms of auditing committees (B_AUCOM) percentage in Thai listed firms, this ranged from 13.64 percent to 50 percent with an average of 21.83 percent (SD = 4.43) whereas the median and mode were 21.43 and 23.08, respectively (Skewness = 0.83, Kurtosis = 1.57). CEO duality of dummy variable as 1 if CEO had not come from the chairman of the board, and 0 if it was otherwise (B_DUAL) of Thai listed firms, it ranged from 0.00 to 1.00 with an average of 0.74 (SD = 0.44), and the median and mode were 1.00 and 1.00, respectively (Skewness = -1.08, Kurtosi = -0.85). The amount of board of directors (B_SIZE) in Thai listed firms ranged from 2.00 to 28.00 with an average of 14.78 (SD = 2.99) while the median and mode were 14.00 and 13.00, respectively (Skewness0.38, Kurtosis = 1.80). The amount of board compensation (B_COM) in Thai listed firms ranged from 200,000 baht to 95,595,119,250 baht with an average of 29,915,432.82 baht (SD = 301161679.60) whereas the median and mode were 5,361,500 baht and 2,780,000 baht, respectively (Skewness 0.71, Kurtosis = 2.61). Furthermore, natural logarithm of the firm's total assets (F_SIZE) of Thai listed firms ranged from 8 to 12.44 with an average of 9.74 (SD = 0.71) while the median and mode were 9.61 and 8.80, respectively (Skewness = 1.23, Kurtosis = 12.26). Finally, the total debt over the total assets of financial leverage (LEV) of Thai listed firms ranged from 0.00 to 1.42 with an average of 0.46 percent (SD = 0.24), and the median and mode were 0.46 and 0.48, respectively (Skewness = 0.56, Kurtosis = 0.86).

Table 4.2 Descriptive statistics (data screen and transformation)

Variables	N	Min	Max	Mean	Median	Mode	SD.	Skew ness	Kurtosis
C_DEBT (%) after tax	303	0.82	7.54	4.22	4.19	5.40	1.22	0.003	-.40
R_DIVI (Z-score)	303	-0.68	0.50	-0.42	-0.46	-0.68	0.25	0.83	0.33
S_MSB (log10)	303	6.58	10.58	8.44	8.44	8.07	0.66	0.27	0.19
B_AUCOM (log10)	303	1.13	1.70	1.33	1.33	1.36	0.84	0.43	1.58
B_COM(log10)	303	5.30	9.75	6.77	6.70	6.44	0.56	0.71	2.61
F_SIZE (log 10)	303	8	12.44	9.74	9.61	8.80	0.71	1.23	2.26

Where : C_DEBT = "Cost of Debt" is defined as the percentage of interest expense divided percentage of interest expense divided by the average total debt., R_DIVI =Percentage of dividend payment., S_MSB = Director remunerations (meeting allowance, salary and bonus)., B_AUCOM is Number of audit committees., B_COM = The average (per head) cash compensation, paid to board, estimated as the ratio of board compensation to the total number of board., F_SIZE = Natural logarithm of total assets of firm.

Tables 4.2 presented the data screen and transformation for descriptive statistics consisting of maximum, minimum, mean, standard deviation, median, mode, skewness, and kurtosis of all observations in 2014. It is to be noted that if the analysis identified multicollinearity problems, a natural log (l0) was employed to solve the problem as follows. Table 4.2 showed descriptive statistics based on observation, including basic statistics namely minimum value, maximum value, mean, median, mode, and standard deviation of all variables according to cost of debt (C_DEBT) which ranged from 0.82 percent to 7.54 percent with an average of 4.22 percent (SD = 1.22) while the median and mode were 4.19 and 5.40, respectively (Skewness = 0.003, Kurtosis = -0.40).

For the Thai listed firms' percentage of dividend payment (R_DIVI), it ranged from -0.68 to 0.50 with an average of -0.42 (SD = 0.25) whereas the median and mode were -0.46 and -0.68, respectively (Skewness = 0.83, Kurtosis = 0.33).

Regarding the role of stakeholders in regard of the Thai listed firms' director remuneration (meeting allowance, salary, and bonus) (S_MSB), it ranged from 6.58 to 10.58 with an average of 8.44 (SD = 0.66), and the median and mode were 8.44 and 8.06, respectively (Skewness = 0.27, Kurtosis = 0.19) for number of Skewness and Kurtosis adjusted to Normal distribution curve.

Due to the board's responsibilities in terms of auditing committees (B_AUCOM) percentage in Thai listed firms, this ranged from 13.64 percent to 50 percent with an average of 21.84 percent (SD = 4.42) while the median and mode were 21.43 and 23.08, respectively (Skewness = 0.43, Kurtosis = 1.57). The amount of board compensation (B_COM) in Thai listed firms ranged from 1.13 to 7.10 with an average of 1.33 (SD = 0.84), and the median and mode were 6.70 and 6.44, respectively (Skewness 0.71, Kurtosis = 2.61. Natural logarithm of the firm's total assets (F_SIZE) of Thai listed firms ranged from 8 to 12.44 with an average of 9.74 (SD = 0.71) while the median and mode were 9.61 and 8.80, respectively (Skewness = 1.23, Kurtosis = 12.26).

The results of correlation analysis were illustrated. These consisted of a model derived from multiple regression analysis, testing on forecast abilities of the model and examining conditions of variable analysis.

4.4 Analysis and Correlation Matrix

Table 4.3 explained Pearson correlation coefficient between dependent variable and independent one as well as control corporate governance mechanism which is explained in an effect of governance variables affecting accounting data on cost of capital. In this study, it was an empirical research that the researcher selected to use a form to measure the effect of independent variable on the dependent one. Apart from these, the results in table 4.3 also indicated that corporate governance mechanism variable in major public company limited has its effect of corporate governance on cost of capital, measuring total business on significance level of confidence related. Correlation tests were performed to identify any significant, large correlations between variables to examine on model relationships. The results of the noticeable variables relationship analysis related to corporate governance and cost of capital consisted of 10 variables related to business governance, 3 costs of capital variables, and 2 control variables. The Pearson correlation coefficient was used and revealed the values between -0.320 to 0.694. The correlation between the variables has the highest value of cost of equity and WACC of 0.694 at a significance level of 0.05. Most of the correlations found were relatively minor ($r < 0.200$), and most exceptions had known relationships.

From the study by Hinkle (1998) and Black (2006), it was found that Pearson correlation coefficient was not over than 0.75; thus, it can be considered that the study variables had the relationship in the acceptable level without the problem of multicollinearity. This is in accordance with the assumption of regression. The variables from this study could be brought to test the hypotheses with the details of analysis results as shown in table 4.3.

Table 4.3 Correlation matrix

	C_DEBT	C_EQUITY	WACC	R_AGM	R_DIVI	E_PROXY	S_MSB	D_FIVE	D_CGR	B_AUCOM	B_DUAL	B_SIZE	B_COM	F_SIZE	LEV
C_DEBT	1														
C_EQUITY	- 0.002	1													
WACC	-0.051	0.694**	1												
R_AGM	-0.148**	-0.228**	-0.209**	1											
R_DIVI	0.088	-0.117*	-0.089	-0.077	1										
E_PROXY	-0.040	- 0.203**	-0.313**	0.064	0.121*	1									
S_MSB	-0.018**	-0.093	-0.020	0.033	0.011	0.061	1								
D_FIVE	0.136*	-0.084	-0.098	-0.022	0.041	-0.002	0.081	1							
D_CGR	-0.076	-0.202**	-0.197**	-0.005	0.011	0.331**	0.317**	0.079	1						
B_AUCOM	0.054	-0.038	-0.209**	0.123*	-0.109	0.176**	-0.196**	-0.005	-0.104	1					
B_DUAL	-0.085	-0.240**	-0.310**	0.140*	-0.029	0.212**	0.028	0.040	0.206**	0.097	1				
B_SIZE	-0.095	-0.258**	- 0.320**	0.112	0.045	0.238**	0.169**	0.040	0.216**	-0.050	0.313**	1			
B_COM	-0.104	0.007	0.016	-0.039	-0.088	0.030	0.299**	-0.025	0.259**	- 0.117*	0.121*	-0.151**	1		
F_SIZE	-0.069	-0.263**	-0.281**	0.122*	0.042	0.179**	0.103	0.038	0.163**	0.067	0.238**	0.257**	0.156**	1	
LEV	-0.177**	-0.199**	-0.223**	0.109	-0.059	0.150**	0.025	-0.036	0.122*	0.121*	0.169**	0.174**	0.084	0.172**	1

Where : C_DEBT = Cost of Debt, C_EQUITY = Cost of Equity, WACC = Weighted average cost of capital, R_AGM = Annual general meeting , R_DIVI = Dividend Yield , E_PROXY = Proxy voting, S_MSB = Meeting allowance salary and bonus , D_FIVE = Share held by the five largest shareholders, D_CGR = Corporate governance report, B_AUCOM = Audit committees, B_DUAL = CEO Duality , B_SIZE = Board size , B_COM = Board compensation , F_SIZE = Firm size and LEV = Leverage

** and * denote a statistical significance level at 0.01 and 0.05, respectively.

Tables 4.3 showed the Pearson correlation coefficient among the variables to evaluate multicollinearity among cost of capital and corporate governance mechanism of firms in 2014. The overall conclusion revealed that the variables have no serious con

4.5 Multiple Regression Results

In this section, the study analyzed the influence of all control variables and corporate governance towards cost of capital as measured by cost of debt, cost of equity, and weighted average cost of capital. Table 4.4 showed the multiple regression results.

Model 1 = Control Variables (H1)

H1: There is a negative effect of control variables on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 F\_SIZE - \beta_2 LEV + e$$

H1a: There is a negative effect of the firm size on cost of debt.

H1b: There is a negative effect of the leverage on cost of debt.

Table 4.4 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.025 and 0.018, respectively, which means that the explanatory variables are able to explain the dependent variable by 2.50%. Table 4.4 also provided evidence of the effect of control variables on cost of debt. The coefficient of leverage (LEV) was negative and significant at a significance level of 0.05. Thus, the hypothesis 1b was supported.

Nevertheless, the coefficient of firm size (F_SIZE) was not significant. Thus, the hypothesis 1a was not supported in this study.

Model 2 = Model 1 + the right of shareholders (H2)

H2: There is a negative effect of rights of shareholders on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 R\_AGM + \beta_2 R\_DIVI - \beta_3 F\_SIZE - \beta_4 LEV + e$$

H2a: There is a negative effect of the annual general meeting on cost of debt.

H2b: There is a negative effect of the dividend yield on cost of debt.

After entering the rights of shareholders proxies: annual general meeting and dividend yield in step two, table 4.4 showed the hierarchical multiple regression model

the R^2 and adjusted R^2 of the model were 0.051 and 0.039, respectively, which means that the explanatory variables are able to explain the dependent variable by 5.10%. The right of shareholders could explain an additional 2.70 % ($\Delta R^2 = 0.027$)

Table 4.4 also provided evidence of the effect of rights of shareholders on cost of debt. The coefficient of annual general meeting (R_AGM) was negative and significant at a significance level of 0.05. Thus, the hypothesis 2a was supported.

Nonetheless, the coefficient of dividend yield (R_DIVI) was not significant. Thus, the hypothesis 2b was not supported in this study.

In addition, the coefficient of leverage (LEV) was negative and significant at a significance level of 0.05. The coefficient of firm size (F_SIZE) was not significant.

Table 4.4 Multiple regression results for effect of control variables and rights of shareholders on cost of debt

Independent Variables	**Exp. Sign**	**Unstandardized Coefficients**		**Standardized Coefficients**	***t*-test**	***p*-value**	**Collinearity Statistics**	
		B	**Std. Erro**				**Tolerance**	**VIF**
Step 1: Model 1								
(Constant)	None	5.179	0.956		5.416	0.000*		
F_SIZE	(-)	-0.062	0.098	-0.036	-0.631	0.528	0.988	1.012
LEV	(-)	-0.759	0.292	-0.149	-2.603	0.010*	0.988	1.012
F				3.808				
p-value				0.023*				
R^2				0.025				
Adj. R^2				0.018				
Durbin-Watson				1.768				
Step 2: Model 2								
(Constant)	None	5.792	0.970		5.970	0.000*		
R_AGM	(-)	-0.165	0.073	-0.130	-2.254	0.025*	0.960	1.042
R_DIVI	(-)	0.451	0.279	0.092	1.614	0.108	0.990	1.011
F_SIZE	(-)	-0.031	0.098	-0.018	-0.320	0.749	0.969	1.033
LEV	(-)	-0.661	0.291	-0.130	-2.273	0.024*	0.975	1.026
F				4.027				
p-value				0.003*				

Table 4.4 Multiple regression results for effect of control variables and rights of shareholders on cost of debt (Cont.)

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Erro				Tolerance	VIF
R^2				0.051				
Adj. R^2				0.039				
ΔR^2				0.027				
Durbin-Watson				1.748				

Where: R_AGM = Annual general meeting, R_DIVI = Dividend Yield, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 3 = Model 1 + the equitable treatment of shareholders (H3)

H3: There is negative effect of equitable treatment of shareholders on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 E\_PROXY - \beta_2 F\_SIZE - \beta_3 LEV + e$$

H3a: There is a negative effect of the proxy voting on cost of debt.

Table 4.5 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.025 and 0.018, respectively, which means that the explanatory variables are able to explain the dependent variable by 2.50%. Table 4.5 also provided evidence of the effect of control variables on cost of debt. The coefficient of leverage (LEV) was negative and significant at a significance level of 0.05.

After entering the equitable treatment of shareholders proxies: proxy voting in step two, table 4.5 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.025 and 0.015, respectively, which means that the explanatory variables are able to explain the dependent variable by 2.50%. The equitable treatment of shareholders does not change ($\Delta R^2 = 0.000$).

Table 4.5 also provided evidence of the effect of equitable treatment of shareholders on cost of debt. The coefficient of proxy voting (E_PROXY) was not significant. Thus, the hypothesis 3a was not supported.

In addition, the coefficient of leverage (LEV) was negative and significant at a significance level of 0.05. The coefficient of firm size (F_SIZE) was not significant.

Table 4.5 Multiple regression results for effect of control variables and equitable treatment of shareholders on cost of debt

Independent Variables	**Exp. Sign**	**Unstandardized Coefficients**		**Standardized Coefficients**	***t*-test**	***p*-value**	**Collinearity Statistics**	
		B	**Std. Error**				**Toleranc**	**VIF**
Step 1: Model 1								
(Constant)	None	5.179	0.956		5.416	0.000*		
F_SIZE	(-)	-0.062	0.098	-0.036	-0.631	0.528	0.988	1.012
LEV	(-)	-0.759	0.292	-0.149	-2.603	0.010*	0.988	1.012
F				3.808				
p-value				0.023*				
R^2				0.025				
Adj. R^2				0.018				
Durbin-Watson				1.768				
Step 2: Model 3								
(Constant)	None	5.165	0.960		5.378	0.000*		
E_PROXY	(-)	-0.031	0.164	-0.011	-0.191	0.849	0.944	1.059
F_SIZE	(-)	-0.059	0.100	-0.034	-0.586	0.558	0.957	1.045
LEV	(-)	-0.752	0.295	-0.148	-2.546	0.011*	0.969	1.032
F				2.543				
p-value				0.056				
R^2				0.025				
Adj. R^2				0.015				
ΔR^2				0.000				
Durbin-Watson				1.766				

Where: E_PROXY = Proxy voting, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 4 = Model 1 + the role of stakeholders (H4)

H4: There is negative effect of role of stakeholders on cost of debt.

$$C\_DEBT = \beta_0 - \beta_1 S\_MSB - \beta_2 F\_SIZE - \beta_3 LEV + e$$

H4a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on cost of debt.

Table 4.6 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.025 and 0.018, respectively, which means that the explanatory variables are able to explain the dependent variable by 2.50%. Table 4.6 also provided evidence of the effect of control variables on cost of debt. The coefficient of leverage (LEV) was negative and significant at a significance level of 0.05.

After entering the role of stakeholders proxies: meeting allowance salary and bonus in step two, table 4.6 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.027 and 0.017, respectively, which means that the explanatory variables are able to explain the dependent variable by 2.70%. The role of stakeholders could explain an additional 0.2 % ($\Delta R^2 = 0.002$).

Table 4.6 also provided evidence of the effect of role of stakeholders on cost of debt. The coefficient of meeting allowance salary and bonus (S_MSB) was not significant. Thus, the hypothesis 4a was not supported.

In addition, the coefficient of leverage (LEV) was negative and significant at a significance level of 0.05. The coefficient of firm size (F_SIZE) was not significant.

Table 4.6 Multiple regression results for effect of control variables and role of stakeholders on cost of debt

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 1								
(Constant)	None	5.179	0.956		5.416	0.000*		
F_SIZE	(-)	-0.062	0.098	-0.036	-0.631	0.528	0.988	1.012
LEV	(-)	-0.759	0.292	-0.149	-2.603	0.010*	0.988	1.012
F				3.808				
p-value				0.023*				
R^2				0.025				
Adj. R^2				0.018				
Durbin-Watson				1.768				
Step 2: Model 4								
(Constant)	None	5.885	1.258		4.678	0.000*		
S_MSB	(-)	-0.091	0.106	-0.049	-0.865	0.388	0.994	1.006
F_SIZE	(-)	-0.055	0.099	-0.032	-0.562	0.574	0.982	1.018
LEV	(-)	-0.759	0.292	-0.149	-2.599	0.010*	0.988	1.012
F				2.786				
p-value				0.041*				
R^2				0.027				
Adj. R^2				0.017				
ΔR^2				0.002				
Durbin-Watson				1.785				

Where: S_MSB = Meeting allowance salary and bonus, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 5 = Model 1 + the disclosure and transparency (H5)

H5: There is negative effect of disclosure and transparency on cost of debt.

$$C\_DEBT = \beta_0 + \beta_1 D\_FIVE - \beta_2 D\_CGR - \beta_3 F\_SIZE - \beta_4 LEV + e$$

H5a: There is a negative effect of the share held by the five largest shareholders on cost of debt.

H5b: There is a negative effect of the corporate governance reporting on cost of debt.

Table 4.7 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.025 and 0.018, respectively, which means that the explanatory variables are able to explain the dependent variable by 2.50%. Table 4.7 also provided evidence of the effect of control variables on cost of debt. The coefficient of leverage (LEV) was negative and significant at a significance level of 0.05.

After entering the disclosure and transparency proxies: five largest shareholders and corporate governance report in step two, table 4.7 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.051 and 0.039, respectively, which means that the explanatory variables are able to explain the dependent variable by 5.10%. The disclosure and transparency could explain an additional 2.70 % ($\Delta R^2 = 0.027$).

Table 4.7 also provided evidence of the effect of disclosure and transparency on cost of debt. The coefficient of share held by the five largest shareholders (D_FIVE) was positive and significant at a significance level of 0.05. Thus, the hypothesis 5a was not supported.

Nonetheless, the coefficients of corporate governance report (D_CGR) was not significant. Therefore, the hypothesis 5b was not supported.

In addition, the coefficient of leverage (LEV) was negative and significant at a significance level of 0.05. The coefficient of firm size (F_SIZE) was not significant.

Table 4.7 Multiple regression results for effect of control variables and disclosure and transparency on cost of debt

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 1								
(Constant)	None	5.179	0.956		5.416	0.000*		
F_SIZE	(-)	-0.062	0.098	-0.036	-0.631	0.528	0.988	1.012
LEV	(-)	-0.759	0.292	-0.149	-2.603	0.010*	0.988	1.012
F				3.808				
p-value				0.023*				
R^2				0.025				
Adj. R^2				0.018				
Durbin-Watson				1.768				
Step 2: Model 5								
(Constant)	None	4.647	0.964		4.819	0.000*		
D_FIVE	(-)	0.010	0.004	0.142	2.513	0.013*	0.994	1.006
D_CGR	(-)	-0.059	0.037	-0.092	-1.597	0.111	0.960	1.042
F_SIZE	(-)	-0.055	0.099	-0.032	-0.562	0.574	0.982	1.018
LEV	(-)	-0.759	0.292	-0.149	-2.599	0.010*	0.988	1.012
F				4.044				
p-value				0.003*				
R^2				0.051				
Adj. R^2				0.039				
ΔR^2				0.027				
Durbin-Watson				1.822				

Where: D_FIVE = Share held by the five largest shareholders, D_CGR = Corporate governance report, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 6 = Model 1 + the responsibilities of the board (H6)

H6: There is a negative effect of responsibilities of the board on cost of debt.

$$C\_DEBT = \beta_0 + \beta_1 B\_AUCOM - \beta_2 B\_DAUL - \beta_3 B\_SIZE - \beta_4 B\_COM - \beta_5 F\_SIZE - \beta_6 LEV + e$$

H6a: There is a negative effect of the audit committees on cost of debt.

H6b: There is a negative effect of the CEO Duality on cost of debt.

H6c: There is a negative effect of the board size on cost of debt.

H6d: There is a negative effect of the board compensation on cost of debt.

Table 4.8 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.025 and 0.018, respectively, which means that the explanatory variables are able to explain the dependent variable by 2.50%. Table 4.8 also provided evidence of the effect of control variables on cost of debt. The coefficient of leverage (LEV) was negative and significant at a significance level of 0.05.

After entering the responsibilities of the board proxies: audit committees, CEO duality, board size, and board compensation in step two, table 4.8 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.037 and 0.018, respectively, which means that the explanatory variables are able to explain the dependent variable by 3.70%. The responsibilities of the board could explain an additional 1.30 % ($\Delta R^2 = 0.013$).

Table 4.8 also provided evidence of the effect of responsibilities of the board on cost of debt. The coefficient of audit committees (B_AUCOM), CEO duality (B_DUAL), board size (B_SIZE), board compensation (B_COM) were not significant. Therefore, the hypotheses 6a to 6d were not supported.

In addition, the coefficient of leverage (LEV) was negative and significant at a significance level of 0.05. The coefficient of firm size (F_SIZE) was not significant.

Table 4.8 Multiple regression results for effect of control variables and responsibilities of the board on cost of debt

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 1								
(Constant)	None	5.179	0.956		5.416	0.000*		
F_SIZE	(-)	-0.062	0.098	-0.036	-0.631	0.528	0.988	1.012
LEV	(-)	-0.759	0.292	-0.149	-2.603	0.010*	0.988	1.012
F				3.808				
p-value				0.023*				
R^2				0.025				
Adj. R^2				0.018				
Durbin-Watson				1.768				
Step 2: Model 6								
(Constant)	None	4.774	1.717		2.781	0.006*		
B_AUCOM	(-)	0.763	0.857	0.052	0.891	0.374	0.944	1.059
B_DUAL	(-)	-0.156	0.170	-0.056	-0.920	0.358	0.863	1.158
B_SIZE	(-)	-0.020	0.025	-0.050	-0.810	0.418	0.869	1.151
B_COM	(-)	-0.093	0.127	-0.043	-0.733	0.464	0.953	1.049
F_SIZE	(-)	-0.020	0.103	-0.012	-0.197	0.844	0.901	1.110
LEV	(-)	-0.701	0.300	-0.138	-2.341	0.020*	0.938	1.067
F				1.916				
p-value				0.078				
R^2				0.037				
Adj. R^2				0.018				
ΔR^2				0.013				
Durbin-Watson				1.821				

Where: B_AUCOM = Audit committees, B_DUAL = CEO duality, B_SIZE = Board size, B_COM = Board compensation, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 7 = Control Variables (H7)

H7: There is a negative effect of control variables on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 F\_SIZE - \beta_2 LEV + e$$

H7a: There is a negative effect of the firm size on cost of equity.

H7b: There is a negative effect of the leverage on cost of equity.

Table 4.9 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.226 and 0.218, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 22.60%. Table 4.9 also provided evidence of the effect of control variables on cost of equity. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05. Thus, the hypotheses 7a and 7b were supported in this study.

Model 8 = Model 7 + the rights of shareholders (H8)

H8: There is a negative effect of rights of shareholders on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 R\_AGM + \beta_2 R\_DIVI - \beta_3 F\_SIZE - \beta_4 LEV + e$$

H8a: There is a negative effect of the annual general meeting on cost of equity.

H8b: There is a negative effect of the dividend yield on cost of equity.

After entering the rights of shareholders proxies: annual general meeting and dividend yield in step two, table 4.9 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.270 and 0.257, respectively, which means that the explanatory variables are able to explain the dependent variable by 27%. The right of shareholders could explain an additional 4.40 % (ΔR^2 = 0.044).

Table 4.9 also provided evidence of the effect of rights of shareholders on cost of equity. The coefficient of annual general meeting (R_AGM) was negative and significant at a significance level of 0.05. Thus, the hypothesis 8a was supported.

Nonetheless, the coefficients of dividend yield (R_DIVI) was not significant. Thus, the hypothesis 8b was not supported.

In addition, the coefficient of leverage (LEV) was negative and significant at a significance level of 0.05. The coefficient of firm size (F_SIZE) was not significant.

Table 4.9 Multiple regression results for effect of control variables and rights of shareholders on cost of equity

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 7								
(Constant)	None	35.223	3.656		9.633	0.000*		
F_SIZE	(-)	-2.023	0.376	-0.278	-5.374	0.000*	0.988	1.012
LEV	(-)	-7.335	1.118	-0.340	-6.563	0.000*	0.988	1.012
F				19.631				
p-value				0.000*				
R^2				0.226				
Adj. R^2				0.218				
Durbin-Watson				2.200				
Step 2: Model 8								
(Constant)	None	36.658	3.592		10.206	0.000*		
R_AGM	(-)	-1.030	0.268	-0.196	-3.839	0.000*	0.960	1.042
R_DIVI	(-)	-1.833	1.062	-0.086	-1.725	0.086	0.990	1.011
F_SIZE	(-)	-1.770	0.375	-0.244	-4.718	0.000*	0.969	1.033
LEV	(-)	-7.050	1.091	-0.327	-6.461	0.000*	0.975	1.026
F				14.637				
p-value				0.000*				
R^2				0.270				
Adj. R^2				0.257				
ΔR^2				0.044				
Durbin-Watson				2.202				

Where: R_AGM = Annual general meeting, R_DIVI = Dividend Yield, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 9 = Model 7 + the equitable treatment of shareholders (H9)

H9: There is negative effect of equitable treatment of shareholders on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 E\_PROXY - \beta_2 F\_SIZE - \beta_3 LEV + e$$

H9a: There is a negative effect of the proxy voting on cost of equity.

Table 4.10 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant

at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.226 and 0.218, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 22.60%. Table 4.10 also provided evidence of the effect of control variables on cost of equity. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the equitable treatment of shareholders proxies: proxy voting in step two, table 4.10 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.233 and 0.223, respectively, which means that the explanatory variables are able to explain the dependent variable by 23.30%. The equitable treatment of shareholders could explain an additional 0.70 % ($\Delta R^2 = 0.007$).

Table 4.10 also provided evidence of the effect of equitable treatment of shareholders on cost of equity. The coefficient of proxy voting (E_PROXY) was not significant. Thus, the hypothesis 9a was not supported.

In addition, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.10 Multiple regression results for equitable treatment of shareholders on cost of equity

Independent Variables	**Exp. Sign**	**Unstandardized Coefficients**		**Standardized Coefficients**	***t*-test**	***p*-value**	**Collinearity Statistics**	
		B	**Std. Error**				**Tolerance**	**VIF**
Step 1: Model 7								
(Constant)	None	35.223	3.656		9.633	0.000*		
F_SIZE	(-)	-2.023	0.376	-0.278	-5.374	0.000*	0.988	1.012
LEV	(-)	-7.335	1.118	-0.340	-6.563	0.000*	0.988	1.012
F				19.631				
p-value				0.000*				
R^2				0.226				
Adj. R^2				0.218				
Durbin-Watson				2.200				
Step 2: Model 9								
(Constant)	None	34.490	3.671		9.396	0.000*		
E_PROXY	(-)	-1.141	0.629	-0.097	-1.814	0.071	0.944	1.059

Table 4.10 Multiple regression results for equitable treatment of shareholders on cost of equity (Cont.)

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
F_SIZE	(-)	-1.882	0.384	-0.259	-4.905	0.000*	0.957	1.045
LEV	(-)	-6.885	1.141	-0.319	-6.037	0.000*	0.969	1.032
F				15.116				
p-value				0.000*				
R^2				0.233				
Adj. R^2				0.223				
ΔR^2				0.007				
Durbin-Watson				2.200				

Where: E_PROXY = Proxy voting, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 10 = Model 7 + the role of stakeholders (H10)

H10: There is negative effect of role of stakeholders on cost of equity.

$$C\_EQUITY = \beta_0 - \beta_1 S\_MSB - \beta_2 F\_SIZE - \beta_3 LEV + e$$

H10a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on cost of equity.

Table 4.11 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.226 and 0.218, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 22.60% Table 4.11 also provided evidence of the effect of control variables on cost of equity. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the role of stakeholders proxies: meeting allowance salary and bonus in step two, table 4.11 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.234 and 0.224, respectively, which means that the explanatory variables are able to explain the dependent variable by 23.40%. The role of stakeholders could explain an additional 0.8 % (ΔR^2 = 0.008).

Table 4.11 also provided evidence of the effect of role of stakeholders on cost of equity. The coefficient of meeting allowance salary and bonus (S_MSB) was not significant. Therefore, the hypothesis 10a was not supported.

Besides, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.11 Multiple regression results for effect of control variables and role of stakeholders on cost of equity

Independent Variables	**Exp. Sign**	**Unstandardized Coefficients**		**Standardized Coefficients**	***t*-test**	***p*-value**	**Collinearity Statistics**	
		B	**Std. Error**				**Tolerance**	**VIF**
Step 1: Model 7								
(Constant)	None	35.223	3.656		9.633	0.000*		
F_SIZE	(-)	-2.023	0.376	-0.278	-5.374	0.000*	0.988	1.012
LEV	(-)	-7.335	1.118	-0.340	-6.563	0.000*	0.988	1.012
F				19.631				
p-value				0.000*				
R^2				0.226				
Adj. R^2				0.218				
Durbin-Watson				2.200				
Step 2: Model 10								
(Constant)	None	40.506	4.775		8.483	0.000*		
S_MSB	(-)	-0.698	0.408	-0.087	-1.712	0.088	0.994	1.006
F_SIZE	(-)	-1.961	0.377	-0.270	-5.208	0.000*	0.982	1.018
LEV	(-)	-7.318	1.113	-0.339	-6.575	0.000*	0.988	1.012
F				13.747				
p-value				0.000*				
R^2				0.234				
Adj. R^2				0.224				
ΔR^2				0.008				
Durbin-Watson				2.193				

Where: S_MSB = Meeting allowance salary and bonus, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 11 = Model 7 + the disclosure and transparency (H11)

H11: There is negative effect of disclosures and transparency on cost of equity.

$$C\_EQUITY = \beta_0 + \beta_1 D\_FIVE - \beta_2 D\_CGR - \beta_3 F\_SIZE - \beta_4 LEV + e$$

H11a: There is a negative effect of the share held by the five largest shareholders on cost of equity.

H11b: There is a negative effect of the corporate governance reporting on cost of equity.

Table 4.12 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.226 and 0.218, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 22.60% Table 4.12 also provided evidence of the effect of control variables on cost of equity. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the disclosure and transparency proxies: five largest shareholders and corporate governance report in step two, table 4.12 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.280 and 0.268, respectively, which means that the explanatory variables are able to explain the dependent variable by 28%. The disclosure and transparency could explain an additional 5.0 % (ΔR^2 = 0.054).

Table 4.12 also provided evidence of the effect of disclosure and transparency on cost of equity. The coefficient of corporate governance report (D_CGR) was negative and significant at a significance level of 0.01. Thus, the hypothesis 11b was supported.

Nonetheless, the coefficients of share held by the five largest shareholders (D_FIVE) was not significant. Thus, the hypothesis 11a was not supported.

In addition, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.12 Multiple regression results for effect of control variables and disclosure and transparency on cost of equity

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 7								
(Constant)	None	35.223	3.656		9.633	0.000*		
F_SIZE	(-)	-2.023	0.376	-0.278	-5.374	0.000*	0.988	1.012
LEV	(-)	-7.335	1.118	-0.340	-6.563	0.000*	0.988	1.012
F				19.631				
p-value				0.000*				
R^2				0.226				
Adj. R^2				0.218				
Durbin-Watson				2.200				
Step 2: Model 11								
(Constant)	None	33.821	3.593		9.414	0.000*		
D_FIVE	(-)	-0.013	0.015	-0.044	-0.888	0.375	0.994	1.006
D_CGR	(-)	-0.616	0.139	-0.226	-4.419	0.000*	0.960	1.042
F_SIZE	(-)	-1.678	0.370	-0.232	-4.531	0.000*	0.967	1.034
LEV	(-)	-6.731	1.087	-0.313	-6.193	0.000*	0.974	1.027
F				12.957				
p-value				0.000*				
R^2				0.280				
Adj. R^2				0.268				
ΔR^2				0.054				
Durbin-Watson				2.234				

Where: D_FIVE = Share held by the five largest shareholders, D_CGR = Corporate governance report, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 12 = Model 7 + the responsibilities of the board (H12)

H12: There is negative effect of responsibilities of the board on cost of equity.

$$C\_EQUITY = \beta_0 + \beta_1 B\_AUCOM - \beta_2 B\_DAUL - \beta_3 B\_SIZE - \beta_4 B\_COM - \beta_5 F\_SIZE - \beta_6 LEV + e$$

H12a: There is a negative effect of the audit committees and cost of equity.

H12b: There is a negative effect of the CEO duality on cost of equity.

H12c: There is a negative effect of the board size on cost of equity.

H12d: There is a negative effect of the board compensation on cost of equity.

Table 4.13 showed the first hierarchical multiple regressions model, and all of the control variables of firm size and leverage were entered. This model was significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.226 and 0.218, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 22.60%. Table 4.13 also provided evidence of the effect of control variables on cost of equity. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the responsibilities of the board proxies: audit committees, CEO duality, board size, and board compensation in step two, table 4.13 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.302 and 0.286, respectively, which means that the explanatory variables are able to explain the dependent variable by 30.20%. The responsibilities of the board could explain an additional 7.60 % (ΔR^2 = 0.076).

Table 4.13 also provided evidence of the effect of responsibilities of the board on cost of equity. The coefficients of CEO duality (B_DUAL) and board size (B_SIZE) were negative and significant at a significance level of 0.05. Thus, the hypotheses 12b and 12c were supported.

Nonetheless, the coefficients of share held by the audit committees (B_AUCOM) and board compensation (B_COM) were not significant. Thus, the hypotheses 12a and 12d were not supported.

Moreover, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.13 Multiple regression results for effect of control variables and responsibilities of the board on cost of equity

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 7								
(Constant)	None	35.223	3.656		9.633	0.000*		
F_SIZE	(-)	-2.023	0.376	-0.278	-5.374	0.000*	0.988	1.012
LEV	(-)	-7.335	1.118	-0.340	-6.563	0.000*	0.988	1.012
F				19.631				
p-value				0.000*				
R^2				0.226				
Adj. R^2				0.218				
Durbin-Watson				2.200				
Step 2: Model 12								
(Constant)	None	35.030	6.289		5.570	0.000*		
B_AUCOM	(-)	0.589	3.034	0.010	0.194	0.846	0.944	1.059
B_DUAL	(-)	-2.264	0.614	-0.197	-3.685	0.000*	0.863	1.158
B_SIZE	(-)	-0.262	0.091	-0.152	-2.891	0.004*	0.869	1.151
B_COM	(-)	-0.173	0.529	-0.016	-0.326	0.744	0.953	1.049
F_SIZE	(-)	-1.450	0.375	-0.200	-3.869	0.000*	0.901	1.110
LEV	(-)	-6.193	1.094	-0.288	-5.660	0.000*	0.938	1.067
F				10.529				
p-value				0.000*				
R^2				0.302				
Adj. R^2				0.286				
ΔR^2				0.076				
Durbin-Watson				2.216				

Where: B_AUCOM = Audit committees, B_DUAL = CEO duality, B_SIZE = Board size, B_COM = Board compensation, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 13 Control Variables (H13)

H13: There is a negative effect of control variables on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 F\_SIZE - \beta_2 LEV + e$$

H13a: There is a negative effect of the firm size on weighted average cost of capital.

H13b: There is a negative effect of the leverage on weighted average cost of capital.

Table 4.14 showed the multiple regression model is significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.173 and 0.165, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 17.30%.

Table 4.14 also provided evidence of the effect of control variables on cost of debt. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05. Thus, the hypotheses 13a and 13b were supported.

Model 14 = Model 13 + rights of shareholders (H14)

H14: There is negative effect of rights of shareholders on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 R\_AGM - \beta_2 R\_DIVI - \beta_3 F\_SIZE - \beta_4 LEV + e$$

H14a: There is a negative effect of the annual general meeting on weighted average cost of capital.

H14b: There is a negative effect of the dividend yield on weighted average cost of capital.

After entering the rights of shareholders proxies: annual general meeting and dividend yield in step two, table 4.14 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.194 and 0.181, respectively, which means that the explanatory variables are able to explain the dependent variable by 19.40%. The right of shareholders could explain an additional 2.10 % (ΔR^2 = 0.021).

Table 4.14 also provided evidence of the relationship between rights of shareholders and cost of debt. The coefficient of annual general meeting (R_AGM) was negative and significant at a significance level of 0.05. Thus, the hypothesis 14a was supported.

However, the coefficient of dividend yield (R_DIVI) was not significant. Thus, the hypothesis 14b was not supported.

Furthermore, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.14 Multiple regression results for effect of control variables and rights of shareholders on weighted average cost of capital

Independent Variables	**Exp. Sign**	**Unstandardized Coefficients**		**Standardized Coefficients**	***t*-test**	***p*-value**	**Collinearity Statistics**	
		B	**Std. Error**				**Tolerance**	**VIF**
Step 1: Model 13								
(Constant)	None	30.891	3.511		8.799	0.000*		
F_SIZE	(-)	-1.884	0.363	-0.277	-5.197	0.000*	0.988	1.012
LEV	(-)	-5.504	1.076	-0.273	-5.116	0.000*	0.988	1.012
F				22.817				
p-value				0.000*				
R^2				0.173				
Adj. R^2				0.165				
Durbin-Watson				2.091				
Step 2: Model 14								
(Constant)	None	31.919	3.540		9.017	0.000*		
R_AGM	(-)	-0.710	0.267	-0.142	-2.659	0.008*	0.960	1.042
R_DIVI	(-)	-1.627	1.039	-0.082	-1.565	0.119	0.990	1.011
F_SIZE	(-)	-1.734	0.366	-0.254	-4.736	0.000*	0.969	1.033
LEV	(-)	-5.221	1.073	-0.258	-4.864	0.000*	0.975	1.026
F				15.511				
p-value				0.000*				
R^2				0.194				
Adj. R^2				0.181				
ΔR^2				0.021				
Durbin-Watson				2.079				

Where: R_AGM = Annual general meeting, R_DIVI = Dividend Yield, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 15 = Model 13 + equitable treatment of shareholders (H15)

H15: There is negative effect of equitable treatment of shareholders on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 E\_PROXY - \beta_2 F\_SIZE - \beta_3 LEV + e$$

H15a: There is a negative effect of the proxy voting on weighted average cost of capital.

Table 4.15 showed the multiple regression model is significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.173 and 0.165, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 17.30%.

Table 4.15 also provided evidence of the effect of control variables on cost of debt. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the equitable treatment of shareholders proxies: proxy voting in step two, table 4.15 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.237 and 0.226, respectively, which means that the explanatory variables are able to explain the dependent variable by 23.70%. The equitable treatment of shareholders could explain an additional 6.40 % (ΔR^2 = 0.064).

Table 4.15 also provided evidence of the relationship between equitable treatment of shareholders and weighted average cost of capital. The coefficient of proxy voting (E_PROXY) was negative and significant at a significance level of 0.05. Thus, the hypothesis 15a was supported.

In addition, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.15 Multiple regression results for effect of control variables and equitable treatment of shareholders on weighted average cost of capital

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 13								
(Constant)	None	30.891	3.511		8.799	0.000*		
F_SIZE	(-)	-1.884	0.363	-0.277	-5.197	0.000*	0.988	1.012
LEV	(-)	-5.504	1.076	-0.273	-5.116	0.000*	0.988	1.012
F				22.817				
p-value				0.000*				
R^2				0.173				
Adj. R^2				0.165				
Durbin-Watson				2.091				
Step 2: Model 15								
(Constant)	None	29.213	3.397		8.599	0.000*		
E_PROXY	(-)	-2.908	0.583	-0.264	-4.988	0.000*	0.944	1.059
F_SIZE	(-)	-1.537	0.356	-0.226	-4.318	0.000*	0.957	1.045
LEV	(-)	-4.524	1.054	-0.224	-4.293	0.000*	0.969	1.032
F				24.807				
p-value				0.000*				
R^2				0.237				
Adj. R^2				0.226				
ΔR^2				0.064				
Durbin-Watson				2.091				

Where: E_PROXY = Proxy voting, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 16 = Model 13 + role of stakeholders (H16)

H16: There is negative effect of role of stakeholders on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 S\_MSB - \beta_2 F\_SIZE - \beta_3 LEV + e$$

H16a: There is a negative effect of the director remunerations meeting allowance and salary and bonus on weighted average cost of capital.

Table 4.16 showed the multiple regression model is significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.173 and 0.165, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 17.30%.

Table 4.16 also provided evidence of the effect of control variables on cost of debt. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the role of stakeholders proxies: meeting allowance salary and bonus in step two, table 4.16 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.176 and 0.165, respectively, which means that the explanatory variables are able to explain the dependent variable by 17.60%. The role of stakeholders could explain an additional 0.30 % ($\Delta R^2 = 0.003$).

Table 4.16 also provided evidence of the relationship between role of shareholders and weighted average cost of capital. The coefficient of meeting allowance salary and bonus (S_MSB) was not significant. Thus, the hypothesis 16a was not supported.

In addition, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.16 Multiple regression results for effect of control variables and role of stakeholders on weighted average cost of capital

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 13								
(Constant)	None	30.891	3.511		8.799	0.000*		
F_SIZE	(-)	-1.884	0.363	-0.277	-5.197	0.000*	0.988	1.012
LEV	(-)	-5.504	1.076	-0.273	-5.116	0.000*	0.988	1.012
F				22.817				
p-value				0.000*				
R^2				0.173				
Adj. R^2				0.165				
Durbin-Watson				2.091				
Step 2: Model 16								
(Constant)	None	32.988	4.615		7.147	0.000*		
S_MSB	(-)	-0.274	0.393	-0.037	-0.698	0.485	0.994	1.006
F_SIZE	(-)	-1.861	0.364	-0.274	-5.115	0.000*	0.982	1.018
LEV	(-)	-5.516	1.076	-0.273	-5.128	0.000*	0.988	1.012
F				15.161				
p-value				0.000*				
R^2				0.176				
Adj. R^2				0.165				
ΔR^2				0.003				
Durbin-Watson				2.093				

Where: S_MSB = Meeting allowance salary and bonus, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 17 = Model 13 + disclosure and transparency (H17)

H17: There is negative effect of disclosures and transparency on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 D\_FIVE - \beta_2 D\_CGR - \beta_3 F\_SIZE - \beta_4 LEV + e$$

H17a: There is a negative effect of the share held by the five largest shareholders on weighted average cost of capital.

H17b: There is a negative effect of the corporate governance reporting on weighted average cost of capital.

Table 4.17 showed the multiple regression model is significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.173 and 0.165, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 17.30%.

Table 4.17 also provided evidence of the effect of control variables on weighted average cost of capital. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the disclosure and transparency proxies: five largest shareholders and corporate governance report in step two, table 4.17 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.235 and 0.222, respectively, which means that the explanatory variables are able to explain the dependent variable by 23.50%. The disclosure and transparency could explain an additional 6.20 % ($\Delta R^2 = 0.062$).

Table 4.17 also provided evidence of the relationship between disclosure and transparency and weighted average cost of capital. The coefficient of the corporate governance report (D_CGR) was negative and significant at a significance level of 0.05. Thus, the hypothesis 17b was supported.

Nonetheless, the coefficient of five largest shareholders (D_FIVE) was not significant. Therefore, the hypothesis 17a was not supported.

In addition, the coefficient of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.17 Multiple regression results for effect of control variables and disclosure and transparency on weighted average cost of capital

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 13								
(Constant)	None	30.891	3.511		8.799	0.000*		
F_SIZE	(-)	-1.884	0.363	-0.277	-5.197	0.000*	0.988	1.012
LEV	(-)	-5.504	1.076	-0.273	-5.116	0.000*	0.988	1.012
F				22.817				
p-value				0.000*				
R^2				0.173				
Adj. R^2				0.165				
Durbin-Watson				2.091				
Step 2: Model 17								
(Constant)	None	30.562	3.440		8.886	0.000*		
D_FIVE	(-)	-0.027	0.014	-0.099	-1.947	0.053	0.994	1.006
D_CGR	(-)	-0.556	0.134	-0.218	-4.162	0.000*	0.960	1.042
F_SIZE	(-)	-1.576	0.355	-0.232	-4.443	0.000*	0.982	1.018
LEV	(-)	-5.057	1.044	-0.251	-4.846	0.000*	0.988	1.012
F				15.245				
p-value				0.000*				
R^2				0.235				
Adj. R^2				0.222				
ΔR^2				0.062				
Durbin-Watson				2.135				

Where: D_FIVE = Share held by the five largest shareholders, D_CGR = Corporate governance report, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

Model 18 = Model 13 + responsibilities of the board (H18)

H18: There is negative effect of responsibilities of the board on weighted average cost of capital.

$$WACC = \beta_0 - \beta_1 B\_AUCOM - \beta_2 B\_DAUL - \beta_3 B\_SIZE - \beta_4 B\_COM - \beta_5 F\_SIZE$$

H18a: There is a negative effect of the audit committees on weighted average cost of capital.

H18b: There is a negative effect of the CEO Duality on weighted average cost of capital.

H18c: There is a negative effect of the board size on weighted average cost of capital.

H18d: There is a negative effect of the board compensation on weighted average cost of capital.

Table 4.18 showed the multiple regression model is significant at reliability level of 95% (α =0.05)*, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model were 0.173 and 0.165, respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 17.30%.

Table 4.18 also provided evidence of the effect of control variables on weighted average cost of capital. The coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

After entering the responsibilities of the board proxies: audit committees, CEO duality, board size, and board compensation in step two, table 4.18 showed the hierarchical multiple regression model the R^2 and adjusted R^2 of the model were 0.369 and 0.354, respectively, which means that the explanatory variables are able to explain the dependent variable by 36.90%. The responsibilities of the board could explain an additional 19.60 % (ΔR^2 = 0.196).

Table 4.18 also provided evidence of the relationship between the responsibilities of the board and weighted average cost of capital. The coefficients of audit committees (B_AUCOM), CEO duality (B_DUAL), and board size (B_SIZE) were negative and significant at a significance level of 0.05. Thus, the hypotheses 18a, 18b, and 18c were supported.

Nevertheless, the coefficient of share held by the board compensation (B_COM) was not significant. Thus, the hypothesis 18d was not supported.

Moreover, the coefficients of firm size (F_SIZE) and leverage (LEV) were negative and significant at a significance level of 0.05.

Table 4.18 Multiple regression results for effect of control variables and responsibilities of the board on weighted average cost of capital

Independent Variables	Exp. Sign	Unstandardized Coefficients		Standardized Coefficients	*t*-test	*p*-value	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
Step 1: Model 13								
(Constant)	None	30.891	3.511		8.799	0.000*		
F_SIZE	(-)	-1.884	0.363	-0.277	-5.197	0.000*	0.988	1.012
LEV	(-)	-5.504	1.076	-0.273	-5.116	0.000*	0.988	1.012
F				22.817				
p-value				0.000*				
R^2				0.173				
Adj. R^2				0.165				
Durbin-Watson				2.091				
Step 2: Model 18								
(Constant)	None	45.188	5.522		8.183	0.000*		
B_AUCOM	(-)	-10.021	2.688	-0.176	-3.728	0.000*	0.944	1.059
B_DUAL	(-)	-2.314	0.542	-0.216	-4.267	0.000*	0.863	1.158
B_SIZE	(-)	-0.473	0.080	-0.295	-5.924	0.000*	0.869	1.151
B_COM	(-)	-0.262	0.452	-0.027	-0.580	0.562	0.953	1.049
F_SIZE	(-)	-0.985	0.331	-0.146	-2.980	0.003*	0.901	1.110
LEV	(-)	-3.771	0.965	-0.189	-3.909	0.000*	0.938	1.067
F				18.688				
p-value				0.000*				
R^2				0.369				
Adj. R^2				0.354				
ΔR^2				0.196				
Durbin-Watson				2.146				

Where: B_AUCOM = Audit committees, B_DUAL = CEO duality, B_SIZE = Board size, B_COM = Board compensation, F_SIZE = Firm size, and LEV = Leverage

* Significant at a significance level of 0.05.

From the results of the study on all hypotheses, it can be concluded in table 4.4 - 4.18 as follows:

In this study, corporate governance mechanisms were measured by rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board whereas cost of capital was determined

by cost of debt, cost of equity, and weighted average cost of capital. The rights of shareholders consisted of annual general meeting and dividend yield. The equitable treatment of shareholders included proxy voting. Role of stakeholders referred to director remunerations meeting allowance, salary, and bonus while disclosure and transparency included the share held by the five largest shareholders and corporate governance reporting. Responsibilities of the board included audit committees, CEO duality, board size, and board compensation. The variables of cost of capital consisted of cost of debt, cost of equity, and weighted average cost of capital.

From the study of previous researches, the summary of hypothesis testing could be concluded as shown in table 4.19 as follows:

Table 4.19 Summary of hypothesis testing

	Hypothesis testing	**Expected Sign**	**Results**		
			Significant		**Insignificant**
			positive	**negative**	
H1a	Firm size had a negative effect on cost of debt (C_DEBT).	negative			√
H1b	Leverage had a negative effect on cost of debt (C_DEBT).	negative		√	
H2a	Annual general meeting (R_AGM) had a negative effect on cost of debt (C_DEBT).	negative		√	
H2b	Dividend yield (R_DIVI) had a negative effect on cost of debt (C_DEBT).	negative			√
H3a	Proxy voting had a negative effect on cost of debt (C_DEBT).	negative			√
H4a	Meeting allowance and salary (S_MSB) had a negative effect on cost of debt (C_DEBT).	negative			√

Table 4.19 Summary of hypothesis testing (Cont.)

	Hypothesis testing	Expected Sign	Results		
			Significant		Insignificant
			positive	negative	
H5a	Share held by the five largest shareholders (D_FIVE) had a negative effect on cost of debt (C_DEBT).	negative	√		
H5b	Corporate governance reporting (D_CGR) had a negative effect on cost of debt (C_DEBT).	negative			√
H6a	Audit committees (B_AUCOM) had a negative effect on cost of debt (C_DEBT).	negative			√
H6b	CEO duality (B_DUAL) had a negative effect on cost of debt (C_DEBT).	negative			√
H6c	Board size (B_SIZE) had a negative effect on cost of debt (C_DEBT).	negative			√
H6d	Board compensation (B_COM) had a negative effect on cost of debt (C_DEBT).	negative			√
H7a	Firm size had a negative effect on cost of equity (C_EQUITY).	negative		√	
H7b	Leverage had a negative effect on cost of equity (C_EQUITY).	negative		√	

Table 4.19 Summary of hypothesis testing (Cont.)

	Hypothesis testing	Expected Sign	Results		
			Significant		Insignificant
			positive	negative	
H8a	Annual general meeting (R_AGM) had a negative effect on cost of equity (C_EQUITY).	negative		√	
H8b	Dividend yield (R_DIVI) had a negative effect on cost of equity (C_EQUITY).	negative			√
H9a	Proxy voting had a negative effect on cost of equity (C_EQUITY).	negative			√
H10a	Meeting allowance and salary (S_MSB) had a negative effect on bonus and cost of equity (C_EQUITY).	negative			√
H11a	Share held by the five largest shareholders (D_FIVE) had a negative effect on cost of equity (C_EQUITY).	negative		√	
H11b	Corporate governance reporting (D_CGR) had a negative effect on cost of equity (C_EQUITY).	negative		√	
H12a	Audit committees (B_AUCOM) had a negative effect on cost of equity (C_EQUITY).	negative			√

Table 4.19 Summary of hypothesis testing (Cont.)

	Hypothesis testing	Expected Sign	Results		
			Significant		Insignificant
			positive	negative	
H12b	CEO Duality (B_DUAL) had a negative effect on cost of equity (C_EQUITY).	negative		√	
H12c	Board size (B_SIZE) had a negative effect on cost of equity (C_EQUITY).	negative		√	
H12d	Board compensation (B_COM) had a negative effect on cost of equity (C_EQUITY).	negative			√
H13a	Firm size had a negative effect on weighted average cost of capital (WACC).	negative		√	
H13b	Leverage had a negative effect on weighted average cost of capital (WACC).	negative		√	
H14a	Annual general meeting (R_AGM) had a negative effect on weighted average cost of capital (WACC).	negative		√	
H14b	Dividend yield (R_DIVI) had a negative effect on weighted average cost of capital (WACC).	negative			√
H15a	Proxy voting (E_PROXY) had a negative effect on weighted average cost of capital (WACC).	negative		√	
H16a	Meeting allowance and salary (S_MSB) had a negative effect on weighted average cost of capital (WACC).	negative			√

Table 4.19 Summary of hypothesis testing (Cont.)

	Hypothesis testing	Expected Sign	Results		
			Significant		Insignificant
			positive	negative	
H17a	Share held by the five largest shareholders (D_FIVE) had a negative effect on weighted average cost of capital (WACC).	negative			√
H17b	Corporate governance reporting (D_CGR) had a negative effect on weighted average cost of capital (WACC).	negative		√	
H18a	Audit committees (B_AUCOM) had a negative effect on weighted average cost of capital (WACC).	negative		√	
H18b	CEO Duality (B_DUAL) had a negative effect on weighted average cost of capital (WACC).	negative		√	
H18c	Board size (B_SIZE) had a negative effect on weighted average cost of capital (WACC).	negative		√	
H18d	Board compensation (B_COM) had a negative effect on weighted average cost of capital (WACC).	negative			√

CHAPTER 5
CONCLUSION AND RECOMMENDATIONS

This final chapter restated the research purposes and reviewed the methods used in the study as well as the summary of research methodology and research findings. Furthermore, the study pinpointed the discussions of research questions of the study. In addition, discussion of the research findings was provided. Finally, limitations of the study and implication for practice and future research were also offered.

This study aimed to investigate the effect of corporate governance on cost of capital. There were three research questions as follows:

Research question 1: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of debt of listed companies on the Stock Exchange of Thailand?

Research question 2: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of equity of listed companies on the Stock Exchange of Thailand?

Research question 3: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect weighted average cost of capital of listed companies on the Stock Exchange of Thailand?

Corporate governance aspects consisting of rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board were independent variables while cost of capital was a dependent variable. There were eighteen hypotheses conducted for the study as shown in the following.

H1: Control variables have a negative effect on cost of debt.

H2: Rights of shareholders have a negative effect on cost of debt.

H3: Equitable treatment of shareholders has a negative effect on cost of debt.

H4: Role of stakeholders has a negative effect on cost of debt.

H5: Disclosure and transparency have a negative effect on cost of debt.

H6: Responsibilities of the board have a negative effect on cost of debt.

H7: Control variables have a negative effect on cost of equity.

H8: Rights of shareholders have a negative effect on cost of equity.

H9: Equitable treatment of shareholders has a negative effect on cost of equity.

H10: Role of stakeholders has a negative effect on cost of equity.

H11: Disclosure and transparency have a negative effect on cost of equity.

H12: Responsibilities of the board have a negative effect on cost of equity.

H13: Control variables have a negative effect on weighted average cost of capital.

H14: Rights of shareholders have a negative effect on weighted average cost of capital.

H15: Equitable treatment of shareholders has a negative effect on weighted average cost of capital.

H16: Role of stakeholders has a negative effect on weighted average cost of capital.

H17: Disclosure and transparency have a negative effect on weighted average cost of capital.

H18: Responsibilities of the board have a negative effect on weighted average cost of capital.

This study was based on the financial statements of the listed companies on the Stock Exchange of Thailand in year 2014. The sample included 303 registered companies which operated business and submitted financial statements to the Stock Exchange of Thailand with the accounting period from 1 January to 31 December. The samples were companies from a variety of industrial groups apart from financial businesses, securities businesses, and banking and insurance businesses since these industrial groups have distinctive assets and liabilities different from other industries. Moreover, companies under rehabilitation or under constructing process and companies with incomplete information were also excluded from this study. The data were drawn

from a final sample with 51.01 percent of all companies listed on the Stock Exchange of Thailand in 2014.

Quantitative research was used in this study in order to analyze the effects of independent variables, which were corporate governance aspects comprising rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, on dependent variables, including cost of capital as recommended by Meier and Tarhan (2007) using cost of debt (C_DEBT), cost of equity (C_EQUITY), and weighted average cost of capital (WACC). Data were collected from financial statements, annual reports, and other relevant documents of listed companies on the SET. The samples included all companies that had information align with the research objectives in year 2014. According to the results of 303 companies, observations were incorporated in the study. Enter multiple regression analysis was employed to identify the factors influencing cost of capital.

The study investigated the effect of corporate governance on cost of capital of the Thai listed companies. Five corporate governance proxies recommended by OECD consisting of rights of shareholders, equitable treatment, role of shareholders, disclosure and transparency, and responsibilities of the board were included in the analysis. The results showed that good corporate governance had lower cost of capital, and the variables of corporate governance had negative effects on cost of debt. Cost of equity and the average weight of the cost of equity were suggested with lower cost of capital.

This study had demonstrated that corporate governance practices in Thai companies influenced the companies' cost of capital. While the strongest effect was on the weight average cost of capital, there was also a small effect on cost of debt. This finding supported the SEC's promotion of principles of corporate governance which supported shareholder rights, equitable treatment of shareholders, stakeholder roles, disclosure and transparency, and board responsibilities. This is not only as a matter of corporate oversight and management but also as a way to improve the company's cost of capital. Since the company's cost of capital influences the availability of further funding and its possibilities for investment projects, the implementation of corporate governance principles should clearly be concerned. This is especially true for publicly

listed companies such as those on the SET, which were dependent on public equity financing.

There were several limitations of this study. The most important limitation was the necessarily somewhat subjective nature of the corporate governance indicators. While the SETSMART database offered information about the company's corporate governance principles, there was no single index of corporate governance in Thailand. Construction and validation of such a research and routine market monitoring would provide a useful area of further research since it was allowed for long-term monitoring and information for investors of companies listed on the SET and larger time series studies. Development of such an instrument could follow existing models such as the G-Index even though the index should be modified in order to set the account for the governance structure of Thai companies.

According to the study related to cost of capital and corporate governance, cost of capital of listed companies on the Stock Exchange of Thailand was found as follows. Thai listed companies' cost of debt (C_DEBT) ranged from 0.82% to 7.54% with an average of 4.22%. Thai listed companies' cost of equity (C_EQUITY) ranged from 2.31% to 27.93% with an average of 12.11%. The weighted average cost of capital (WACC) of Thai listed companies ranged from 1.18% to 22.97% with an average of 10.01%.

The five aspects of corporate governance consisted of 1) rights of shareholders, 2) equitable treatment of shareholders, 3) role of stakeholders, 4) disclosure and transparency, and 5) responsibilities of the board. Regarding the rights of shareholders in terms of shareholder participation rating in the annual general meeting (R_AGM) concerns, Thai listed companies ranged from 2.00 to 6.00 with an average of 4.65 while the Thai listed companies' percentage of dividend payment (R_DIVI) ranged from 0.00 to 20.22 with an average of 2.58. As for equitable treatment of shareholders regarding the dummy variable as 1 if the Annual General Meeting notice was sent with the proxy voting form to shareholders by the company and 0 if otherwise (E_PROXY) of the Thai listed companies, it ranged from 0.00 to 1.00 with an average of 0.74. Due to the role of stakeholders in regard of the Thai listed companies' director remuneration (meeting allowance, salary, and bonus) (S_MSB), it ranged from 3,839,070.50 baht to

37,872,000,000 baht with an average of 1,040,304,185 baht. In terms of disclosure and transparency regarding the percentage of shares held by five largest shareholders (D_FIVE) of Thai listed companies, it ranged from 15.80 to 99.77 with an average of 55.16. Thai listed companies' rating of CG reporting (D_CGR) ranged from 0.00 to 5.00 with an average of 2.47 (SD = 1.89). Finally, regarding the board's responsibilities in terms of auditing committees (B_AUCOM) percentage in Thai listed companies, this ranged from 13.64 % to 50% with an average of 21.83%. Considering CEO duality regarding dummy variable as 1 if CEO had not come from the chairman of the board and 0 if otherwise (B_DUAL) of Thai listed companies ranged from 0.00 to 1.00 with an average of 0.74. The amount of board of directors (B_SIZE) in Thai listed companies ranged from 2.00 to 28.00 with an average of 14.78. The amount of board compensation (B_COM) in Thai listed companies ranged from 200,000 baht to 95,595,119,250 baht with an average of 29,915,432.82 baht. Natural logarithm of the company's total assets (F_SIZE) of Thai listed companies ranged from 8 to 12.44 with an average of 9.74. Finally, the total debt over the total assets of financial leverage (LEV) of Thai listed companies ranged from 0.00 to 1.42 with an average of 0.46%.

5.1 Discussion of Research Findings

This section provided research discussions regarding the research questions on hypothesis testing.

5.1.1 Discussion of Research Question 1

Research question 1: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of debt of listed companies on the Stock Exchange of Thailand? The results of hypothesis testing of H1to H6 showed the effects of five aspects of corporate governance on cost of debt, and the results revealed that only two aspects including right of shareholders and disclosure and transparency had the effects on cost of debt as discussed in the following details. The coefficient of annual general meeting (R_AGM) showed a negative effect on cost of debt at a significance level of 0.05, and the results indicated that rights of shareholders is negatively related to cost of debt, which supported hypothesis 2a. The research

finding supported the research of Chava et al. (2009) that the firm with rights of shareholders has a lower cost of debt, which supported hypothesis 2. In addition, it also supported the research of Ashbaugh et al. (2004), Trung and Heaney (2007), Cheung et al. (2010), and Connelly et al. (2012) that the firm with rights of shareholders has a lower cost of debt. Considering the effect of disclosure and transparency on cost of debt, it was found that disclosure and transparency measured by the five largest shareholders influenced cost of debt, but the direction of the effect was not like previous assumption. The result showed that the firm which held five largest shareholders and the large amount of stocks would have higher cost of debt as well. Hypothesis 5 of the study mentioned that the information disclosure and transparency of the firm can have a negative effect on cost of debt. The result of the study on the information disclosure and transparency which was measured from the proportion of shares holding by shareholders in the top five ranking and corporate governance reporting score revealed that the proportion of shares holding by shareholders in the top five ranking influenced cost of debt in the same direction. This means that the firm with the high proportion of shareholders in the top five ranking has the high cost of debt which is not in accordance with the hypothesis as set. The cause may be the current economic that most of the investors are confident on the businesses with distribution management. Business with high shareholders in the top five ranking leads to high cost of debt. This result has confirmed to the study by Hajeres and Sengruvta, (2003) but on the contrary to White's (1980) whose results were negative and statistically significant. Zingales (1994) and Attig, Guedhami, and Mishra (2008) found that cost of equity is significantly and negatively associated with the ownership of the five largest shareholders since the shareholding structure and the management power of companies in Thailand are not distributed. The narrow distribution of shareholding has an advantage on the fluency of management. On the other hand, in this structure the large shareholders with the sufficient rights to vote will take control over the business and have more power over the management. The shareholders may usually sit as the management themselves, thus the act of the management may mainly consider on the advantages of the large shareholder and the effect on the credibility in the eyes of external people.

This study showed that corporate governance had a significant effect on cost of debt, suggesting that corporate governance would have a limited practical effect on the firm's capital structure. However, only a few aspects of corporate governance including annual general meeting (negative) influenced cost of debt. In addition, LEV (leverage) (negative) also influenced cost of debt, but this was consistent with expectation regarding corporate finance since the firm with a higher leverage would be considered riskier and, therefore, pay a higher debt premium (Johnson et al., 2016). The effect of corporate governance on cost of debt has not been studied routinely with only one previous study identified (Chava et al., 2009). The previous study showed that higher takeover defenses (fewer shareholder rights) reduced cost of debt. This is not comparable to the findings of the current study, which found that shareholder rights had a role but did not address equitable treatment, role of stakeholders, disclosure and transparency, and responsibilities of the board concerns. The lack of direct evidence on the effect of corporate governance does not allow for an explanation for these effects although it could be related to a national or firm-level finance dynamics or the legal and regulatory structure of Thailand compared to the U.S. (Chang et al., 2014; Chen et al., 2009). This is an area which requires further research and theorization to understand how corporate governance influences cost of debt. This is increasingly important to the growing legal requirements for corporate governance in Thailand and in other developing countries (Periera and Sathitsuksomboon, 2012; The World Bank, 2013).

5.1.2 Discussion of Research Question 2

Research question 2: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect cost of equity of listed companies on the Stock Exchange of Thailand? The results of the study from the effect of five aspects of corporate governance on cost of equity revealed that only three aspects had the effect on cost of equity. These consisted of the rights of shareholders, disclosure and transparency, and responsibilities of the board. The details were as follows.

The coefficient of annual general meeting showed a negative effect on cost of equity at a significance level of 0.05. The results indicated that rights of shareholders were negatively related to cost of equity which supported hypothesis 8a. This was

consistent with the findings of Hodges et al. (2004) and Apostolides (2007) that the firm with rights of shareholders had a lower cost of equity which supported hypothesis 8. The coefficient of corporate governance report showed a negative effect on cost of equity at a significance level of 0.05. This result supported hypothesis 11b, indicating that the firm with high score corporate governance had a lower cost of equity. The result was consistent with those in the studies of Dhaliwal et al. (2014), which showed a significant negative effect of corporate governance report on cost of equity. In addition, due to the study of Mazzotta and Veltri (2014), an evidence was given from the outcomes that there was the significant association between the score of corporate governance and cost of capital of the firm, which supported hypothesis 11. For the CEO duality, the coefficient of CEO duality was negatively related to cost of equity at a significance level of 0.05. This result supported hypothesis 12b which indicated that the firm with CEO duality had a lower cost of equity. The result was consistent with those in the studies of Black, Cavalho, and Gorga (2010) which suggested that CEO duality should not be the same person to prevent them from having the highest power in the business. This concept conformed to the agency theory which considered a person with two roles as the chairman of management and chairman of the management committee. In general, this could imply that the chairmen of management can influence the efficiency of audit committee (Jensen, 1994). Meanwhile, the management with the strong management experience normally sees the guidelines or the impacts over the decision. Their management experiences would promote the well efficiency of the business growth (Bonazzi and Islam, 2007). Due to board size, the coefficient of board size showed a negative effect on cost of equity at a significance level of 0.05. This result supported hypothesis 12c, and it was consistent with the findings of Shah and Butt (2009) which suggested that there was negative effects of board size and managerial ownership of the firm on cost of equity, which supported hypothesis 12 as a result.

Regarding most of the other previous studies reviewed (Byun et al., 2008; Chen et al., 2009; Core et al., 2015; Dhaliwal et al., 2014; Lambert et al., 2007), the study identified moderate effects of corporate governance aspects on cost of equity which indicated that the importance of corporate governance and cost of equity was

higher than cost of debt. Nevertheless, only five aspects of corporate governance, including annual general meeting (R_AGM), five largest shareholders (D_FIVE), corporate governance report (D_CGR), CEO duality (B_DUAL), and board size (B_SIZE) were negatively significant.

One possible reason for this gap could be the lack of consistent measure for disclosure. This study examined disclosure evidence directly by using the firm's Form 56-1 SEC filing rather than using an externally prepared aggregate index. This was unavoidable that there was no disclosure index or similar available for Thai firms, but it was one of the procedural gaps in the study.

5.1.3 Discussion of Research Question 3

Research question 3: Do corporate governance variables, including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, affect weighted average cost of capital of listed companies on the Stock Exchange of Thailand? The results of the study on the effects of five aspects of corporate governance on weighted average cost of capital showed that only four corporate governance aspects affected weighted average cost of capital. These consisted of the rights of shareholders, equitable treatment of shareholders, disclosures and transparency, and responsibilities of the board. The findings based on this research question of the study were discussed as follows.

The coefficient of annual general meeting indicated a negative effect on weighted average cost of capital at a significance level of 0.05. The results indicated that the rights of shareholders had a negative effect on weighted average cost of capital which supported hypothesis 14a. This was consistent with findings of LaPorta et al. (2000) and Thanatawee (2013) which found the outcome hypothesis explained in presenting results about the negative effect of rights of shareholders on the cost empirical linkages between the agency cost of minority shareholder rights and observed dividend payouts. This was also consistent with the findings of Hodges et al. (2004) and Apostolides (2007) that the firm with rights of shareholders had a lower weighted average cost of capital, which supported hypothesis 14. For proxy voting, the coefficient of proxy voting showed a negative effect on weighted average cost of capital at a significance level of 0.05, and the results indicated that an equitable treatment of

shareholders was negatively related to weighted average cost of capital which supported hypothesis 15. This was consistent with the findings of Rad et al. (2013) and Kangarlouei et al. (2012) that the firm with high equitable treatment of shareholders assert a negative association with weighted average cost of capital.

Moreover, corporate governance report (D_CGR) had a negative effect on weighted average cost of capital at a significance level of 0.05. The results indicated that disclosure and transparency were negatively related to weighted average cost of capital, which supported hypothesis 16b, indicating that firms with high corporate governance report (D_CGR) had lower cost of capital.

This was consistent with the studies of Mazzotta and Veltri (2014) that the firm with high corporate governance report (D_CGR) reflected the importance of the good corporate governance.

Furthermore, audit committees (B_AUCOM), CEO duality (B_DUAL), and board size (B_SIZE) had negative effects on weighted average cost of capital at a significance level of 0.05. The results indicated that responsibilities of the board had a negative effect on weighted average cost of capital which supported hypothesis 17a, 17b, and 17c, which indicated that firms with high responsibilities of the board had lower weighted average cost of capital. This was consistent with the studies of Chang et al. (2014) which found the outcome hypothesis explained in presenting their results about the negative effect of responsibilities of the board on the cost empirical linkages between the agency cost of capital.

Finally, this study had also shown that the aspects of corporate governance that influenced the firm's weighted average cost of capital (WACC), including annual general meeting (R_AGM), dividend yield (R_DIVI), proxy voting (E_PROXY), corporate governance report (D_CGR), audit committee (B_AUCOM), CEO duality (B_DUAL), and board size (B_SIZE). These findings suggested that it was the holistic picture of corporate governance, rather than any particular area of corporate governance, which influenced the firm's cost of capital and its potential capital structure.

The dynamic nature of corporate governance and its effect on capital structure, which the factors like leverage determined the effects of different corporate governance

indicators (Chang et al., 2014), could be one reason for this lack of consistency. It is also notable that the combined model for WACC predicted more variance than the two independent cost models. This could suggest some interaction effects between cost of equity and cost of debt with corporate governance, which were not examined in the study.

According to the study of the effect of corporate governance with five aspects on cost of capital with three methods, it could be concluded that corporate governance strongly has an effect on weighted average cost of capital, cost of equity, and cost of debt, respectively by measuring from the rate R^2, direction of relationship, and the influence of the independent variables in each section of corporate governance.

5.2 Limitation of the Study

For this study, there are four major limitations. First of all, corporate governance variables for this study were small as there were many unknown corporate governance variables which have a significant impact on cost of capital. This could result in a spurious association between corporate governance and cost of capital. Even though this study attempted to control the factors suggested by prior studies, there were still some other factors that had not been controlled.

Second, this study was the empirical research which the information gained is the actual data that cannot distribute the in-depth details as the exploration research and some variables being used as the representative in the study of corporate governance were in fewer amounts. For example, the representative from the responsibility of the board which led to the unrelated result to the hypotheses as set.

Third, this study was an empirical study using archival data. Different research methodologies might reveal other trends. A qualitative method such as in-depth interview research approach should be a new alternative. This is to observe practical corporate governance to reduce cost of capital.

Finally, for the calculation of cost of debt, the researcher used interest rates paid for annual debt in average without the consideration in the past of capital cost which originates the interest for the business, thus this may result in cost of debt

including average cost of capital used in this study which is little deviate from the real cost of capital.

5.3 Implication for Practice and Future Research

5.3.1 Implication

This study is one of a few studies that has examined the effect of corporate governance on total cost of capital in rapidly emerging economies for creating reliability of companies to upgrade Thai corporate governance to be close to the international standard. This would be useful for companies and Thai fund market, and it would increase economic system of the country. The contributions were classified into investors and creditors, regulators, management and board of directors, and academic literature. Empirical evidence has shown that management intends to increase its long-term company value and/or its stock price by paying high dividends to shareholders. However, it is clear that investors, including shareholders or lenders, finance a company with a return in mind. Investors and creditors often require the repayment of capital with an interest element attached. Furthermore, investors may not supply a company with much needed finance due to concerns relating to the company's ability to pay dividends and loans. It was noticed that a cash flow of the company must cover operating costs and other liabilities before distributing a free cash flow as dividend payments to its shareholders. As a result, investors and creditors should pay attention to the dividend policies of firms. This is to observe how well a company enables to manage its liquidity. Any divisions related to support the management of corporate governance registered in the stock market should make some good planning for practicable system and encourage them to get a good mark at AGM in excellent level. From the study, it was found that any businesses which have AGM in high level and low cost of capital should develop mechanism to promote and share the information to investors and any others who were interested to know. Besides, they should encourage the registered companies in the stock market to realize the importance of high level of AGM in order to make reliability to the investors and financial institutions to release loans and reduce cost of capital of their businesses.

Regarding the corporate governance policy, the governing units should establish the best practice on the disclosure of cost of capital, especially on the disclosure of cost of debt of the listed companies on the Stock Exchange of Thailand. Though in Thailand, the Stock Exchange of Thailand will bring the good corporate governance practice to be used for the Organization for Economic Co-operation and Development (OECD) to be the criteria for the good corporate governance of the listed companies. The relevant units should complement the rule and regulation of the listed companies on the Stock Exchange of Thailand such as the Securities and Exchange Commission (SEC), National Corporate Governance, and Thai Institute of Directors to consider improving and amending the laws and regulations to be consistent with the good corporate governance. The average cost of capital is important and benefit for the financial decision for the investors, financial institutions, stakeholders, and public who were interested in the information. For the use in the evaluation of management ability to run the business, there are recently some companies which calculate cost of capital and reveal the financial budget. The relevant units should set for the listed company on the Stock Exchange of Thailand to calculate cost of capital and reveal the information to the public.

In practice, the companies should adjust to reduce cost of capital with the good governance in order that everything could be as planned. The business could plan in advance in order to know when to use the capital. Considering the benefit for the executive committees to support and encourage this policy, they should plan the direction for the related people to corporate governance mechanisms to practice and see the importance of corporate governance to make reliable trust to the outsiders.

Data and information found in this study were a holistic knowledge for students, educationist, researchers, and all interested people who want to conduct the research on corporate governance and cost of capital.

5.3.2 Future Research

There are four recommendations of future research as follows:

1. This study served to answer that some of corporate governance aspects including rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board have the

effects on cost of capital. It was recommended that further research might capture other dependent variables such as excess value and cost of capital.

2. The one -year period in this study may not be long enough to analyze the results. It is necessary to exercise caution when deriving inference from the results of this study.

3. It would be interesting to examine the stock market reaction to the aggregated and different types of corporate governance disclosures.

4. To investigate the effect of corporate governance on cost of capital in the industrial group allows investors or interested people to compare the information of each industry group in order to put it in their decision for investment or to use this information for consideration of the loan approval.

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APPENDICES

APPENDIX A

Data Screening and Transformation

Data Transformation

Data of this study are screened using statistical test of normality consist of skewness and kurtosis. And transform data for multiple regression assumption follow suggested by Tabachnick and Fidell (2007) and Howell (2007) the following guide lines should be used when transforming data.

Data distribution	Transformation method.
Moderately positive skewness	Square-Root [newX = SQRT(X)]
Substantially positive skewness (with zero values)	Logarithmic (Log10) [NEWX = LG10(x)]
Moderately negative skewness	Square-Root [NewX =LG10(X + C)
Moderately negative skewness	Square-Root [NEWX = SQRT(k-x)]
Substantially negative skewness	Logarithmic (Log10) [NEWX = LG10(K-X]

C is a constant added to each score so that the smallest score is 1.
K is a constant from which each scorer is subtracted so that the smallest score is 1; usually equal to the larges score +

APPENDIX B

Multiple Regression Assumption

Multiple regression assumption

In assessing the linear regression assumptions, it was found that the data did not violate the linear regression assumptions. This is explained in (1) to (4) as follows:

(1) Variance Inflation Factors (VIF) are lower than 10, indicating no multicollinearity problems among variables.

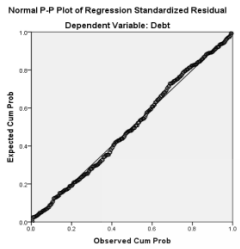
(2) Durbin-Watson coefficient value is between 1.5 and 2.5 with tests indicating that an autocorrelation does not exist.

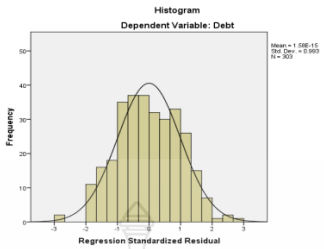
(3) Analyze scatterplot of standardized residual of dependent variables and transformed dependent variable (i.e. the cost of equity) to ensure that there are no heteroscadasticity problems.

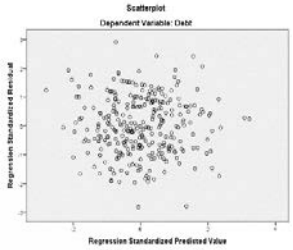
(4) Based on the Central Limit Theorem, the distribution of residuals in a large sample size is normal. A sample size of 30 or more is generally regarded as large (Dielman, 2005). Also, as a rule of thumb, “normality can have serious effects in small samples (less than 50 cases), but the impact effectively diminishes when sample sizes reach 200 cases or more” (Hair, Black, Babin, Anderson, & Tatham 2006). The sample size of this study is 1,046, which is far larger than 200. Thus, the assumption of the normal distribution of residuals is justified.

Figure 1.1 Show Normal p-p plot, Histogram and Residual plot

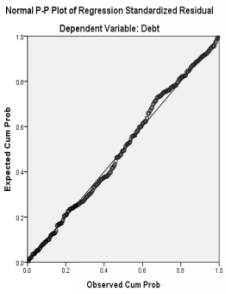
Model 1

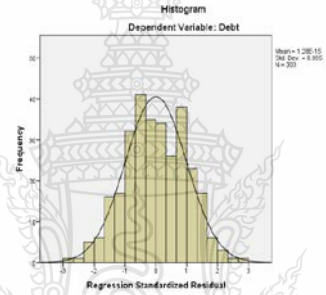


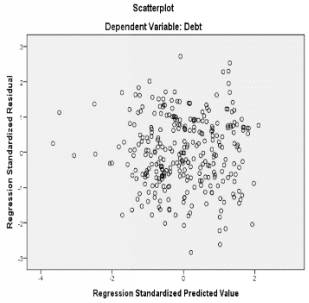




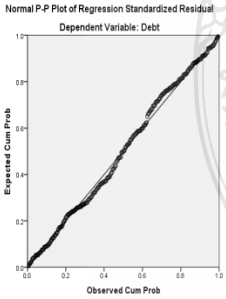
Model 2







Mode3



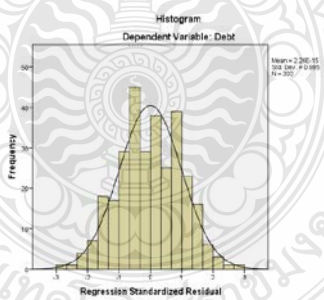
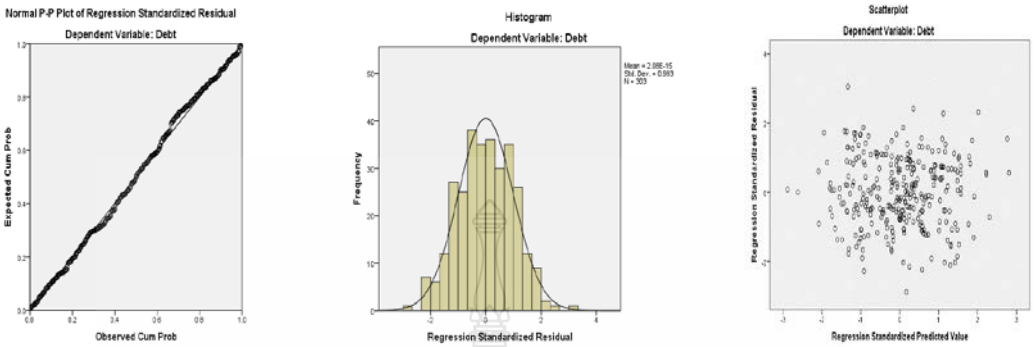
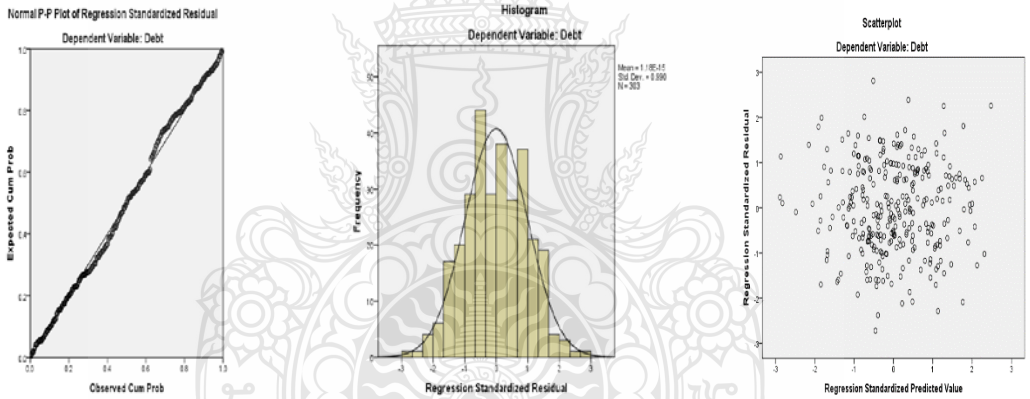


Figure 1.1 Show Normal p-p plot, Histogram and Residual plot (Cont.)

Model 4



Model 5



Mode 6

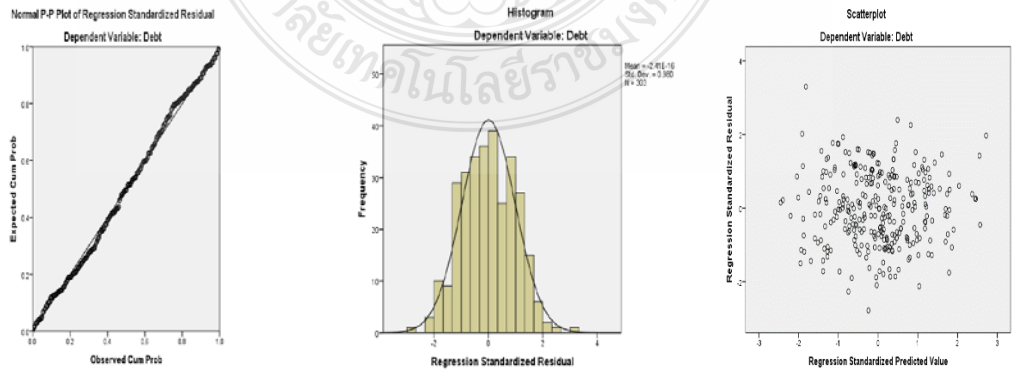
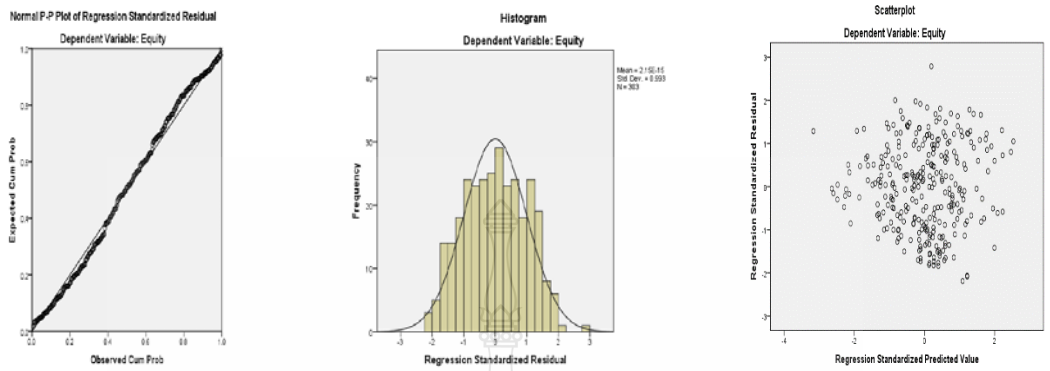
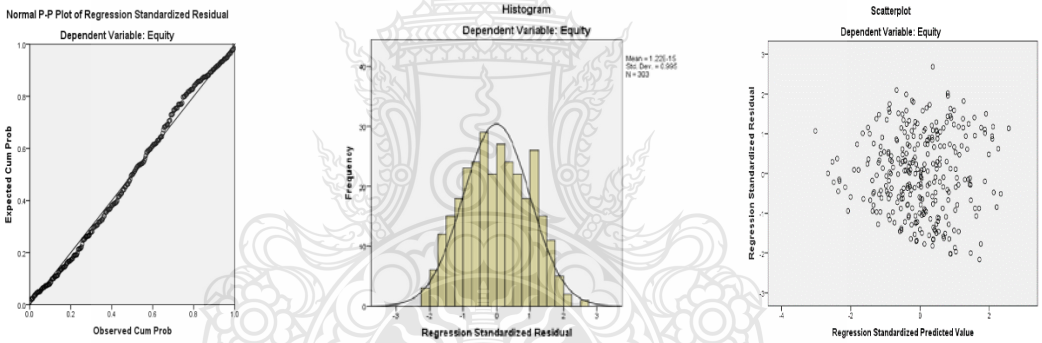


Figure 1.1 Show Normal p-p plot, Histogram and Residual plot (Cont.)

Model 7



Model 8



Mode9

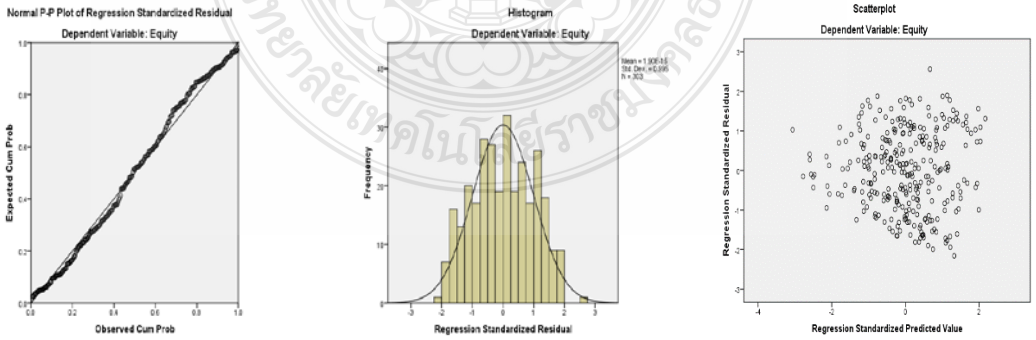
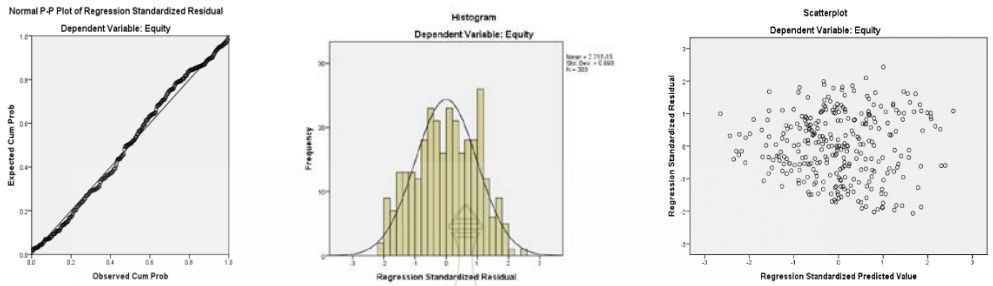
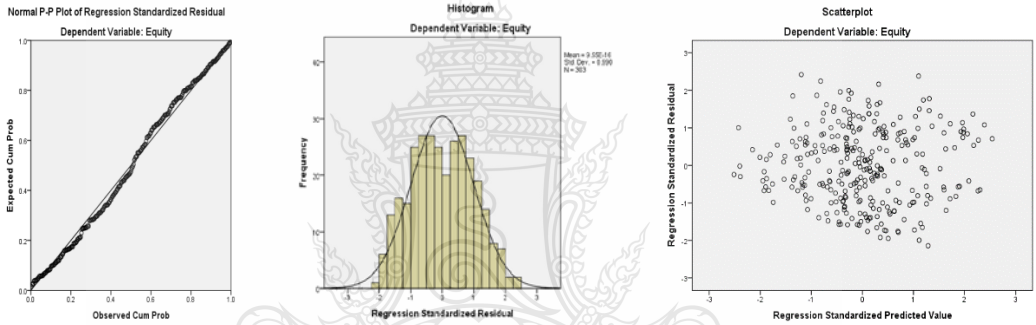


Figure 1.1 Show Normal p-p plot, Histogram and Residual plot (Cont.)

Model 10



Model 11



Mode 12

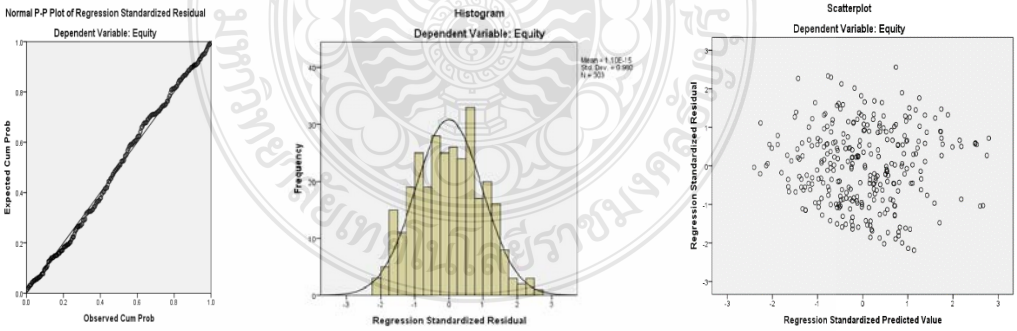
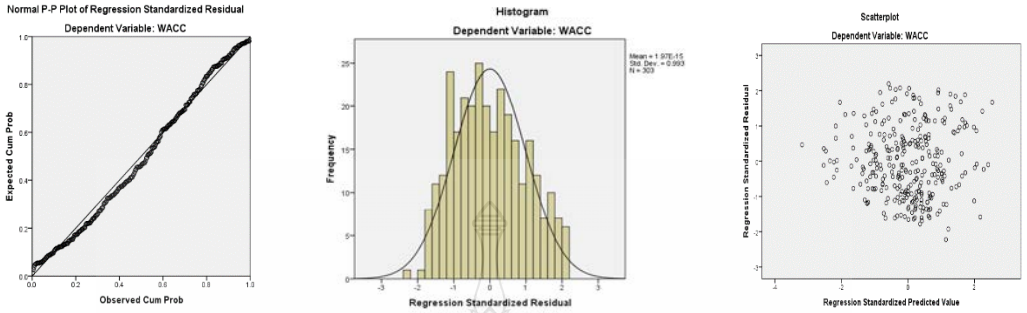
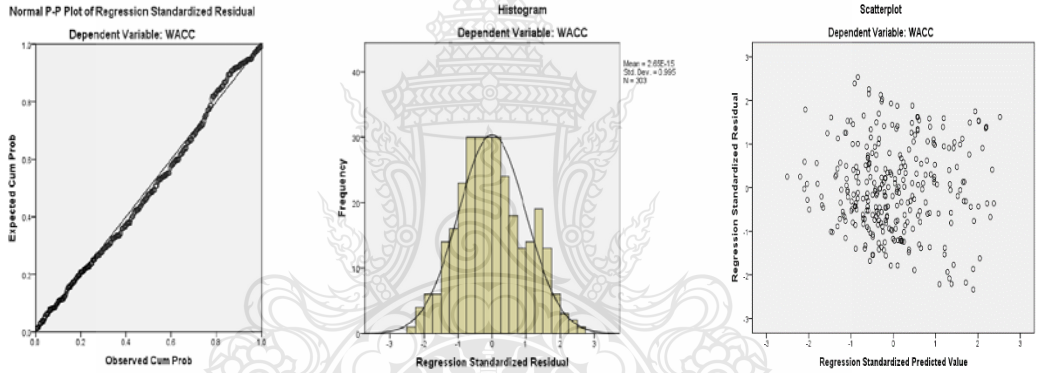


Figure 1.1 Show Normal p-p plot, Histogram and Residual plot (Cont.)

Model 13



Model 14



Mode15

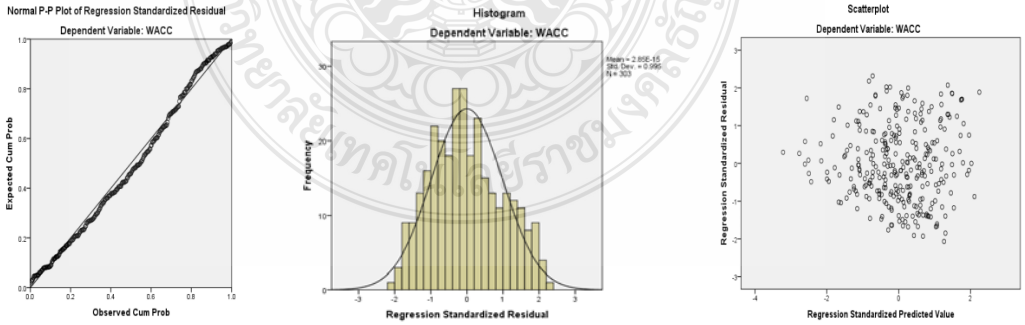
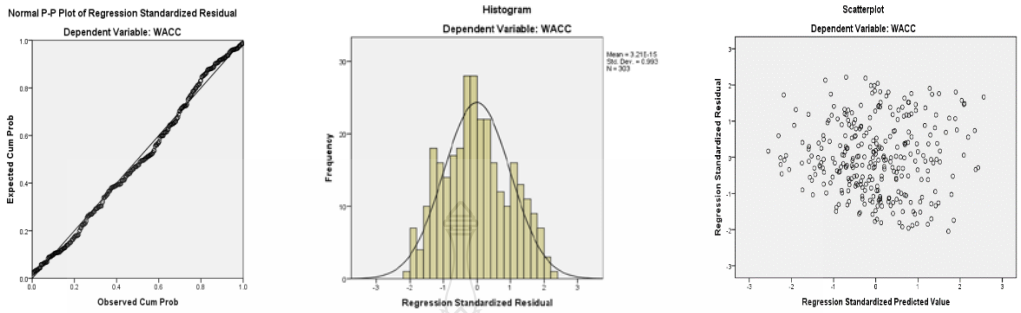
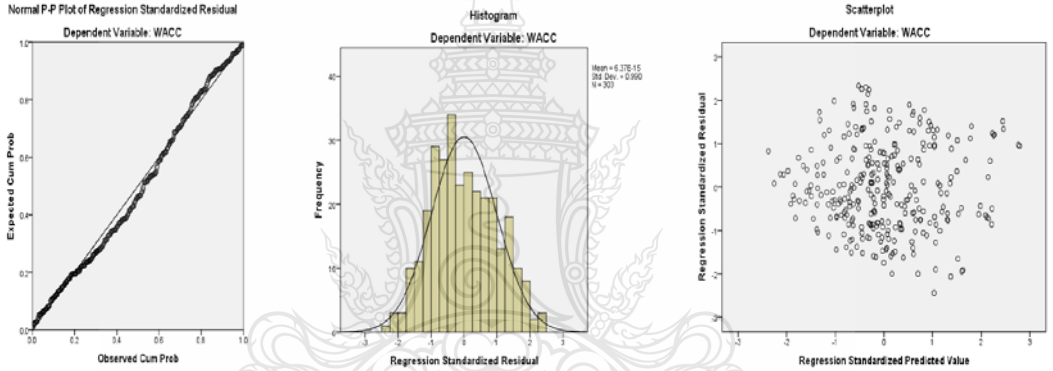


Figure 1.1 Show Normal p-p plot, Histogram and Residual plot (Cont.)

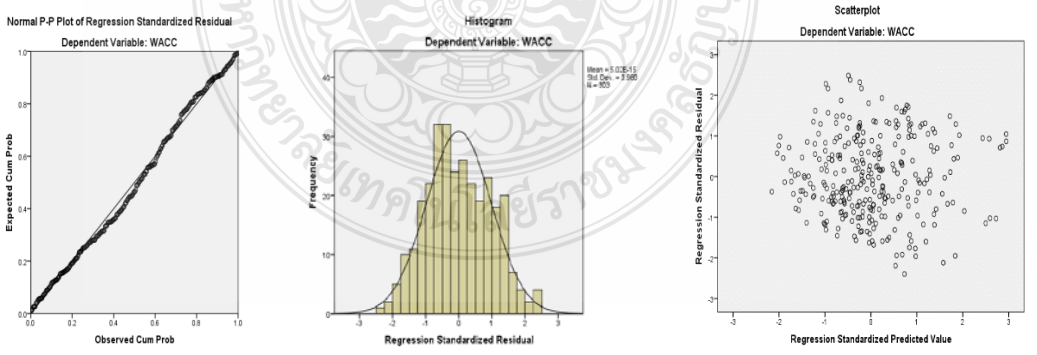
Model 16



Model 17



Mode 18



1. Five Assumptions of Multiple Regression Testing

The study tested the dataset as to whether it warranted any concern as required by multiple regression assumptions. Initially, when performing analysis, it was found that some problems were found relating multiple regression assumptions, natural log was used. After applying this technique, the results revealed there to be no serious concerns.

In Table 1, the effect were computed among cost of debt and corporate governance consisting of the rights of shareholders (R_AGM, R_DIVI), equitable treatment (E_PROXY), role of stakeholders (S_MSB), disclosure and transparency (D_FIVE), disclosures and transparency (D_CGR), responsibilities of the board (B_AUCOM, B_DUAL, B_SIZE, B_COM) and control variables firm size (F_SIZE) and leverage (LEV) scales on data for 303 firms. According to the table, from the robust method VIF value is not over than 10 if measuring on each via the conditions in the assumption measurement. The multiple regression models have the crucial assumption on the imperfect multi co-linear of independent variables. A repressor must not be a linear function for one another.

Table 1 Summary five Assumption of Multiple Regression Testing variables of corporate governance and cost of debt

	variables												
	C_DEBT	R_AGM	R_DIVI	E_PROXY	S_MSB	D_FIVE	D_CGR	B_AUCOM	B_DUAL	B_SIZE	B_COM	F_SIZE	LEV
1. Linearity													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Constant variance of error term													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Dependent of the error term													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Normality													
Histogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Skewness	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kurtosis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Multicollinearity													
Tolerance		0.93	0.93	0.78	0.80	0.98	0.74	0.87	0.83	0.83	0.81	0.88	0.92
VIF		1.08	1.07	1.29	1.26	1.03	1.35	1.15	1.21	1.21	1.24	1.14	1.09

In Table 2, the effect were computed among cost of equity and corporate governance mechanism consisting of the rights of shareholders (R_AGM, R_DIVI), equitable treatment (E_PROXY), role of stakeholders (S_MSB), disclosure and transparency (D_FIVE), disclosure and transparency (D_CGR), responsibilities of the board (B_AUCOM, B_DUAL, B_SIZE, B_COM) and control variables firm size (F_SIZE) and leverage (LEV) scales on data for 303 firms. According to the table, from the robust method VIF value is not over than 10 if measuring on each via the conditions in the assumption measurement. The multiple regression models have the crucial assumption on the imperfect multi co-linear of independent variables.
A repressor must not be a linear function for one another.

Table 2 Summary five Assumption of Multiple Regression Testing variables of corporate governance and cost of equity

	variables												
	C_EQUITY	R_AGM	R_DIVI	E_PROXY	S_MSB	D_FIVE	D_CGR	B_AUCOM	B_DUAL	B_SIZE	B_COM	F_SIZE	LEV
1. Linearity													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Constant variance of error term													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Dependent of the error term													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Normality													
Histogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Skewness	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kurtosis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Multicollinearity													
Tolerance		0.93	0.93	0.78	0.80	0.98	0.74	0.87	0.83	0.83	0.81	0.88	0.92
VIF		1.08	1.07	1.29	1.26	1.03	1.35	1.15	1.21	1.21	1.24	1.14	1.09

In Table 3, the effect were computed among WACC and corporate governance mechanism consisting of the rights of shareholders (R_AGM, R_DIVI), equitable treatment (E_PROXY), role of stakeholders (S_MSB), disclosure and transparency (D_FIVE), disclosure and transparency (D_CGR), responsibilities of the board (B_AUCOM, B_DUAL, B_SIZE, B_COM) and control variables firm size (F_SIZE) and leverage (LEV) scales on data for 303 firms. According to the table, from the robust method VIF value is not over than 10 if measuring on each via the conditions in the assumption measurement. The multiple regression models have the crucial assumption on the imperfect multi co-linear of independent variables. A repressor must not be a linear function for one another.

After testing the five assumptions of multiple regression, the results from testing showed that the data from this paper could be and analyzed to develop an appropriate model. The details of the testing are given in the Appendix.

Table 3 Summary five Assumption of Multiple Regression Testing variables of corporate governance and weighted average cost of capital

	variables												
	WACC	R_AGM	R_DIVI	E_PROXY	S_MSB	D_FIVE	D_CGR	B_AUCOM	B_DUAL	B_SIZE	B_COM	F_SIZE	LEV
1. Linearity													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Constant variance of error term													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Dependent of the error term													
Residual plots	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Normality													
Histogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Skewness	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kurtosis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Multicollinearity													
Tolerance		0.93	0.93	0.78	0.80	0.98	0.74	0.87	0.83	0.83	0.81	0.88	0.92
VIF		1.08	1.07	1.29	1.26	1.03	1.35	1.15	1.21	1.21	1.24	1.14	1.09

Biography

Name – Surname	Mrs. Ailadda Ongklang
Date of Birth	April 22, 1980
Address	Faculty of Business Management Science, Rajabhat Mahasarakham University, Mahasarakham, 44000
Education	2006 Master Degree in Accounting (M.Acc.), Mahasarakham University
Experience Work	Lecturer, Accounting Department, Faculty of Business Management Science, Rajabhat Mahasarakham University, Mahasarakham (2006 – present)
Telephone Number	09-9154-9936
Email Address	acc_rmu@hotmail.com, ailadda_o@mail.rmutt.ac.th

Declaration

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Ailadda Ongklang