AN EMPIRICAL INVESTIGATION OF THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND ENTERPRISE VALUE: THE CASE OF THAI LISTED COMPANIES IN THE STOCK EXCHANGE OF THAILAND

KANLAYA TANMANEE

A DISDERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY PROGRAM IN BUSSINESS ADMINISTRATION
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Dissertation Title	An Empirical Investigation of the Relationship between Corporate Governance and Enterprise Value: The Case of Thai Listed Companies on the Stock Exchange of Thailand
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ABSTRACT

The purpose of this study was to investigate the relationship among the human resources practices, satisfaction factor and organization commitment in autonomous university. The human resources practices comprised of the following four dimensions: organization reward, training and development, procedural justices, and workplace participation.

The sample consisted of three hundred and ten employees in fourteen autonomous universities in Thailand. Both quantitative and qualitative research methods were used as questionnaires with 7- level rating scales and the in-depth interviews were employed as the research instrument. The quantitative analysis used Structural Equation Model (SEM). The Convergent Validity with Confirm Factor Analysis that had factor loading greater than 0.6 was used. The Structural Equation Model showed good consistence with the empirical data by the indications of Chi-square = 345.973, df =300, Chi-square/df = 1.153, CFI = .992, GFI= .927, NFI = .946, and RMSEA = .022.

The findings indicated that workplace participation and training and development had direct effects on satisfaction factor while procedural justices had direct effects on organization commitment. Workplace participation had direct and indirect effects on organization commitment, and satisfaction factor had directed effect on organization commitment. The empirical results were supported by qualitative findings as follows. 1) The employees' skills and capabilities were developed and improved by means of training and development activities that would lead to enhance job satisfaction. 2) The employees' opportunities to work with other departments or faculties and working with different people allowed them with chance to exchange knowledge, sharing ideas and experiences, making new friends, and gaining wider perspective. These would lead to job satisfaction and organization commitment. 3) The awareness of the procedural justices' policy improvement and fairness would initiate employees' satisfaction and lead to organization commitment. 4) Satisfaction was a crucial factor that would lead to employees' commitment because when they satisfied with the better human resources practices management policy, their organization commitment were enhanced.

Keywords: Human resources practices, satisfaction factor, organization commitment, Autonomous University

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Kanlaya Tanmanee

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List of Abbreviations

Abbreviations	Meaning
HRM practices	Human Resources management practices
Org.commitment	Organization commitment
Parti	Participation
Sat _sup	Satisfaction to supervisor
Sat _woke	Satisfaction to work
Sat _ cor	Satisfaction to coordination
Sat_com	Satisfaction to compensation
Sat_growth	Satisfaction to growth
CMIN	Chi-square
Df	Degree of freedom
P	P- value
RMSEA	Root Mean Square Error of Approximation
CFI	Comparative fit index
GFI	Goodness of fit index
NFI	Normed fit index
S.E.	Standard Error
C.R.	Critical Ratio
VIF	Variance inflation faction
CFA	Confirmatory Factor Analysis

CHAPTER 1

INTRODUCTION

1.1 Background and Statement of the Problem

The identification of factors influencing firm sustainability has been controversial. In the past two decades, corporate governance (CG) has been recognized as one vital tool in supporting firm sustainability. The Organization for Economic Cooperation and Development (OECD) has supported firms in their adoption of CG mechanisms (OECD, 2004), with CG in effect influencing firm performance and enterprise value (Gillan, 2006). Prior studies have attempted to identify which CG proxies can bring about an increase in enterprise value over the long term (i.e. Brown and Caylor, 2006). However, these studies have been carried out in different CG environments in western countries like the USA and UK where culture and management styles are somewhat different. For example, company structures in Asia are predominantly based on family-concentrated ownership. On the other hand, western countries prefer extended shareholders for large companies which require greater capital. In addition, most prior research has employed at least some qualitative measurements in their CG measurements. These may be subjective and judgmental to a degree resulting in data reliability issues and consequently impacting results. These two research gaps have led to the two main objectives of this study. Firstly, the study aims to develop CG standards in emerging markets using Thai listed companies as the dataset environment. In addition, this study focuses on collecting data which is publicly available, rather than creating its own scoring systems. The results of this present study

contribute to current CG research by adding a comprehensive CG model that may be applied to most emerging markets. Most prior literature has used subjective and judgmental measurements to acquire CG scores. In this paper, the study attempts to utilize publicly available data in order to reduce such limitations. The study also highlights significant CG measurements affecting enterprise value.

1.2 Purposes of the Study

1. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies in the SET100 of the Stock Exchange of Thailand during 2008-2010.

2. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies in the non-SET100 of the Stock Exchange of Thailand during 2008-2010.

3. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies in SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010.

1.3 Research Questions and Hypotheses

As mentioned before, the research questions of this paper are as follows:

Research Question 1: Do ownership structure (concentrated ownership (largest, top5, blockholders, controlling), nominee ownership, politician ownership, family ownership, state ownership, foreign ownership, free float ownership and managerial ownership (board of directors, CEO)) relate to the enterprise value of listed companies in the SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010?

Research Hypotheses:

H_1: Percentage of shares of largest shareholder relates to enterprise value.

H_2: Percentage of shares of top five shareholders positively relates to enterprise value.

H_3: Percentage of shares of blockholder shareholders holding at least 5 percent relates to enterprise value.

H_4: Percentage of shares of controlling shareholders holding at least 25 percent relates to enterprise value.

H_5: Percentage of shares of nominee shareholders positively relates to enterprise value.

H_6: Percentage of shares of politician shareholders positively relates to enterprise value.

H_7: Percentage of shares of family shareholders relates to enterprise value.

H_8: Percentage of shares of state shareholders relates to enterprise value.

H_9: Percentage of shares of foreign shareholders relates to enterprise value.

H_{10}: Percentage of shares of free float shareholders positively relates to enterprise value.

H_{11}: Percentage of shares held by board of directors positively relates to enterprise value.

H_{12}: Percentage of shares held by CEO positively relates to enterprise value.

H_{29}: Percentage of shares of largest shareholder and nominee shareholders relates to enterprise value.

H_{30}: Percentage of shares of largest shareholder and politician shareholders relates to enterprise value.

H_{31}: Percentage of shares of largest shareholder and family shareholders relates to enterprise value.

H_{32}: Percentage of shares of largest shareholder and state shareholder relates to enterprise value.

H_{33}: Percentage of shares of top 5 shareholders and nominee shareholders positively relates to enterprise value.

H_{34}: Percentage of shares of top 5 shareholders and politician shareholders positively relates to enterprise value.

H_{35}: Percentage of shares of top 5 shareholders and family shareholders relates to enterprise value.

H_{36}: Percentage of shares of top 5 shareholders and state shareholder relates to enterprise value.

Research Question 2: Does the role of stakeholders relate to the enterprise value of listed companies in the SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010?

Research Hypotheses:

H_{13}: Number of disclosed CSR activities relates to enterprise value.

H_{14}: Policies of enterprise regarding social responsibility relates to enterprise value.

Research Question 3: Do disclosure and transparency relate to the enterprise value of listed companies in the SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010?

Research Hypothesis:

H_{15}: Corporate governance rating relates to enterprise value.

Research Question 4: Do board responsibilities (board size, duality, chairman independence, board independence, board of executive director, board of family, board of skill, board of meeting, board of compensation, audit committee and sub-committee within board) relate to the enterprise value of listed companies in the SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010?

Research Hypotheses:

H_{16}: Number on board of directors relates to enterprise value.

H_{17}: Duality (Chairman of board of directors is CEO) relates to enterprise value.

H_{18}: Independence of chairman positively relates to enterprise value.

H_{19}: Percentage of shares of board independent shareholders positively relates to enterprise value.

H_{20}: Percentage of shares of executive director shareholders positively relates to enterprise value.

H_{21}: Percentage of shares of board of family shareholders relates to enterprise value.

H_{22}: Number of committee members with bachelor degrees positively relates to enterprise value.

H_{23}: Number of meetings of board of directors relates to enterprise value.

H_{24}: Number of meetings of audit committees positively relates to enterprise value.

H_{25}: Board of director compensation relates to enterprise value.

H_{26}: Executive compensation relates to enterprise value.

H_{27}: Number of audit committees relates to enterprise value.

H_{28}: Number of sub-committees positively relates to enterprise value.

1.4 Definition of Terms

1. Corporate Governance:

The Stock Exchange of Thailand (SET) defines corporate governance as a system with a structure and process of relations between the board of directors of a company, its management team, its shareholders and other stakeholders in leading the company's direction, competitiveness, sustained growth and high enterprise value in the long term to stakeholders.

The Organization for Economic Cooperation and Development (OECD) views corporate governance as involving the directing and controlling processes through specifying the distribution of rights and responsibilities among different participants in the organization – such as the board, managers, shareholders and other stakeholders – and laying down the rules and procedures for decision-making based primarily on the objectives of the organization.

The National Corporate Governance Committee identified governance as a system with the structure and process of leadership between the board of directors of a company, its management team, its shareholders and other stakeholders in leading the company's direction, monitoring its operations and corporate control to establish the transparent working environment and to enhance the company's competitiveness to preserve capital and to increase shareholders' long-term value by taking into consideration business ethics, the interests of other stakeholders and society, and the system settings and processes of relation building and high enterprise value in the long term.

2. Rights of shareholders

Shareholders own the company, controlling it by appointing the board of directors to act as their representatives. Shareholders are eligible to make decisions on any significant corporate changes. Therefore, the company should encourage shareholders to exercise their rights.

Basic shareholder rights include the right to 1) buy, sell, or transfer shares, 2) share in the profit of the company, 3) obtain relevant and adequate information on the company in a timely manner and on a regular basis, 4) participate and vote in shareholder meetings to elect or remove members of the board, appoint the external auditor, and make decisions on any transactions that affect the company, such as dividend payments, amendments to the company's articles of association or bylaws, capital increases or decreases, or the approval of extraordinary transactions.

Shareholders should be fully informed of the criteria and procedures governing shareholder meetings. Sufficient information regarding the issues to be decided in each

agenda item should be provided in advance of the meeting. Shareholders should be able to query directors both in the meeting and by sending their questions in advance. They should also be allowed to propose agenda items and vote by proxy.

The board of directors must recognize shareholders' rights and avoid any action that violates those rights.

3. Equitable treatment of shareholders

All shareholders, including those in management positions, non-executive shareholders and foreign shareholders should be treated fairly and equally. Any violations of the rights of minority shareholders should be redressed.

It is important that shareholders be able to trust that the company's board of directors and management will use their money to maximize the long-term benefits of all shareholders appropriately. The board should ensure that all shareholder rights are protected and that they all get fair treatment.

The board should ensure that all processes and procedures for shareholders meetings allow equitable treatment of all shareholders. The board should have a policy to allow minority shareholders to nominate candidates for directorships. Shareholders who cannot vote in person should be allowed to vote by proxy. Shareholders should be allowed to propose the addition of any advance agenda item prior to the shareholders' meeting date.

The board should set procedures to prevent the use of inside information for abusive self-dealing, such as insider trading or related party transactions.

All directors and executives should be requested to disclose to the board whether they and their related parties have any interest in any transaction or matter directly

affecting the company. Directors and executives who have such interests should not participate in the decision-making process on such issues.

4. Role of stakeholders

Stakeholders of a company should be treated fairly in accordance with their legal rights. The board of directors should provide mechanisms to promote cooperation between the company and its stakeholders in order to create wealth as well as further the financial stability and sustainability of the firm.

Stakeholders in CG include – but are not limited to – customers, employees, suppliers, shareholders, investors, creditors, the community the company operates in, society as a whole, the government, competitors, and external auditors.

The board should set clear policies on fair treatment for each and every stakeholder. The rights of stakeholders established by law or through mutual agreements are to be respected. Any actions that can be considered in violation of stakeholders' legal rights should be prohibited. Any violation should be effectively redressed.

The board should provide a mechanism so that stakeholders can be involved in improving the company's performance, helping to ensure the firm's sustainability. In order for stakeholders to participate effectively, all relevant information should be disclosed to them.

There should be an effective way for stakeholders to communicate to the board any concerns about illegal or unethical practices, incorrect financial reporting, insufficient internal controls, etc. The rights of any person who communicates such concerns should be protected.

The board should set clear policies on environmental and social issues to ensure that the company contributes to the sustainable development of its business. The board should consider all aspects of how its operations directly or indirectly affect the environment or society.

5. Disclosure and transparency

The board of directors should ensure that all important information relevant to the company, both financial and non-financial, is disclosed correctly, accurately, on a timely basis and transparently through easy-to-access channels that are fair and trustworthy.

Important company information includes financial reports and non-financial information specified in the regulations of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) as well as any other relevant information, such as the summary of the tasks of the board and its committees during the year, corporate governance policy, environmental and social policies and the company's compliance with the above-mentioned policies.

The quality of a company's financial reports is vital for shareholders and outsiders to make investment decisions. The board should be confident that all information presented in the financial reports is correct, and has been audited by an independent external auditor.

The chairman of the board and the managing director (MD or CEO) are in the best positions to be spokespeople for the company. Nonetheless, the board may appoint another director or executive to act as a spokesperson. That person should perform the duty with due care. In addition, the board should designate a person or department to

perform the investor relations, or IR function, to communicate with outsiders such as shareholders, institutional investors, individual investors, analysts, or related government agencies.

6. Responsibilities of the board

The board of directors plays an important role in corporate governance in terms of acting in the best interests of the company. The board is accountable to shareholders and independent of management.

The board should have leadership, vision, and independence in making decisions for the best interests of the company and all shareholders. The board should clearly separate its roles and responsibilities from those of management and monitor the company's operations to ensure all activities are conducted in accordance with the law and ethical standards.

The structure of the board should consist of directors with various qualifications, which is to say, skills, experience, and expertise that are useful to the company. Directors should commit to their responsibilities and put all their efforts into creating a strong board.

The director's nomination process should be transparent, without any influence of controlling shareholders or management, and be credible to outsiders.

For efficiency and effectiveness, the board should set up committees to study and screen special tasks on behalf of the board, especially issues that need unbiased opinions. Committees should have a clear scope of their work, roles and responsibilities as well as working procedures, such as meetings and reporting to the board.

All directors should understand their roles and responsibilities and the nature of the company's business. They should be ready to express their ideas independently and continuously update themselves in the affairs of the company and the industry as a whole. Directors should perform their duties in good faith, with due diligence and care, in the best interests of the company and all shareholders. Directors should receive correct, timely, adequate and complete information. They should commit themselves to their responsibilities and attend all board meetings, except for when there are acceptable reasons otherwise.

The board should not approve its own remuneration. The process of setting their remuneration should be transparent and be approved by shareholders. The level and composition of remuneration should be appropriate and high enough to keep qualified directors while not overpaying them.

7. Board of Directors : The SET defines this as the person who has authority and responsibility for the management enterprise instead of the stockholder.

8. Executive Director : A director employed in a managerial or executive position within the organization who reviews tasks for the executive committee.

9. Independent Director : This is a committee member who holds stock of not over 5% and who is not a member of the top management or an officer, or associated with an affiliated company in terms of being employed in top management or being the largest stockholder.

10. Audit Committee Members : This is a committee member promoted to the audit committee. An audit committee member should investigate and balance corporate governance independently.

11. Nominating Committee : This is the committee which recruits individuals for top management. This committee should be independent and diligent in finding and assessing suitable candidates.

12. Nominee ownership criteria is as follow:

12.1 No need to be an individual or a Thai enterprise and the proportion of shares held is not considered. However, management power and behavior are considered important and to be assessed monitored.

12.2 Enterprise which was suspected be nominee have behavior as follows:

- A commercial bank or financial institute or sub-company or affiliate company which is a foreign company or bank which has an outstanding position as s custodian (such as Chase Nominees Ltd.) or a non-bank which holds shares instead of its customer or by investing by itself (such as “Deutsche Bank AG”) is not a nominee.

- Nominee companies or custodian companies are defined as foreign juristic persons formed for main security holding in the form of a trust or individual person or juristic person.

- A securities trading company is defined as a Thai or foreign securities trading company which does business as a broker. It can hold shares instead of a customer.

- Thailand Securities Depository (TSD) defines as the company who is the center of securities deposit and be sub-company of SET as well. This company is the nominee of free-floating shares.

- Thai Non-Voting Depository Receipt (Thai NVDR), as a sub-company of the SET, defines the proportion of NVDRs holding shares on behalf of Thai NVDR Company Limited. Its duty is to act as the nominee of people who hold NVDR shares.

- A registered company in a tax free zone is defined as a foreign juristic person registered in a tax free zone (no rules for registering and disclosure) such as the British Virgin Islands (BVI), Cayman Islands, Bermuda and Channel Islands.

13. Politician ownership is defined in two follow ways: First, the shares are held directly by a relative of an elected representative (politician) or by an individual with the same surname as a politician in the House of Representatives during 2008-2010. Second, the shares are held indirectly by the largest shareholder with a close relationship to a politician or shareholder who is the main funder of a politician who is capital man of politician held in the House of Representatives during 2008-2010.

14. Family ownership is a list of owners with the same surname in accordance with the disclosure reports to SET during 2008-2010.

15. Free float ownership is a list of the free float owners who appear in the disclosure reports to SET for each year during 2008-2010.

16. Board of skill is the number of directors who have a bachelor's degree in each committee of the board as appears in the disclosure report to SET for each year during 2008-2010.

17. Compensation Committee: This is the committee who consider the compensation for the top management commensurate with authority and commitment, and it can reflect the ability to achieve the goal of the enterprise.

18. Compensation: This is all the financial returns from employment such as salary, compensation, allowance, bonus, rent and includes all payments made by the employer to the employee.

19. Largest ownership is the list of the largest owners who held over 5% of all shareholders. This list appeared in the disclosure report of the board to the SET for each year during 2008-2010. The list of largest owners was separated into two categories as follows:

Individuals with the same surname.

Juristic persons including affiliated companies or associated companies.

20. Enterprise value is calculated using Arzac's equation (2005) which is calculated from the enterprise's actual value as of the last trading day of the year. This equation is as follow:

$$EV = MVE + Total\ Debt - Cash$$

Where:

MVE = market value of common stock price at the end of the year,

Debt = book value of total debt,

Cash = book value of cash and cash equivalents

1.5 Delimitation and Limitations of the Study

This research was conducted under the following limitations:

1. The population comprised listed companies listed companies in the SET100 and non-SET100 of the Stock Exchange of Thailand.

2. The sample comprised listed companies in the SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010.

3. Enterprise value was calculated by the enterprise value (EV) concept using Arzac's calculation.

4. The data of this paper consisted of the proxies of corporate governance as collected from annual reports and the financial statements of 56-1 forms. This data was disclosed by the SEC and SET (from SETSMART website).

1.6 Significance of the Study

This present study is constructed on the concept of how to make firms sustainable. Previous studies have addressed many issues related to this area. Corporate governance (CG) has come under increasing focus in line with this trend. However, the use of proxies to represent CG is somewhat controversial because they are subjective and depend on the judgment of researchers. Therefore, this present study endeavors to point out CG proxies to represent the CG measurement of firms. Almost all CG measurements are collected from publicly available data. In addition, the analysis quantifies CG using a well-known enterprise measurement, that of Arzac (2005), due to its simplicity and easy of calculation. In addition, all 5 requirements are tested through full analysis before running multiple regressions. So, the dataset in this study does not concern any assumptions. The results of this present study lead to significant contributions. It is found that Thai listed companies have adopted the CG concept into their operations, especially in the areas of owner structure and board responsibilities. The empirical findings imply that Thai investors are willing to pay a

substantial premium for better-governed companies, especially in companies with concentrated shareholders as well as board characteristics. Finally, this present study mainly contributes two main issues to the relevant literature. Firstly, it fills the gap regarding what proxies are used to measure CG mechanisms in emerging markets. Secondly, 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.

CHAPTER 2

REVIEW OF THE LITERATURE

The Stock Exchange of Thailand (SET) intends for registered companies to have corporate governance systems meeting a standard based on the Organization for Economic and Co-operation's (OECD) corporate governance concept integrated with the corporate governance of the SET concept. This can make firms reliable, transparent, increasingly competitive and have best practices adopted by other firms in the capital market of Thailand. The SET organized a campaign promoting registered companies to reap the benefits of corporate governance both for firms and for stakeholders such as stockholders, partnership, creditors, employees, community and so on, enhancing knowledge about applied corporate governance to real practice. Besides, the SET relies on the beneficial protection of investors in order to encourage and ensure trust so that investors will make the decision to invest in the SET. The SET has launched many measures to protect investors such as identified rules, often investigating and motivating registered companies to operate in accordance with SET's rules such as the selling and buying system, payment, disclosure and so on as equitable treatment to investors. Investors can use such information to evaluate the situation and for protection planning of their interests. It can convince them that their investments are protected while also boosting the national economy. The principles of corporate governance based on accountability, responsibility, equitable treatment and transparency. These components lead to a vision to create long term value and ethics. Good corporate governance by firms is reflected through an efficient management system, transparency, and thorough

independent auditing. Corporate governance is a tool to help the firm build added value and enhance sustainable growth. Therefore, the author has decided to study corporate governance with the sequence of study as follows: study CG from the OECD's concept and the rules of corporate governance principles of SET 2006 which is separated in to five sections: (1.) Rights of Shareholders, 2) Equitable Treatment of Shareholders, 3.) Role of Stakeholders, 4.) Disclosure and Transparency, and 5.) Board Responsibilities. However, Rights of Shareholders and Equitable Treatment of Shareholders involve owner structure and therefore the researcher has combined them. Subsequently, the study of CG focuses on 1.) Owner structure, 2) Role of Stakeholders, 3.) Disclosure and Transparency, and 4.) Board Responsibilities. In addition, the researcher studies enterprise value, agency theory concept, and corporate governance concept.

Enterprise value is important information for stakeholders especially those who would like to maximize the benefits from their investments. Enterprise value can reflect the efficient performance of the enterprise and this depends on the management of the enterprise. It is common practice for most ownership or stockholders to employ some agents to manage the enterprise on their behalf. At the same time, most enterprises encounter agency problems whereby some agents manage the business based more on their own benefits than those of the enterprise. Many studies have identified agency problems as being reduced by agency costs such as a document investigation process with agency costs in turn being reduced by good corporate governance. The researcher reviewed much literature and previous research regarding the agency theory and corporate governance concepts, including the important factors and components that involve the research objectives such as ownership structure, disclosure and

transparency, board responsibilities, enterprise value concept and control variables. The details of these factors are as follows:

2.1 Enterprise value

Enterprise value is vital to stakeholders such as creditors, banks and financial institutes who use this information as criteria before approval of loans. Suppliers use enterprise value information as criteria before giving cash discounts or expanding periods of credit. An enterprise's management team should use enterprise value information for identifying the objectives of enterprises, including for planning, controlling and making decisions for achieving high performance. Therefore, enterprise value is very important and involved many individuals and parties. It can help a business achieve greater effectiveness and efficiency including sustainable growth which applies corporate governance to operations (Drobetz, Schillhofer, Zimmermann (2004), Gompers, Ishii, Metrick (2003), Jong, DeJong, Mertens, Wasly (2001) and Black (2002)).

Damodaran (2005) identified the first academic to talk about enterprise value as Dodd and Graham (1934). They mentioned about the linkage between dividend payments and stock values. However, they did not mention about the discounted cash flow model or discounted cash flow calculation. Yet they did mention the tools that should be used in the analysis of the value of stock such as the observation value of price-to-earning ratio, high dividend yields, reasonable growth, and low risk that highlighted stocks would be under value using a dividend discount model. Consistent with this, Nissim and Penman (2001) identified the first academics to talk about

enterprise value as Graham, Dodd and Cottle. They referred to equity value in their book Security Analysis written in 1962. This book looked into the analysis of stock prices, beta estimation, and asset allocation, and fundamental financial statement analysis. These factors have impact or lead to equity value. This book also recommended using ratios for the analysis of profit margins or inventory turnover. They asserted that ratios could reflect the management potential of the enterprises and lead to equity value. Interestingly, this book identified equity value as being "determined by future earnings power". However, there was no explicit justification for using future earnings as a valuation attribute, neither was there any explicit development of the forecasting of this earnings power. Since then, many researchers, such as Brown (1993), Lipe (1986), Ou (1990), Ou and Penman (1989), Lev and Thiagarajan (1993), and Fairfield, Sweeney, Yohn (1996), have applied this concept to financial statements analysis for consideration of equity value, as well as to examine the role of particular financial statement components and ratios in forecasting.

Berry (2006) identified enterprise value as initially being addressed through talking about the future value of enterprises from the evaluation of future enterprise performance as the future value of the enterprises comes from the intangible opportunities of the enterprises, the effectiveness of the marketing strategy, the effectiveness of risk management, creative operations in business and the low costs of the manufacturing process. Many researchers have applied the concept that the future value of an enterprise depends on the performance of the enterprise (Doukas and Travlos (1988), Ramaswamy (1992), Sullivan (1994), Morck and Yeung (1991), Bodnar, Tang, Weintrop (2000), Berry and Sakakibara (2006)).

Bird and Casavecchia (2007) again cited Graham and Dodd as the first to address enterprise value in 1934 through the genesis of value investing in their work Security Analysis. This book has been a major inspiration for many investors, including Warren Buffett, John Templeton and Jeremy Grantham.

Srinivasan and Hanssens (2009) identified the Fama–French factor model as the first to address enterprise value through reference to marketing valuation in its calculations. This model was developed by its namesakes Fama and French in 1992 and 1996. This model identified the nature of the stock price to reflect the performance of the enterprise. The Fama–French model used this principle for calculating stock price based on market risks, the potential and magnitude of risks, and risks affecting the book value of the enterprise.

Damodaran (2005) identified three methods for enterprise value calculation: 1) Discounted cash flow valuation relates the value of an asset to the present value of expected future cash flows on that asset. 2) Liquidation and accounting valuation is built around valuing the existing assets of an enterprise, with accounting estimates of value or book value often used as a starting point. This method makes a calculation through the supposition of the enterprise halting business at the present moment in time. How much does replace cost. Therefore, enterprise value will be the nearest book value. Replacement cost can be calculated using the methods of Tobin's Q or residual income (EVA). 3) Relative valuation estimates the value of an asset by looking at the pricing of "comparable" assets relative to a common variable like earnings, cash flow, book value or sales. This method has examples such as price to earnings, price to book value, price to free cash flow, price to sales, and price to earning ratios.

Liquidation and accounting valuation by Tobin's Q or residual income (EVA) and relative concept by enterprise value are all popular enterprise value measurements. However, in this paper the author focuses on only the relative concept by enterprise value, detailed as follows:

2.1.1 Tobin's Q

This method uses the following equations:

$$\text{Approximate } q = (MVE + PS + DEBT) / TA$$

MVE is the market value of the common stock price at the end of the year (calculated from common stock price time with amount of stock held by stockholder)

PS is the market value of preferred stock price (ransom price)

DEBT Is the book value of total debt

TA is the book value of replacement cost

It is difficult to calculate Tobin's Q because the analyst should forecast both the market price and book value price of replacement cost (Padungsit, 2005).

2.1.2 Economic Value Added (EVA)

This method uses the following equation:

$$EVA = NOPAT - CC$$

$$EVA = NOPAT - (IC_{average} \times WACC)$$

EVA is economic value added

NOPAT is net profit after tax

CC is cost of capital (Capital Charges = $IC_{average}$ x WACC)

$IC_{average}$ is invested capital average. Calculated from $IC_{average}$

= (IC last year + IC this year)/2

WACC is the weighted average cost of capital. Calculated by

$$WACC = \left(\frac{CCL \times ICL}{IC}\right) + \left(\frac{CCO \times ICO}{IC}\right)$$

CCL is the cost of capital rate from debt sources

ICL is the capital from debt sources

CCO is the cost of capital rate from equity sources

ICO is the capital from equity sources

IC is the total capital

2.1.3 Enterprise value

This paper calculates enterprise value based on Azac's model. Dr. Arzac is the author of the book Valuation for Mergers, Buyouts and Restructuring, and has published many articles in finance and economic journals. Enterprise's actual value as of the last trading day of the year is calculated using Arzac (2005) as follows:

$$EV = MVE + Debt - Cash$$

Where:

- MVE = market value of common stock price at the end of the year
- Debt = book value of total debt
- Cash = book value of cash and cash equivalents

Previous studies: Use of EV calculation of Arzac's Model

There are few studies that have measured enterprise value using the enterprise value (EV) method. The present paper intends to fill this research gap by reexamining the relationship between corporate governance and enterprise value. There are many reasons why EV was selected to measure enterprise value in this paper. One is that it is the most popular with investors around the world and is increasingly used by practitioners. After reviewing previous literature, the author found that much research introduced EV and ratios involving EV used in analysis. The enterprise multiple (EM) was particularly popular. The EM is calculated as the enterprise value (EV, the market value of common stock, preferred stock, and debt, minus cash) divided by earnings before interest, taxes, depreciation, and amortization (EBITDA).

One example work which identified the high potential of EV and EM is that of Damodaran, a professor in Finance at New York university. In his book Damodaran on Valuation (2nd edition, 2006), he stated that "in the past two decades, EM has acquired a number of adherents among analysts because EM can be compared more easily across enterprises with differing leverage."

Financial expert Tim Loughran stated that EV is popular in investing analysis. Loughran asserted Valuation Measuring and Managing the Value of Company (4th edition) which identified EV as popular. Loughran and Wellman (2009) identified EM as outperforming BE/ME and also better than Tobin's Q as a determinant of stock returns. EV can be compared to the market value of equity and the denominator, EBITDA, can be compared to the book value of equity.

Harlan Platt, Demirkan, Platt (2009) studied the topic of "Perilous Forecasts: Implications of Reliance on Terminal Value". There are some parts which calculate enterprise value in which Arzac's model was used. Besides, Platt, Demirkan, Platt (2010) focused on "Free Cash Flow, Enterprise value, and Investor Caution", Arzac's model was also selected for use in their study. Thus, EM or EV is a complete measure of enterprise value. The author found that calculation of terminal value by combining EV in the equation reflects the real value better than previous calculations. These reasons are why EV was selected for study in this paper.

2.2 Agency Theory

Srichanphet (2010) cited agency theory as having been developed by Jensen and Mecking in 1976. The concept of this theory is that ownership cannot manage their business alone. They have to find someone – an agent – to assist them in management of the business and organization. The ownership or principle will decentralize their managerial power to the agent. If the agent manages business to maximize profits consistent with the needs of ownership, there exists a relationship between the principal and agent efficiency. If the agents manage for themselves or for self-opportunism, the relationship will not be efficient and lead to agency problems. The agent is managed under the control of the board of directors which is designated by the business owners or shareholders. The board of directors will specify the direction or strategies of the organization in achieving business objectives. Agents or managers are employed to supervise the work and employees in executing such strategies. The management by the agents is measured by their performance while also being held accountable.

Agency theory has been used in differing ways by many researchers such as incorporating the concept in which share ownership is widely held, and managerial actions departing from those required to maximize shareholder returns (Berle and Means, 1932; Pratt and Zeckhauser, 1985). In agency theory terms, the owners are principals and the managers are agents. There is an agency loss if the extent to which returns to the residual claimants, the owners, falls below what they would be if the principals, the owners, exercised direct control of the corporation (Jensen and Meckling, 1976). Agency theory specifies the mechanisms which reduce agency loss (Eisenhardt, 1989). These include incentive schemes for managers which reward them financially for maximizing shareholder interests. Such schemes typically include plans whereby senior executives obtain shares, perhaps at a reduced price, thus aligning financial interests of executives with those of shareholders (Jensen and Meckling, 1976). Other similar schemes tie executive compensation and levels of benefits to shareholders returns and have part of executive compensation deferred to the future to reward long-run value maximization of the corporation and deter short-term executive action which harms corporate value.

Agency problems come from the divergences of interests between shareholders and managers and results 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 a business owner does not ensure that managers can make returns consistent with expectations.

The perspectives of agency theory are used to explain the need for corporate governance to improve enterprise performance. There is much literature which studies the relationship between corporate governance (ownership structure, disclosure and transparency, board responsibilities) and enterprise value. Most construct their own research framework based on agency theory. For example:

Farinha (2003) reviewed the theoretical and empirical literature on the nature and consequences of the corporate governance problem based on agency theory, providing some guidance on the major points of consensus and dissent among researchers on this issue. He identified conflicts arising from the relationship between managers and shareholders in companies with large ownership diffusion, the issue of managerial entrenchment and the link between enterprise value and corporate governance. Isshaq, Bokpin, and Onumah (2009) examined the interaction between corporate governance and enterprise value on enterprises in the Ghana Stock Exchange. They used agency theory as the basis of their research. They found that board size is positively and statistically significantly related to share price among the corporate governance variables. Lee and Zhang (2008) studied the relationship between ownership structure, corporate governance and enterprises' performances in the Chinese capital market during 2004–2007. Agency theory was selected as part of the fundamental framework of their research. They found that ownership structure such as state ownership, largest ownership, and managerial ownership were found to negatively affect an enterprise's value, whereas board members and institutional ownerships were found to

positively affect them. This was consistent with Driffield, Mahambare, and Pal (2007), who examined the effects of ownership structures on capital structure and enterprise value based on agency theory. They argued that the effects of separation of control from cash flow rights on capital structure and enterprise value also depend on the separation of control from management as well as on legal rules and enforcement defining investors' protection. Their research results provided evidence that the general wisdom that higher control than cash flow rights may lower enterprise value may be reversed among owner-managed family enterprises. In addition McMahon (2007) examined in some depth the relationships between ownership structure, business growth and financial performance amongst small and medium-sized enterprises (SMEs) with different degrees of overlap between management and ownership based on agency theory. They found that there is no statistically significant relationship between the proportion of equity held by SME managers and achieved business growth in the businesses examined. Furthermore, for most financial performance measures examined, it would appear that there is no statistically significant relationship between the proportions of equity held by SME managers and achieved financial performance in the businesses examined.

To summarize, according to its general principles, agency theory will ultimately result in value or added-value to the business and shareholders. Because the business owner cannot manage the business alone and has to assign other parties to manage the business for them and designate the board of directors for specifying strategy in achieving business objectives as well as employ the manager to work and execute such strategies. So, ownership and the board of directors will have impact on the

performance of a business. The performance of a business will in turn impact future cash flow and enterprise value.

2.3 Corporate Governance

Corporate governance has long been addressed, at least since Berle and Means (1932) and even Smith (1776). There is much empirical literature regarding the definition of corporate governance, given as follows:

The Organization for Economic Cooperation and Development (OECD) defines corporate governance as involving directing and controlling processes through specifying the distribution of rights and responsibilities among different participants in the organization – such as the board, managers, shareholders and other stakeholders – and laying down the rules and procedures for decision-making primarily based on the objectives of the organization.

National Corporate Governance Committee asserts that governance can be defined from various perspectives, for instance,

1) The relationship between the board of directors of a company, its management team, its shareholders and other stakeholders in leading the company's direction and monitoring its operations.

2) The structure and internal process ensuring that the board of directors evaluates the performance of the management team transparently and effectively.

3) A system having a structure and process of leadership and corporate control to establish a transparent working environment and to enhance the company's competitiveness to preserve capital and to increase shareholders' long-term value by talking into consideration business ethics, the interests of other stakeholders and society.

Caramanolis (1995) regards corporate governance as being determined by the equity allocation among insiders (including executives, CEOs, directors or other individual, corporate or institutional investors who are affiliated with management) and outside investors.

Shleifer and Vishny (1997) define corporate governance by stating that it deals with the ways in which suppliers of finance to corporations ensure themselves of getting a return on their investment.

John and Senbet (1998) provided a more comprehensive definition in which corporate governance deals with the mechanisms by which stakeholders of a corporation exercise control over corporate insiders and management such that their interests are protected. They include as stakeholders not just shareholders, but also debt holders and even non-financial stakeholders such as employees, suppliers, customers, and other interested parties.

Hart (1995) suggests that corporate governance issues arise in an organization whenever two conditions are present. First, there is an agency problem, or conflict of interest, involving members of the organization – these might be owners, managers, workers or consumers. Second, transaction costs are such that this agency problem cannot be dealt with through a contract.

Srichanphet (2010) defined corporate governance as "A system having the structure and process of leadership and corporate control to establish a transparent working environment and to enhance the company's competitiveness to preserve capital and to increase shareholders' long-term value by taking into consideration business ethics, the interests of other stakeholders and society".

As given above, the definitions of corporate governance of each researcher seem to be similar in meaning in giving importance to the board of directors, ownership structure, disclosure and transparency process. Many studies have used these corporate governance concepts as fundamental to their research. They have shown strong evidence that corporate governance has a positive relationship with enterprise value. These include:

The OECD's concept and rules concerning the corporate governance principles of SET 2006 were separated in to five sections:

1. Rights of Shareholders
2. Equitable Treatment of Shareholders
3. Role of Stakeholders
4. Disclosure and Transparency
5. Board Responsibilities

However, in this study, the author thinks that both the first and second sections involve shareholders. Therefore, they can be integrated into one as they involve ownership structure. Thus this study categorizes corporate governance into only four sections as follows:

1. Ownership Structure (consisting of Rights of Shareholders and Equitable Treatment of Shareholders)
2. Role of Stakeholders
3. Disclosure and Transparency
4. Board Responsibilities

Each section covers the following details on CG mechanisms:

1) Ownership Structure

Most registered companies on the SET have an ownership structure of family ownership. Authority and management power is centralized within the members of the family including decision-making dependent on the largest stockholder. This point is the cause of both a corporate governance problem and agency problem. The rightful protection of free float ownership is ignored and may not be fairly treated. Because all of the enterprise policies supported or approved by the largest stockholder, such policies will benefit the largest stockholder. In addition, another corporate governance problem is that the shares are held by nominees, foreigners, politicians or the state, and so on. These factors have impact on both reliability and enterprise value.

Ownership structure is considered in many factors such as concentrated ownership which is separated into largest ownership (stockholder proportion by largest), top five largest ownership (stockholder proportion by top five largest), blockholder ownership (proportion of stockholders who hold at least 5 percent of shares), controlling ownership (proportion of stockholders who hold at least 25 percent of stock), and stockholder proportion by nominee ownership, politician ownership, family ownership, state ownership, foreign ownership, free float ownership, and managerial ownership by the board of directors and chief executive officer (CEO).

2) Role of Stakeholders

Through CG enterprises should treat stakeholders according to identified compliances or legal rules. If they do so, it means that that an enterprise has social responsibility or corporate social responsibility (CSR). CSR strategies can help

enterprises have greater competitive advantage over competitors because enhanced social performance may lead to obtaining better resources (Cochran and Wood, 1984; Waddock and Graves, 1997), higher quality employees (Turban and Greening, 1996; Greening and Turban, 2000), better marketing of products and services (Moskowitz, 1972; Fombrun, 1996) and it may even lead to the creation of unforeseen opportunities (Fombrun, Gardberg and Barnett, 2000). CSR is about looking at the relationship of an enterprise's activities with society and the environment, serving people, communities, and the environment in ways that go above and beyond what is legally required. The relationship between corporate social responsibility (CSR) and enterprise performance has evoked much interest among researchers. Some studies reveal a positive relationship between the two constructs (Graves and Waddock, 1994; Griffin and Mahon, 1997; McGuire et al., 1988; Waddock and Graves, 1997), others indicate a negative one (Bromiley and Marcus, 1989; Wright and Ferris, 1997), while still others (Aupperle et al., 1985; Teoh et al., 1999) establish no relationship between the two constructs. However, a positive relationship between CSR and enterprise performance has prevailed in many studies (Margolis and Walsh, 2003; Orlitzky et al., 2003), yet results still remain inconclusive (Margolis and Walsh, 2003; Vogel, 2005).

3) Disclosure and Transparency

Good corporate governance should involve data disclosure as it reveals the transparency of the enterprise. Disclosure that is transparent will help owners who are outside the enterprise receive information as well as be aware of the behavior and potential of the top management of the enterprise. When outside owners have knowledge, they can ascertain any mismanagement and be aware of the cause of the low

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

4) Board Responsibilities

Identification duty of board of directors is to control and investigate behavior of top management managing enterprise for high enterprise value. The board of directors who are "agents" of owners should do their duty intensively and make decisions for the highest benefit of the owner. If the board of directors do perform to their best of their duty, this can help raise the enterprise value to a higher level.

How good the responsibility of the board of directors is is considered using many factors such as board size, duality (Chairman of board of directors is CEO), chairman independence, board independence (stockholder proportion by independent committee), board of executive director (stockholder proportion by executive director), board of family (stockholder proportion by committees who are relatives), board of skill (amount of committee members with bachelor degrees), board of meeting (amount of meetings of board of directors and amount of meetings of audit committees) board of compensation (amount of board's compensation and executive's compensation), audit committee (amount of audit committees), sub-committee within board (amount of sub-committees within board).

2.3.1 Ownership Structures

As business owners need their agents to come and manage their business to achieve the main goal to reap the ultimate benefits for shareholders and create “added value” to the business, expect satisfactory return on investments, achieve such objectives for maximum returns. Enterprises with good corporate governance management are able to successfully raise funds and effectively evaluate the performance of executive management. This leads to the sustainability of the business which guarantees its smooth operation in terms of agility. Additionally, they are provided with greater opportunities for business partners as well as greater ease of communication with the community or society and government because everyone is willing to work with a transparent and ethical organization. The said acceptance of the business attributes to a continuously positive enterprise value. With the readiness of both funding and business partners, its competitiveness will thus escalate domestically and globally.

Ownership structure and board structure constructed based on the principles of corporate governance impacts the performance of the business. The performance of the business impacts future cash flow and enterprise value. Ownership structure has been widely debated since Berle and Means (1932). According to Jensen (2001), ownership structure is significant in determining enterprises’ objectives, shareholders wealth and the discipline of management. Both managers and shareholders should have same objective of maximizing enterprise value. The ownership structure of this study can be grouped into widely held enterprises and enterprises with concentrated ownership (separated into stockholder proportion by largest, top five largest, blockholder

ownership or proportion of stockholders who hold at least 5 percent stock, controlling ownership or proportion of stockholders who hold at least 25 percent stock), stockholder proportion by nominee ownership, politician ownership, family ownership, state ownership, foreign ownership, free float ownership, managerial ownership by the board of directors and chief executive officer (CEO). The details are as follows:

2.3.1.1 Concentrated Ownership

There are two types of owner structure: dispersed ownership and concentrated ownership. Dispersed ownership means that the ownership mostly comprises minority shareholders. Concentrated ownership means that the ownership mostly comprises large shareholders with few shareholders. This was investigated in percentage of large shareholders.

Many previous studies suggest that most agency problems shift from ownership and top management team to became conflicts of interest between concentrated ownership and outside (minority) shareholders e.g., Claessens, Djankov, Lang (2000), La Porta, Lopez-De-Silanes and Shleifer, (1999), Uno and Kamiyama (2009). Therefore, the author is interested in testing the relationship between the important components of concentrated ownership and enterprise value but based on the corporate governance concept. These variables are the proportion of largest ownership, top five ownership, blockholder ownership and controlling ownership.

Many previous studies found that the percentage of ownership of the largest stockholders has a positive relationship with enterprise value. Shleifer and Vishny (1986), Burkart, Gromb, Panunzil (1997), Claessens et al. (2000), Lemmon and Lins (2001) found that the percentage of ownership of the largest stockholders has a

positive relationship with enterprise value. However, Gomes (2000) and La Porta et al. (1999) found that percentage of ownership of the largest stockholders has a negative relationship with enterprise value.

Therefore, a lot of research results identified the largest shareholders as having both positive and negative effects on agency problems or enterprise value.

Regarding top five ownership, they are the percentage of shares held by the five largest owners. Shleifer and Vishny (1997) suggest that if an enterprise has much more dispersed shareholders it may lack incentives to monitor CEOs due to the free rider problem that is associated with costly monitoring, while large shareholders (institutional investors) are more effective at monitoring CEOs. Hovey, Li and Naughton (2003) investigated the relationship between enterprise performance and corporate governance in China. One part of their research investigated the impact of percentage of shares held by the top five shareholders on enterprise performance. They found that the top five shareholders have a positive relationship with enterprise value.

Blockholder ownership is the percentage of shares held by a shareholder to the amount of at least 5 percent. Blockholder ownership is one part of the corporate governance mechanisms that control the agency problems of the enterprises (Kaplan and Minton, 1994). A number of studies found that there is a significant positive relationship between blockholder ownership and corporate performance, such as Haniffa and Hudaib (2006), and Joh (2003). Bradley, Chen, Dallas and Snyderwine (2007) studied the relationships between corporate governance and the enterprise performance of public corporations in the United States. Their research results showed that a higher proportion of blockholder ownership is related to enterprise performance.

However, some studies have not found any significant association between blockholder ownership and corporate performance, such as Krivogorsky (2006) and Weir, Laing, McKnight (2002).

Regarding controlling ownership, the shareholders have at least 25 percent of the enterprise's shares. Faccio and Lang (2002) studied the controlling ownership in 5,232 corporations in 13 Western European countries. They found that 63% have a controlling shareholder who often owns much more control rights than cash flow rights. Morck, Shleifer and Vishny (1989), La Porta et al. (1999), Claessens et al. (2000), and Lemmon and Lins (2001) found that there is a positive relationship between controlled ownership and enterprise value. However, Hermalin and Wisbach (1991) believe that there is no relationship between percentage of controlled ownership and enterprise performance. In addition, Wiwattanakantang (2000) studied the relationship between control share, family share, government share, foreign share, domestic share, board size, business group, sale growth, age of company, enterprise size and enterprise value (Tobin's Q, ROA). He found that the controlling shareholder has a negative influence on an enterprise's value and performance.

In this present study the following hypotheses were constructed through analysis:

H_1: Percentage of shares of largest shareholder relates to enterprise value.

H_2: Percentage of shares of top five ownership positively relates to enterprise value.

H_3: Percentage of shares of blockholder owners who hold at least 5 percent of stock relates to enterprise value.

H_4: Percentage of shares of controlling shareholders who hold at least 25 percent of stock relates to enterprise value.

2.3.1.2 Nominee Ownership

Achavanankul (2006) identified the nominee as the custodian of a stockholder. Therefore, the nominee is of much greater benefit to investors or stockholders. Meanwhile, there are some investors or stockholders who use nominees as a tool for cheating or dishonest means such as the hidden holding of stock or for tax avoidance, money laundering, or inflating the stock price. In Thailand, nominees are easily used as a tool for cheating. Therefore, it is difficult to efficiently investigate stock held by a nominee. Stock held by a nominee is increasingly popular globally because this can help the owner keep their capital confidential and take care of their stocks. The evaluation criteria for the stock held by nominees of SET are as follows:

1) No need to be an individual person or a Thai enterprise and is not considered from the proportion of shares held but must analyze from management power and behavior.

2) Enterprise deemed to be nominees have the following characteristics:

A commercial bank or financial institute or sub-company or affiliate company that is a foreign company or bank which has an outstanding position as a custodian (such as “Chase Nominees”) or a non-bank which holds shares instead of its customer or by investing by itself (such as “Deutsche Bank AG”) is not a nominee because most Thai commercial banks on the SET will have proprietary trading or long-

term investments and not hold stock instead of customer or not be custodians as they must follow the Securities and Exchange Act by reporting on behalf of its customers.

- Nominee companies or custodian companies are defined as foreign juristic persons formed for main security holding in the form of a trust or individual person or juristic person. Some companies are a sub-company at world-class company level. Some do business for a custodian. However, these companies are not under the Bank of Thailand. These companies selected the targets for someone who would like to conceal their shares and get around the law.

- A securities trading company is defined as a Thai or foreign securities trading company which does business as a broker. It can hold shares instead of a customer. However, most of them appear to be just investors because the shares are just held for investment. Therefore, these companies might not be nominees.

- Thailand Securities Depository (TSD) is a company whose main function concerns securities deposit and which is a sub-company of SET. This company is the nominee of free-floating shares.

- Thai Non-Voting Depository Receipt (Thai NVDR), as a sub-company of the SET, defines the proportion of NVDRs holding shares on behalf of Thai NVDR Company Limited. Its duty is to act as the nominee of people who hold NVDR shares.

- A registered company in a tax free zone is defined as a foreign juristic person registered in a tax free zone (no rules for registering and disclosure) such as the British Virgin Islands (BVI), Cayman Islands, Bermuda and Channel Islands. Some of these companies' shares are held by a larger shareholder but there are some that seem to

have been formed to hold stock because no evidence shows that other stock is held in other countries such as Albuoys Nominees and Somers (U.K.) Limited.

Mak and Kusnadi (2005) studied the impact of the corporate governance mechanisms of Singaporean and Malaysian enterprises on enterprise value (Tobin's Q). They collected the data for many factors but one was for nominee ownership. They found that nominee ownership does not have any effect on enterprise value. However, Bradley et al. (2007) conversely found a relationship between corporate governance and enterprise value after studying 775 unique U.S. enterprises from 2001-2007. They collected data for many factors, one of which was for nominee ownership. They found that the nomination committee is related to enterprise value.

In this present study, from the analysis the following hypotheses have been constructed:

H_5: Percentage of shares of nominee shareholders positively relates to enterprise value.

2.3.1.3 Politician Ownership

Nikomborirak (2011) provided two definitions for the shares of politicians as follows: First, shares held directly by a relative of a politician or by an individual with the same surname. Second, shares indirectly held by the largest shareholder with a close relationship with a politician or shareholder who is mainly funded by the politician.

The constitution law of Thailand states that a politician cannot hold stock in the newspaper business, radio and television business, and enterprises which trade with government so as to protect against stock speculation or use of inside information

for profit. It is normal for political parties to attempt to accrue as much power in the House of Representatives as possible and one way for them to achieve this goal is to gain more capital from the capital market."

As mentioned before, Chen, Li, Su, and Sun (2010) studied the relationship between private enterprises with connections with the government and the benefits from winning bidding. They found that enterprises which have strong relationships with government receive much more projects and benefits than enterprises with little relationship. Shleifer and Vishny (1994) studied the relationship between politicians and enterprise performance and also found that politicians have a relationship with enterprise performance. That is, politicians not only protect enterprises from economic impact, expropriation by the government, but also provide them with preferential access to government subsidies, financing opportunities, and tax breaks. In addition, Xu, Zhu, Lin (2005) studied the ownership reform of state-owned enterprises in China, and the effects of reducing politician control and agency problems on a number of reform outcomes. Their sample comprised 6,872 enterprises in China under the research topic of politician control and agency problems. They found that after successful reforms enterprises without politicians had a positive relationship with corporate governance mechanisms such as one-share, one-vote. These enterprises performed highly.

In this present study, from the analysis the following hypotheses have been constructed:

H_6: Percentage of shares of politician shareholder positively relates to enterprise value.

2.3.1.4 Family Ownership

Much literature has studied the relationship between family ownership and enterprise value (Claessens et al. (2000), Mak and Kusnadi (2005), Anderson and Reeb (2003), Wiwattanakantang (2000), Patton and Baker (1987)). It has been found that a family-controlled enterprise performs significantly better. This is consistent with Yeh, Lee, Woidtke (2001), who found that corporate performance is better when non-family members hold at least half of the board seats. It also indicates that the professionalism and the inclusion of outside board members have a positive effect on the corporate governance of Taiwanese-listed companies. However, some research has produced the opposite findings. Krivogorsky (2006) revealed that family ownership results in a negative performance, consistent with Ibrahim and Samad (2011) who studied the relationship between corporate governance and enterprise performance (Tobin's Q, ROA) with 474 public-listed enterprise in Malaysia from 1999-2005.They found that Tobin's Q and the ROA value of enterprise from the family is lower than non-family ownership.

In this present study, form the analysis the following hypotheses were constructed:

H_7: Percentage of shares of family shareholders relates to enterprise value.

2.3.1.5 State Ownership

State ownership means that ownership of the enterprise belongs to the state. There are many previous Chinese studies that found a negative effect of state ownership on enterprise value (Gunasekarage, Hess, Hu (2007), Sun and Tong (2003),

Xu and Wang (1999), Zhang, Zhang, Zhao (2001), Bai et al. (2000)). However, Clarke (2003) argued that SOEs principally aim to maintain employment and social stability rather than profit maximization, which engenders agency conflicts between the state and minority shareholders. Consistent with this, Lee and Zhang (2008) studied the relationship between corporate governance and enterprise value (Tobin's Q, ROA) with enterprises in the Chinese capital market, stock listed on Shanghai and Shenzhen Stock Exchanges from 2004-2007. They found that the factors of state ownership, largest shareholder ownership, and managerial ownership were found to negatively affect an enterprise's value. To explore the effect of largest ownership held by state, the author constructs a dummy variable that equals one if the government is the concentrated shareholder and zero otherwise. However, Ulasevich (2003), Tian (2001), Morck, Shleifer and Vishniy (1988), and Shleifer and Vishniy, (1998) found that the percentage of ownership of the state stockholders has a positive relationship with enterprise value.

In this present study, from the analysis the following hypothesis was constructed:

H_8: Percentage of shares of state shareholders relates to enterprise value.

2.3.1.6 Foreign Ownership

Investment from foreign investors is an important factor which drives the economy of a country. Normally, foreign investors can invest directly in a capital market and appoint someone to take care of such investments in any section such as a custodian, correspondent bank or broker. These sections help foreign investors do business on behalf of foreign investors. Randoy and Goel (2003), and Randoy, Oxelheim, and Stonehill (2001) asserted that foreign ownership facilitates the stronger

monitoring of managers. The cost of the capital of the enterprises can be reduced through having large foreign investors who actively monitor the actions of management. Similarly, Stulz (1999), and Oxelheim, Stonehill, Randoy, Vikkula, Dullum, and Moden (1998) found that foreign institutional investors leads to lower agency cost and this is especially relevant in small countries with smaller investor communities and in small businesses. Most enterprises with high foreign ownership tend to construct work process standards for control measures such as auditing and frequent reporting systems. These actions are likely to reduce agency cost and thus result in higher enterprise performance. However, Claessens et al. (2000) identified foreign ownership as having a negative relationship with enterprise value.

In this present study, from the analysis the following hypothesis was constructed:

H_9: Percentage of shares of foreign shareholders relates to enterprise value.

2.3.1.7 Free Float Ownership

Free float is the amount of shares held by minority shareholders and which is not held by strategic shareholders and not held as treasury stock. It is estimated from the company's shareholder register as of the latest registered book closing date for the general meeting each year and is adjusted in free float for subsequent closing shareholder registered books. Sources of information used for free float estimation are from the SET SMART database, the Stock Exchange of Thailand, except for 59-2, which is from the Office of the Securities and Exchange Commission.

Almost all free float ownership comprises passive investors. There is little chance of it being combined or centralized as one block against large ownership. The nature of free float investment is almost always short term. The concern is not about the fundamental data of the enterprise, monitoring enterprise performance and focusing on shareholder meetings. The criteria of a free float is that the shareholders comprise at least 150 persons, or that the shares comprise at least 15 percent of all stock paid. An academic report on free float and corporate governance appeared in TDRI (June, 2001) by Dr. Duanden Nikomborirak and Rajitkanok Jitmunchaitum. They summarized in their report that free float ownership is one important component of corporate governance in private business for three reasons: 1) the responsibility of the executive committee and top management commitment to stakeholders, such as the audit committee investigating any accounting corrections or top management's responsibility to operation performance; 2) top management disclosing their operation transparency for the highest benefit for all shareholders; and 3) as their equitable treatment which open opportunity for free float have rights to protect their business benefit equality large shareholder such as access to enterprise information. It depends on the committee and their potential to protect shareholders' benefits as well as on voting rights to select the committee or relieve them of their duties. If through free float ownership top management can be investigated, this can help the enterprise achieve greater operational performance. There is much research studying the relationship between free float and enterprise value or enterprise performance. Shleifer and Vishny (1997) identified one cause of agency problems as being concentrated shareholders who have the authority to control the enterprise and operate its business based on their own

interests. This is difficult to control or monitor by free float ownership and they therefore lose their benefits. Shahid (2003) referred to the research results of Mock et al. (1988) who found that agency problems were reduced by dispersed stock to many stockholders for monitoring top management. In addition, he studied the relationship between ownership structure and operation performance from 90 enterprises in the capital market in Egypt. Operation performance is divided into three parts: financial and accounting (ROE, ROA), capital market (P/E, P/BV) and ownership structure (proportion of large shareholder and free float). Mock used D/E ratio as a control variable and analyzed the relationship with regression statistics, finding that the percentage of free float was not related to operation performance both in terms of financial and accounting and ownership structure. However, free float was related to capital market. In contrast, Berle and Means (1932) took an opposite standpoint. They asserted that if an enterprise has a certain amount of free float ownership but that it is unable to control top management, it is no secret that top management does business for themselves. In this present study, from the analysis the following hypothesis was constructed:

H_{10}: Percentage of shares of free float shareholders positively relates to enterprise value.

2.3.1.8 Managerial Ownership

In Thailand, most enterprises have concentrated ownership. The board of directors is dominated by large shareholders or ownership become part of the top management of the enterprise. There is no outstanding evidence which identifies ownership structure as having an effect on enterprise performance. Morck et al. (1988)

and McConnell and Servaes (1990) found that ownership structure with a high level of insider involvement affects enterprise value. When the level of insider involvement increases, they found that it reduces enterprise value. This is opposite to Himmelberg, Hubbard, Palia (1999) who found that changes in the proportion of shareholders has no effect on enterprise performance. Managerial ownership refers to those shareholders who became part of top management and the board of directors. The relationship between percentage of shares held by top management and board of directors and enterprise value has been the focus of research. Jensen and Meckling (1976) and Mehran (1995) identified that large managerial equity ownership reduces agency costs and increases enterprise value by aligning managers' benefits with those of shareholders. He also identified the percentage of manager shareholding as having a positive relationship with enterprise value. It is well known that the separation of ownership and control engenders agency conflicts between shareholders and managers (Berle and Means, 1932; Jensen and Meckling, 1976). However, Morck et al. (1988) argued that a high level of managerial equity ownership induces the managerial entrenchment effect. Previous US studies have found evidence that enterprise value increases with managerial ownership at certain ownership levels (McConnell and Servaes, 1990, 1995; Morck et al., 1988). Li, Moshirian, Nguyen and Tan (2007) found a monotonically positive relationship between managerial ownership and performance changes for Chinese SOEs. This is consistent with Hu and Zhou (2008), who found that enterprises with significant managerial ownership levels outperform those whose managers do not own equity shares.

In this present study, from the analysis the following hypotheses were constructed:

H_{11}: Percentage of shares of shares held by board of directors positively relates to enterprise value.

H_{12}: Percentage of shares of shares held by CEO positively relates to enterprise value.

2.3.2 Role of Stakeholders

The economic crisis in 1997 in Thailand or the sub-prime crisis 2011 in the USA and the subsequent crashing of stock indices of companies across the globe is a case in point as regards the effect the actions of stakeholders can have. When stakeholders lose confidence in an enterprise's performance, the enterprise loses its critical support structure and customer base (Lee, 2008). Most customers stop buying products or file legal suits, shareholders sell their stocks, employees do not perform, and environmental advocates sue (Wood, 1991) – all of which directly affect enterprise performance. This warrants pursuing meaningful and long-term relations with stakeholders.

An enterprise's survival and sustainable success depends on the ability of its managers to create sufficient wealth and satisfaction for its primary stakeholders (Clarkson, 1995). The primary stakeholders of an enterprise include employees, shareholders, customers, suppliers, communities, creditors, debtors, regulators, bankers and the natural environment. If any of the primary stakeholder groups withdraws its support to the enterprise, the enterprise's operation is adversely affected (Clarkson, 1995). The effective management of key stakeholders acts as a value driver by leveraging performance and reducing stakeholder-inflicted costs. Lower employee

turnover reduces hiring and training costs, loyal suppliers reduce quality certification costs, supportive communities reduce legal and public relations overheads, and stable shareholders reduce stock market volatility (McVea and Freeman, 2005). In order to achieve sustainability in business, enterprises must identify the key stakeholders affecting the enterprise, identify their needs, and design the organizational policies and practices to cater to them. CSR can be viewed as an extension of enterprises' efforts to foster effective CG, ensuring enterprises' sustainability though business practices that promote accountability and transparency not only to shareholders, but also to the greater society.

There are various definitions of CSR, however. Friedman (1970) defines CSR as follows: "CSR is to conduct the business in accordance with shareholders' desires, which generally will be to make as much money as possible while conforming to the basic rules of society, both those embodied in law and those embodied in ethical custom."

McWilliams and Siegel (2001) define CSR as actions that appear to further some social good beyond the enterprise's interests and that required by law.

The World Business Council for Sustainable Development defines Corporate Social Responsibility (CSR) as "The continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large." (Source: http://www.mallenbaker.net/csr/definition.php)

The European Commission advocates CSR as "Being socially responsible means not only fulfilling legal expectations, but also going beyond compliance and investing

more into human capital, the environment and relations with stakeholders." (Source: http://iso.ascentworld.com/isosystemconsultancy/system-certification/csr)

Corporate Social Responsibility is what an organization does which has a positively influence on society. It could take the form of community relationship, volunteer assistance programs, and special scholarships, preservation of cultural heritage and the beautification of cities (Navdeep Kumar (2012).

CSR is about looking at the relationship of an enterprise's activities on society and the environment, serving people, communities, and the environment in ways that go above and beyond what is legally required.

There are many studies on the relations between CSR and CG, between CG and corporate financial performance (CFP), and between CSR and CFP, These have been important topics since at least 1960. Previous studies suggest that empirical relations between CG and CSR, between CSR and CFP, and the interrelations among CSR, CG, and CFP are largely inconclusive (Margolis and Walsh, (2003); Beurden and Gossling, (2008); Jamali et al. (2008); Baron et al. (2011); Garcia-Castro et al. (2010)). Graves and Waddock (1994), Griffin and Mahon (1997), McGuire et al., (1988), and Waddock and Graves (1997) all found CSR to have a positive relationship with enterprise performance. However, Bromiley and Marcus, (1989) and Wright and Ferris (1997) found that CSR has a negative relationship with enterprise performance. However, Aupperle et al. (1985) and Teoh et al. (1999) found no relationship between CSR and enterprise value. There are many measurements of CSR.

The ratings in Kinder, Lydenberg, and Domini's stats database (Kinder et al., 2005) considered many variables as follows:

Community : Generous giving, innovative giving, support for housing, support for education, indigenous peoples relations, non-US charitable giving, other strengths.

Environment : Beneficial products and services, pollution prevention, recycling, alternative fuels, communications, property, plant, and equipment, other strengths**.**

Diversity : CEO, promotion, board of directors, family benefits, women/minority contracting, employment of the disabled, progressive gay and lesbian policies, other strengths**.**

Employee relations : Strong union relations, no layoff policy, cash profit sharing, employee involvement, strong retirement benefits, health and safety strengths, other strengths.

Product quality and safety : Quality, R and D/innovation, benefits economically, disadvantaged, other strengths.

In past studies on CSR, researchers have used various proxy measures to assess CSR such as:

(1) One-dimensional surrogate measures such as the reputation ranking of companies on pollution control performance (Chen and Metcalf, 1980; Freedman and Jaggi, 1982),

(2) Moskowitz's social responsibility ratings (Cochran and Wood, 1984; Moskowitz, 1972)

(3) Fortune corporate reputation index (Fomburn and Shanley, 1990; McGuire et al., 1988)

(4) Ruf et al., (2001) and Waddock and Graves (1997) use CSR data developed by various agencies that evaluate CSR from the stakeholders' perspective such as the KLD database of Kinder, Lydenberg, Domini and Co., Inc. (Kinder et al., 2005).

(5) Consideration from voluntary standards such as ISO 14000, OHSAS 18000, Social Accountability (SA) 8000 (SAI, 2001), and United Nations Global Compact.

(6) Consideration from Global Reporting Initiative Guidelines (GRI, 2002) outline a wide range of responsible business practices related to stakeholder issues such as environment, occupational health and safety, labor, human rights, corruption, etc.

(7) In recent years, an increasing number of companies are making CSR disclosures as per these standards. Nearly 90% of Fortune 500 enterprises make CSR disclosures in their annual reports (Boli and Hartsuiker, 2001).

As mentioned above, there are many measurements. However, this present study measures CSR on a number of procedures of CSR which appear in the disclosure reports and investigate policy of an enterprise about social responsibility and whether they a positive effect on enterprise value or not. Therefore, from the analysis this paper has constructed the following hypotheses:

H_{13}: Number of procedures of CSR which appear in disclosure reports which relates to enterprise value.

H_{14}: Policy of enterprise about social responsibility which relates to enterprise value.

The dummy variable will be 1 if an enterprise has a policy on CSR and 0 otherwise.

2.3.3 Disclosure and Transparency

Registered companies on the SET must correctly disclose both financial and non-financial data, completely and on time. The important data is in the disclosure report, such as financial situation, previous enterprise performance, ownership structure and corporate governance of the enterprise. The Corporate Governance Rating Project was initiated by the Office of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) in conjunction with Thai Rating and Information Services Co., Ltd. (TRIS) as a credit rating agency. This project has two aims. It tries to educate listed companies about the importance of good corporate governance, by increasing investors' awareness and helps award assistance from related government agencies. It also strives to provide credit-ranking information to investors that may influence their investment decisions. Consequently, these advantages will possibly encourage other listed companies to develop their corporate governance up to a qualifying standard, so they too can enjoy its benefits.

Rights and benefits from good ratings

The SEC and SET collaborate to provide support by offering many privileges to listed companies earning a CG rating of more than seven points and report this score to the public, as follows:

Privileges from the SEC

- Facilitate the fund raising process
- Reduce the enactment of tender offering from 15 days to only one day
- Reduce the annual fee and securities issuing fee by 50%. Note that these listed privileges will cover a period of three years

Privileges from the SET

The SET offers a 50% discount on its annual fee for two consecutive years. If the annual fee is greater than the corporate governance rating fee, the SET provides funding support to absorb the difference when a company announces its ranking result to the SET and the public. Scoring criteria were based on the principles of good corporate governance by the Organization for Economic Cooperation and Development (OECD Principles of Corporate Governance) and by the Stock Exchange of Thailand.

Table 2.1 Scoring criteria in 2011

Criteria		
	Criteria for evaluation	**Weight**
1. Rights of Shareholders	24	20%
2. Equitable Treatment of Shareholders	16	15%
3. Role of Stakeholders	18	15%
4. Disclosure and Transparency	36	25%
5. Board Responsibilities	54	25%
Total	148	100%

Source: http://www.thai-iod.com

When considering the number of surveyed companies grouped according to the ranking standards of the National Committee on Corporate Governance. In addition to presenting the overall scoring results in the CGR report and at the public seminar jointly held by the Securities and Exchange Commission, The Stock Exchange of Thailand, and the IOD, list of companies achieving good CG scoring will be also publicized. Companies are classified into six groups according to their corporate governance scores in the CGR publication. Each group attains a different level of recognition denoted by the

number of the National Corporate Governance Committee Logo, ranging from one to five, and none for those with lower than 50 scores.

Table 2.2 CG scoring in the CG Rating

Score Range	Range number of Logos	Description
90 - 100		Excellent
80-89		Very Good
70-79		Good
60-69		Satisfactory
50-59		Pass
Less than 50	No Logo Given	N/A

Source: http://www.thai-iod.com

Brown and Caylor (2004) developed scoring for the corporate governance rating of 2,327 enterprises in USA in 2002. They considered the three following parts:

1) Operating performance (ROE, profit margin and sales growth)

2) Enterprise value used Tobin's Q measurement

3) Shareholder payout (dividend yield and stock repurchases)

They found that an enterprise with good corporate governance tends to perform well in all three parts.

Gompers et al. (2003) studied the quality of the equal treatment of shareholders from registered companies1, 500 enterprises in the USA in 1990. They found that an enterprise with good equitable treatment or good corporate governance will have a positive correlation with operating performance. They analyzed data from Tobin's Q for enterprise value measurement and net profit margin for operating performance measurement. This was consistent with Klapper and Love (2004) who studied the

relationship between corporate governance rating from Credit Lyonnais Securities Asia (CLSA) concept and the operating performance of 374 enterprises in 14 countries (Brazil, Chile, Hong Kong, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, South Africa, Taiwan, Turkey, and Thailand). They found that an enterprise with good corporate governance has a high operating performance (considered from ROA and enterprise value).

Bauer et al. (2003) constructed a corporate governance rating based on about 300 criteria (FTSE Euro top 300) which could be divided into four categories, one of these categories being board structure and functioning. The results revealed that governance ratings were relatively constant over a short period of time: they used 2000 ratings backward until 1997 to get meaningful results. Yang (2008) studied the relationship between corporate governance and enterprise value and concurred. Credit rating is one part of independent. Credit rating (credit rating, information transparency and disclosure) is defined as an assessment of the credit worthiness of a corporation with respect to particular debt securities or other financial obligations. An enterprise's credit rating is based upon the history of borrowing and repayment, as well as the availability of its assets and extent of its liabilities. This assessment is based on a comprehensive, defined rating methodology and rating criteria. Essentially, a credit rating is a trusted gauge of potential risk that investors and counterparties can use to supplement other important decision-making factors. This research adopts the Taiwan Rating Company (TRC) credit rating. The results show that credit rating (information transparency and disclosure) has a significantly positive effect on Tobin's Q. The reason is that according to information signaling theory, enterprise has good information

transparency and disclosure will reveal that it has a higher standard enterprise performance signal, and it will have a lower cost of capital. The relationship between cost of capital and information transparency and disclosure is direct and opposite. This implies that the more information transparency, the lower cost of capital, and the higher enterprise value. Therefore, enterprise can increase information transparency to promote investors' confidence, and to increase enterprise value.

In this present study, from the analysis the following hypothesis has been constructed:

H_{15}: Ranking of corporate governance rating relates to enterprise value.

2.3.4 Board Responsibilities

2.3.4.1 Board Size

The board of directors has important roles such as constructing corporate governance to maximize the benefits of the enterprise and to be responsible in operating business on behalf of the ownership. The board of directors should be independent from the management side. The board of directors should consist of high quality committees in terms of skill, experience, and specific expertise. The size of the board should be suitable so as to be able to do business efficiently and enable the enterprise to achieve its objectives. If the board size is big, it might be able to move forward fast. Conversely, if the board size is small, the board might experience a shortage of expertise among its members. The board of directors should consist of committee members who are not executives of the enterprise, so they can be independent judges. This study uses all types of board size of enterprises. The author does not focus on only board sizes which consist only of an executive committee or are without an executive committee. There is much

previous research about board size such as Anderson, Mansi, and Reeb (2004) who studied the relationship between board size and operating performance. They found that the greater the size of the board, the greater the enterprises can reduce their debt. It might be that the size of the board is able to investigate top management efficiently. Jensen (1993) studied the relationship between board size and operating performance. He found that a small-size board is more positively related to operating performance than a large one. Although a larger size board can audit and investigate top management better, there might be problems regarding communication and making decisions. There is much previous research on the relationship between board size and enterprise value:

Brown and Caylor (2004) studied the relationship between board size and operating performance in Singapore and Malaysia. They found that a board size of around 6-15 persons is positively related to return on equity (ROE) and profit margin. This is in concurrence with Abor and Biekpe (2007) who studied the corporate governance, ownership structure and performance of SMEs in Ghana. The research results showed that the statistically significant and positive association between board size and performance suggests that relatively larger boards perform better compared to very small boards because larger boards have a range of expertise to help make better decisions. The findings have differed for other research such as Yermack (1996) who focused on the relationship between board size and operating performance. He found that board size is negatively related to operating performance (profitability, asset utilization and Tobin's Q). Also, Mak and Kusnadi (2005) studied the relationship between board size and operating performance in their work Size Really Matters: Further Evidence on the Negative Relationship between Board Size and Enterprise

value. Their sample comprised 271 enterprises listed on the Singapore Stock Exchange (SGX) and 279 enterprises listed on the Kuala Lumpur Stock Exchange during the financial years 1999 and 2000. They found that size of board big is negatively related to enterprise value (Tobin's Q). Eisenberg, Sundgren, and Wells (1998) studied the relationship between board size and operating performance in Finland while Carline, Linn, Yadav (2002) looked at England. They found that the size of board is negatively related to operating performance.

In this present study, from the analysis the following hypothesis has been constructed:

H_{16}: Number on board of directors relates to enterprise value.

2.3.4.2 Duality (Chairman of board of directors is CEO)

Normally, good corporate governance principles should construct or identify clearly the separated and combined duties of the chairman and top executives of the enterprise between the chairman and top executives of the enterprise. For example, the chairman has duties involving policy, strategy and top management control. Top management has duties involving the implementation of all the plans or policies of the chairman. The OECD (2004) asserted that the chairman of the enterprise should have separate roles and duties from the chairman of the board of directors. It is best practice and helps the enterprise achieve the goals of the enterprise from balance empowerment, increasing the duties or responsibilities for committees and enhancing the independent decision making efficiency of committees. Much research has studied the relationship between chairman and top executive, with the same individuals in both positions, and enterprise value. For example, Patton and Baker (1987) studied the relationship between

the chairman of the board as also the chief executive officer (CEO duality) and operating performance. They found that CEO duality is negatively related to operating performance because the committee cannot investigate top management as independently. This is consistent with Yermack (1996) who studied the relationship between CEO duality and enterprise value. They found that CEO duality is negatively related to enterprise value. Vafeas and Theodorou (1998) studied the relationship between CEO duality and enterprise value and found it to be negatively related to enterprise value. However, this is opposite to the findings of Anderson and Anthony (1986) who studied the relationship between CEO duality and operating performance and found that CEO duality is positively related to operating performance as it can reduce any conflicts of interests between committees. Brown and Caylor (2004) also studied the relationship between CEO duality and enterprise value and discovered it to be positively related to enterprise value. Abor and Biekpe (2007) studied the corporate governance, ownership structure and performance of SMEs in Ghana. The independent variables included CEO duality. The measure for CEO duality was a dummy that equals one if the CEO was also the chairman of the board. The results of this study indicate a statistically significant and positive relationship between CEO duality and enterprise performance. However, Brickley, Coles, and Jarrell (1997) studied the relationship between CEO duality and enterprise value and found that CEO duality is not a matter related to enterprise value.

In this present study, from the analysis the following hypothesis was constructed:

H_{17}: Duality (Chairman of board of directors is CEO) relates to enterprise value.\

Dummy variable will be 1 if Chairman of board directors is CEO and 0 otherwise.

2.3.4.3 Chairman Independence

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. There is some research which has involved the relationship between the independence of the chairman and enterprise value. Schmid and Zimmermann (2008) studied the relationship between the corporate governance and operation performance of 258 enterprises on the Swiss Exchange (SWX) at the end of 2002 in their work "Should Chairman and CEO be Separated ? Leadership Structure and Enterprise Performance in Switzerland". The independence of the chairman was one of many independent variables and it was found that good corporate governance from the independence of the chairman was positively related to operation performance. Srichanphet (2008) studied the relationship between the responsibility of the committee, ownership structure and EVA of enterprises on the SET 50 in Thailand during 2004-2006 with the independence of the chairman as one of many independent variables. He found that good corporate governance from the independence of the chairman was positively related to operation performance as measured from EVA.

In this present study, from the analysis the following hypothesis was constructed:

H_{18}: Independence of chairman positively relates to enterprise value.

Dummy variable will be 1 if the chairman is independent and 0 otherwise.

2.3.4.4 Board Independence

Independence is a fundamental factor of directors in being responsible to their duties. Directors can debate or report independently without concern of any benefits, their positioning or being dominated by any other persons. Any situation cannot force these directors unable to debate. Many studies have examined the relationship between independence of board and enterprise value. Kren and Kerr (1997), John and Senbet (1998) studied the relationship between independent committee structure and enterprise performance in 268 enterprises. They found that an enterprise which gives importance to the proportion of an independent committee structure is not related to enterprise performance. Felgueiras (2011) studied the relationship between corporate governance and stock returns (Tobin's Q) with two groups: well-structured boards and badly-structured boards. He looked at US enterprises from 2006-2010 in the research work Board Structure, Enterprise value and Stock Performance: An Empirical Analysis of French Equities. He found there to be no statistically significant relationship between board composition and stock returns even after adjusting for the market. However, Pham, Suchard and Zein (2007) studied the relationship between independent committee structure and market value with operation performance in Australia and found that good corporate governance from the proportion of independent committee structure is not related to operation performance as measured from Tobin's Q and EVA. Contrary to this, Srichanphet (2008) studied the relationship between responsibility of

committee, ownership structure and EVA of enterprise in Thailand with independent committee structure one of many independent variables. He found that good corporate governance from the proportion of independent committee structure is positively related to operation performance as measured from EVA.

In this present study, from the analysis the following hypothesis was constructed:

H_{19}: Percentage of board independent shareholders positively relates to enterprise value.

2.3.4.5 Board of Executive Directors

The executive director has the duties to sign agreements as concerns ownership, consider the job performance of staff, staff promotion, and jobs rotation as well as construct the compensation rate for managers. Therefore, the executive director has an important role in the construction of strategy, policy and this includes enterprise performance. Much research has studied the relationship between the board of executive director and enterprise value. Morck et al. (1988) studied management ownership and market valuation in an empirical analysis. The research objective was to study the proportion of shareholders of executive directors of over 0.20% and enterprise value in 371 registered companies in USA. They divided owner structure into 0-5%, 5-25% and over 25%. They point out that at 5% enterprises are forced by the government to have to disclose owner structure and at 20-30% enterprise decisions should be based on risk avoidance. The research results revealed enterprise value to be positively related to owner structure at 0-5%. That is, if the shareholder holds share increasing in value, enterprise value will increase too because committees' decisions are based on the

benefits and enterprise value to shareholders increasing in value. Enterprise value is negatively related to owner structure at 5-25%. That is, if shareholders hold more shares, enterprise value will decrease because committees embed over stock occupy or employ low potential outsiders to manage their business. In addition, Schmid (2003) studied the effectiveness of board structure on enterprise value in 145 enterprises in Switzerland. The effectiveness of board of directors can be measured from many variables such as owner structure, proportion of stockholders who are executive directors and so on. Enterprise value was measured from Tobin's Q. Schmid found that a proportion of stockholders of inside executive directors of over 5% is positively related to enterprise value. The proportion of the stockholders of outside executive directors is negatively related to enterprise value. The results showed that inside executive directors and outside executive directors had benefits to the enterprise that were not consistent. John and Senbet (1998) focused on corporate governance and board effectiveness. They found that the proportion of the board holding the stock of the enterprise has a positive relationship with the performance of the enterprise.

In this present study, from the analysis the following hypothesis can be constructed:

H_{20}: Percentage of executive director shareholders positively relates to enterprise value.

2.3.4.6 Board of Family

A family business enterprise which is family controlled also separates ownership and enterprise control. It has not been ascertained whether an enterprise controlled by family will have a higher performance than one not controlled by family

as the many result findings have been conflicting. Kim (2011) studied the relationship between board structure and enterprise value with the publicly traded Fortune 100 enterprises from 1996-2006 on the research topic of directors' decision-making involvement on corporate boards. He found that an affiliated board committee of family or a board consisting of family has a negative relationship with enterprise value. However, Lei and Song (2004) studied corporate governance and enterprise value in Hong Kong. Stockholders within committees comprising relatives was one of many independent variables. They found that if the enterprise does not have stockholders within the committee that are relatives, this will be positively related with operating performance.

In this present study, from the analysis the following hypothesis was constructed:

H_{21}: Percentage of board of family shareholders relates to enterprise value.

2.3.4.7 Education of Board

For maximizing the benefits for the enterprise and all stockholders, the board of directors is at the core of corporate governance of the enterprise. The board of directors should consist of committee members who have more experience, specialized and professional expertise. They can use their knowledge to construct strategy planning, policy and create a new business model for the enterprise to receive the utmost benefits. There is much research studying the relationship between the skill of the board and enterprise value. Abor and Biekpe (2007) studied the corporate governance, ownership structure and performance of SMEs in Ghana. The independent variables included board

skill and management skill. Board skill is the number of board members with degrees or professional qualifications. The results of this study show a significantly positive relationship between the performance and skill level of the management but an insignificantly negative relationship in the case of the skill level of the board. This is indicative of the fact that SMEs with a highly qualified management team tend to exhibit high profitability. This stresses the importance of managerial skills and business experience as means of promoting enterprise performance. The results of this study revealed a positive relationship of higher levels of education among entrepreneurs and their willingness to use external information, develop networks, make use of consultants or develop more detailed accounting and monitoring systems. Management skill is also the number of management members with degrees or professional qualification.

In this present study, from the analysis the following hypothesis was constructed:

H_{22}: Number of committee members with bachelor degrees positively relates to enterprise value.

2.3.4.8 Meeting of Board of Directors

The enterprise should hold an amount of meetings of the board that suits the board's responsibility and is consistent with the type of business. A suitable amount of meetings is important for the board to have much more time for the effective consideration of important issues and subsequently leads to good enterprise performance. Much research has studied the relationship between the board of directors meeting and enterprise value. Srichanphet (2008) studied the relationship between the responsibility of the committee, ownership structure and EVA of enterprises in the SET

50 in Thailand during 2004-2006. The amount of meetings of the board of directors was one of many independent variables. He found that good corporate governance from the amount of meetings of the board of directors was positively related to operation performance as measured from EVA. Isshaq et al. (2009) concurred in studying the relationship between corporate governance and share price with enterprises in the Ghana Stock Exchange from 2001-2007 in his research Corporate Governance, Ownership Structure, Cash Holding, and Enterprise value on the Ghana Stock Exchange. It was found that the amount of board meetings positively related to share price. However, Kim (2011) studied the relationship between corporate governance and enterprise value in Fortune 100 enterprises in the research work Directors' Decision-making Involvement on Corporate Boards. He found that the extent of affiliated directors' committee involvement was substantially and negatively associated with enterprise value and subsequent operating performance. In this present study, from the analysis the following hypothesis was constructed:

H_{23}: Number of meetings of board of directors relates to enterprise value.

2.3.4.9 Meetings of Audit Committees

The audit committee, as an independent committee, shall assist the SEC Board in fulfilling its oversight responsibilities concerning managerial matters, internal controls, risk management, corporate governance, and financial reporting to ensure the transparency and reliability of the SEC's operations and information disclosure.

The audit committee must meet at least four times a year and has the power to convene additional meetings as deemed necessary. The Internal Audit Director

attends each meeting as the Committee Secretary with SEC management, auditors or specialists possibly being invited to attend the meetings on relevant agendas.

The audit committee report should cover its objectives, responsibilities, mission or activities performed during the past year with advice on improvement possibilities.

Abbott, Parker and Peters (2004) studied the relationship between the responsibility and structure of the audit committee based on the Blue Ribbon Committee's (BRC) concept covering areas such as: 1) independence of audit committee, 2) audit committee size, 3) audit committee members' skills, and 4) amount of audit committee members' meeting. The sample was divided into two groups. One group of 44 enterprises was ordered to prepare a financial restatement while the other group of 44 enterprises was not ordered to prepare a financial restatement during 1991-1999. The results showed that the BRC's concept relates to enterprise performance.

In this present study, from the analysis the following hypothesis was constructed:

H_{24}: Number of meetings of audit committees positively relates to enterprise value.

2.3.4.10 Board of Compensation

Normally, most enterprises set a compensation payment policy based on task performance. Therefore, boards will receive both financial and non-financial compensation depending on their agreement, their performance, their experience, their knowledge and enterprise performance. There is much research studying the relationship between the compensation of the board and enterprise value. Fernandes

(2005) studied the relationship between the board of directors' compensation and stock returns in Portugal. He found there to be a positive relationship between the two. Stuart and Robert (2004) studied the relationship between board compensation and enterprise performance in enterprises in the UK during 1991-1999. They also found that board compensation has a positive relationship with enterprise performance. Takao, Woochan and Ju (2003) studied the relationship between board compensation and enterprise performance in enterprises in Korea during 1998-2001. Again, a positive relationship was established. On the other hand, Bryan et al. (2000), Conyon (1997) found board of directors' compensation to have a negative relationship with enterprise performance.

In this present study, from the analysis the following hypotheses were constructed:

H_{25}: Board of directors' compensation relates to enterprise value

H_{26}: Top executive management compensation relates to enterprise value.

2.3.4.11 Audit Committees

The audit committee plays an important role in ensuring good corporate governance. The composition of the committee and qualifications of audit committee members are listed below. The committee:

- Must consist of at least three directors, with at least one member having financial and accounting knowledge.
- Must be appointed by the board of directors and shareholders.
- Must not have as members a non-executive director, an executive officer, an employee or an advisor who receives a regular salary from the applicant.

- Must be free of any financial or other interest in the company's management and business.
- Must not be holding shares exceeding five per cent (including shares held by persons related to audit committee members) of the paid-up capital of the listed company.

There is much previous research on the relationship between audit committee size and enterprise value:

Klein (2002) studied the relationship between audit committee size and operating performance in 692 enterprises during 1992-1993. He found that audit committee size is positively related to operating performance and it was also thought that audit committee size is related to reducing earnings management. This was consistent with Abbott et al. (2004). Conversely, Xie, Davidson and DaDalt (2003) studied the relationship between audit committee size and operating performance within 282 enterprises and found that audit committee size was negatively related to operating performance.

In this present study, from the analysis the following hypothesis was constructed:

H_{27}: The number of audit committees relates to enterprise value.

2.3.4.12 Sub-Committees within Board

The trend of reduction in agency cost has arisen by the setting up of sub-committees which specialize in specific jobs for consideration of specific tasks such as recruitment committees, compensation committees, audit committees, selection committees, and so on. Board committees have been set up to investigate particular

tasks of the enterprise, helping enable the enterprise to achieve better corporate governance. There is much research studying the relationship between the compensation of the board and enterprise value which has identified the role of sub committees as being very important, such as SET (2006). Therefore, the roles of sub-committees are disclosed in the annual report of the enterprise to show the good corporate governance and transparency of the enterprise to the public.

In this present study, from the analysis the following hypothesis was constructed:

H_{28}: The number of sub-committees positively relates to enterprise value.

2.4 Corporate Governance in Thailand

The Stock Exchange of Thailand (SET) aims for registered companies to have a corporate governance system at a standard level based on the Organization for Economic and Co-operation's (OECD) corporate governance concept integrated with that of SET's. This can enable enterprises to be reliable in their transparency, increasingly competitive and set best practice for other enterprises in the capital market of Thailand. The SET organized a campaign and promoted registered companies to gain the benefits of corporate governance both for the enterprises and for the stakeholders such as stockholders, partnership, creditors, employees, community and so on; thereby, enhancing knowledge about applied corporate governance in real practice. Besides, the SET relies on protecting investors in order to encourage and establish trust so the latter group makes decisions to invest in the country's stock exchange. The SET has launched many measures to protect the interests of investors such as identifying relevant rules,

frequently investigating and motivating registered companies to operate in accordance with SET's rules such as the selling and buying system, payments, disclosure and so on as equitable treatment to investors. Investors can use such information in evaluating the situation and protection planning. This can all convince the prospective or current investor that their interests are protected while, at the same time, boosting the nation's economy.

2.5 Control Variables

2.5.1 Age of Enterprise

The age of the enterprise refers to the amount of years of the enterprise has been registered on the SET. The age of the enterprise also refers to the experience of the enterprise. Older enterprises may be also high performing enterprises since they have longer experience in their respective industries. Mak and Kusnadi (2005) found that for enterprises in Singapore age is negatively related to Tobin's Q. Che Haat, Rahman and Mahenthiran (2008) studied enterprises in Malaysia but found no evidence of a significant relationship between enterprise age and financial performance. Darmadi (2011) found that younger enterprises are inclined to be better performers compared to their older counterparts in the Indonesian case. Abor and Biekpe (2007) studied the corporate governance, ownership structure and performance of SMEs in Ghana. The independent variables included age of enterprise. The results of this study showed there to be a significantly positive relationship between age of enterprise and profitability. The older enterprises were more likely to record higher profits.

2.5.2 Enterprise Size

Enterprise size refers to the total assets of the enterprise with the data selected from the balance sheet. Enterprise size also refers to reliability, strength and sustainability. Much research has studied the relationship between enterprise size and enterprise value. Ghosh (2001) and Haniffa and Hudaib (2006) found that larger enterprises are likely to perform better as they have a greater ability to diversify their business risks. Additionally, they are also more likely to be covered by market analysts and the media, leading to the pressure to perform well. Hannan and Freeman (1989) found that smaller enterprises are considered more innovative and more flexible to undertake strategic changes. Studies of US firms by Adams and Ferreira (2009), and Krishnan and Park (2005) found that enterprise size is positively related to both Tobin's Q and ROA, suggesting that larger enterprises are better performers than their smaller enterprises.

2.5.3 Profit Growth

Profit growth is the outcome of the operations of the enterprise. If the growth rate of profit is high with continued growth, this means that the strategy of the board and implementation by staff is efficient. Investors will be satisfied with their investment because they expect to get some dividends from the enterprise. There is much research studying the relationship between profit growth and enterprise value. Syriopoulos, Tsatsaronis, and Roumpis (2007) studied the relationship between corporate governance and enterprise value in 166 Greek non-financial enterprises listed on the Athens Stock Exchange (ASE) over the period 2001-2004 in their work Financial Decisions, Ownership and Governance on Corporate Value. They found that the profit growth of

an enterprise had a positive relationship with enterprise value. This was also the case for Chen, Guo and Mande in their research Corporate Value, Managerial Stockholdings and Investments of Japanese Enterprises (2006). They studied the same relationship in 123 Japanese enterprises during 1987-1995 and found that net income was related to corporate value.

2.5.4 Sales Growth

The sales growth of the enterprises refers to the revenue earned by enterprises from customers. This reveals the efficiency of the strategy planning of the board and the trend to increase profit growth. If the enterprise has increased sales growth, the enterprise is considered to grow more sustainably. Investors will be satisfied with their investment in the enterprise through its high sales growth and this leads to the enterprise value increasing. There is much research that has studied the relationship between sales growth and enterprise value. Schmid and Zimmermann (2008) studied the relationship between corporate governance and enterprise value in 152 enterprises on the Swiss Exchange (SWX) at the end of 2002. They found that sales growth was positively related with enterprise value. Conversely, Hovey et al. (2003) studied the corporate governance and enterprise performance in 97 enterprises listed on the Shanghai and Shenzhen stock markets during the period 1997-1999. They found sales growth to be negatively related with enterprise performance.

2.5.5 Dividends

If an enterprise announces a dividend payment, it will satisfy shareholders as they will receive a return from their investment. A dividend payment by the enterprise is often the first priority for an investor in their consideration before making any

investment. If the enterprise does not pay a dividend to the investor, the investor will be dissatisfied and this leads to enterprise value reduction. A lot of research has addressed the relationship between profit growth and enterprise value. Syriopoulos et al. (2007) studied the relationship between corporate governance and enterprise value in 166 Greek non-financial enterprises listed on the Athen Stock Exchange (ASE) over the period 2001-2004 and found that the dividend payment of an enterprise had a negative relationship with enterprise value. However, this differed with Aggarwal, Fu, Pan (2010) in their study of corporate governance and enterprise value in 1,500 publicly traded US enterprises each year. They found dividend payment to have a positive relationship with enterprise value.

2.5.6 Cash Flow on Operation (CFO)

Cash flow from the operations of the enterprises refers to enterprises earning revenue from customers or the enterprise having more liquidity. This shows the strategy planning of the board to be efficient. If the enterprise has greater CFO, the enterprise can be regarded as having more sustainable liquidity. Investors will be satisfied with enterprises with high CFO because it shows that the enterprise is able to avoid risk or from borrowing money which leads to an increased enterprise value. There is much research investigating the relationship between CFO and enterprise value. Lee and Lee (2006) studied corporate governance and enterprise value in 1,061 listed enterprises in the five Asian countries of Malaysia, Philippines, Indonesia, Singapore and Thailand during the period 2001 to 2005. They found that cash flow had a negative relationship with enterprise value.

2.5.7 Return on Assets (ROA)

The return on the assets of the enterprises means the enterprises can manage their assets efficiently as well as use their assets to earn revenue from customers efficiently. It shows that the strategy planning of the board is efficient and the trend is one of profit growth increasing. If the enterprise has greater ROA, the enterprise can be regarded to be growing sustainably. Investors are satisfied investing in an enterprise with high ROA with enterprise value potentially increasing. Much research has studied the relationship between sales growth and enterprise value. Bradley et al. (2007) looked at the relationship between corporate governance and enterprise value in 775 unique U.S. enterprises from 2001-2007 and established ROA to be related to enterprise value. On the other hand, Lee and Lee (2006) studied corporate governance and enterprise value in 1,061 listed enterprises in the five Asian countries of Malaysia, Philippines, Indonesia, Singapore and Thailand during the period 2001-2005 and found ROA to be negatively related with enterprise value.

2.6 Previous Research on Enterprise value and Corporate Governance

This section describes the significant developments made in the area of enterprise value and corporate governance by previous studies. Table 2.1 shows the chonological development of the effects of CG towards enterprise value. The following is the review of the important prior research. Chhaochharia and Laeven (2007) analyzed the relationship between corporate governance and enterprise value using Tobin's Q value calculation. They found out that one standard deviation increasing above the average corporate governance standard led to an 8% increase in Tobin's Q.

This concurred with the findings of Clacher, Doriye, and Hillier (2008) who used the same methodology as Chhaochharia and Laeven (2007). They studied 63 UK enterprises on the FTSE 100 from 2003 to 2005 and found that stronger corporate governance systems were associated with increased enterprise value (increase in Tobin's Q). Drobetz et al. (2004) used a methodology close to that of Gompers et al. (2003) but looked at the period 1998-2002 in Germany. They constructed two groups-well-governed enterprises and badly-governed enterprises-and used the same long-short strategy. This study showed that the difference in annual return between well-and badly-governed enterprises was 16.4%. Bauer, Guenster, Otten (2003) analyzed whether good corporate governance leads to higher common stock returns and enhances enterprise value in Europe. This study used Deminor Corporate Governance Ratings for companies in the FTSE Euro Top 300. Adopting the approach of Gompers et al. (2003), portfolios were built consisting of well-governed and poorly governed companies and their performances were compared. The impact of corporate governance on enterprise value was also examined. The results showed a positive relationship between these variables and corporate governance. However, this relationship weakened substantially after adjusting for country differences. Finally, the relationship between corporate governance and enterprise performance was analyzed, as approximated by net profit margin and return on equity. Bassen, Prigge and Zollner (2008) analyzed the impact of the German Corporate Governance Code on enterprise value. They used a sample of 100 large listed German companies and found that compliance with this cod negatively correlated with enterprise value. Bai, Liu, Lu, Song and Zhang (2003) investigated empirically the relationship between governance mechanisms and the market valuation

of publicly listed enterprises in China. They constructed measures of corporate governance and market valuation for all publicly listed enterprises between 1999 and 2001. Their empirical results supported several theoretical predictions; for example, they found that both high concentration of non-controlling shareholding and issuing shares to foreign investors have positive effects on market valuation, while a large holding by the largest shareholder, the CEO being the chairman or vice chairman of the board of directors, and the largest shareholder being the government have negative effects. Abor and Biekpe (2007) studied corporate governance structures affecting the performance of SMEs (small- to medium-sized enterprises) in Ghana. The findings revealed that board size, board composition, management skill level, CEO duality, inside ownership, family business, and foreign ownership have significantly positive impacts on profitability. In addition, corporate governance was seen to greatly assist the SME sector by infusing better management practices, stronger internal auditing, greater opportunities for growth and new strategic outlook through non-executive directors. It is clear that corporate governance structures influence the performance of SMEs in Ghana.

Table 2.3 The chronological development of the effects of CG on enterprise value

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Shleifer, A., and Vishny, R.W. (1986)	Share price	1.Large shareholders 2.Family shareholders 3.Financial shareholder 4.Investment fund shareholders	USA	Multiple Regression	Shareholder structure has positive relationship with enterprise value. That is increase in the proportion of large shareholder results in a decrease in the takeover premium but an increase in the market value of the enterprise.
Claessens, S., Djankov, S., and Lang, L.H.P. (2000)	Corporate performance	1.Ownership structure such as nominee ownership 2.Mixture of nominees 3.Control rights 4.Cash-flow right 5.Separation of control and management	East Asian	Multiple Regression	Corporate performance has positive relationship with ownership structure and separation of control and management.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Wiwattanakantang, Y. (2000)	Tobin's Q ROA	1. Control share 2. Family 3. Government 4. Foreign 5. Control and top management. 6. Control management 7. Domestic 8. Board size 9. Business group 10. Sales growth 11. Age of company 12. Enterprise size	Thailand	Multiple Regression	Controlling shareholders is a negative influence on enterprise value and does not have greater significant power than performance of enterprises with no controlling shareholder. Positive with performance. Size of the board of directors is negative with performance. Control management is positive with performance.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Jong, A., DeJong, D.V., Mertens, G., and Wasly, C.E. (2001)	Tobin's Q	Independent variables, 1.Concentration and identity of outside shareholders 2. Insider holdings. 3.Largest outside block-holder owning 5% or more of the shares 4.Institutional block-holdings 5.Bank block-holdings 6. Block-holdings by industrial enterprise. Control variables 1.Firm size (book value of total assets) 2.Growth (historical growth rate of the enterprise's book value of assets) 3.Leverage (measured as long-term debt divided by book value of assets)	Netherlands	Multiple Regression	Ownership structure and board structure do not have relationship between self-regulation and enterprise value. However, mechanism of marketing has positive influence on enterprise value.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Black, B. (2002)	Market capitalization	The ranking system was developed by the Brunswick Warburg investment bank. Criteria is as follows: 1.Disclosure and transparency 2.Dilution through share issuance 3.Asset stripping and transfer pricing 4.Dilution through merger and restructuring 5.Bankruptcy 6.Limits on foreign ownership 7.Management attitude toward shareholders	Russia	Multiple Regression	Overview of governance ranking has positive relationship with market capitalization. However, there are disclosure risk elements that individually have negative relationships with market capitalization.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Bauer, R., Guenster, N., and Otten, R. (2003)	1.Tobin's Q 2.NMP – net profit margin 3.ROE	1.CG – The logarithm of the enterprise's governance rating 2.BV – The logarithm of the book value of assets and 3.AGE The logarithm of the enterprise' s age in years. The foundation of the enterprise is approximated by the first trading day. 4. ROE	Europe	Multiple Regression	The results show a positive relationship between these variables and corporate governance. This relationship weakens substantially after adjusting for country differences. Finally, the relationship between corporate governance and enterprise performance is analysis, as approximated by net profit margin and return on equity. Surprisingly, and contrary to Gompers et al. (2003), a negative relationship was found between governance standards and performance ratios.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Gompers, P.A., Ishii, J.L. and Metrick, A. (2003)	1.Operating Performance: Net Profit Margin 2. Enterprise value: Tobin's Q	Governance Index: shareholder rights, institutional ownership and trading volume.	USA	Multiple Regression	1. Shareholder rights has positive relationship with high share prices 2. Institutional ownership and trading volume, relatively poor sales growth, and poor stock-market performance.
Randoy, T., and Goel, S. (2003)	Tobin's Q ROA	Ownership structure such as 1.Family leadership (CEO or chair) 2.Non founder enterprises 3.Level of board 4.Inside ownership, 5.Blockholder ownership 6.High level of foreign ownership	Norway	Multiple Regression	Ownership structure has positive relationship with enterprise performance.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Shahid, S.F.A. (2003)	1.Accounting performance indicators (i.e. ROA and ROE) 2.Stock market performance indicators (i.e. P/E and P/BV ratios).	Ownership structure such as 1.Dispersed ownership 2.Percentage ownership structure in each business such as banks, insurance, mutual funds and so on 3.Government-owned 4.Privately-owned 5.Management-owned 6.Free float-owned	Egypt	Multiple Regression	Dispersed ownership percentage influences certain dimensions of accounting performance indicators (i.e. ROA and ROE) but not stock market performance indicators (i.e. P/E and P/BV ratios), which indicate that there might be other factors (economic, political, contextual) affecting enterprise performance other than ownership structure.
Abbott, L.J., Parker, S., and Peters, G.F. (2004)	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 results shown hat the Blue Ribbon Committee's concept is positively related to enterprise performance.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Beiner, S., Drobetz, F. and Zimmermann, H. (2004)	Tobin's Q	The Swiss Performance Index such as: 1.Board size 2.Proportion of independent committee members 3.Ownership structure 4.Debt level	USA	Multiple Regression	Only ownership structure has positive relationship with enterprise value, others do not.
Mak, Y.T., and Kusnadi,Y (2005)	Tobin's Q	**1.**Size of the enterprise, measured as the sum of market value of equity, book value of preferred stock and debt. **2.**Book value of debt divided by ASSET. **3.**Total fixed asset divided by ASSET **4.**Total number of directors on the board.	Malaysia	Multiple Regression	There is a relationship between board size and Tobin's Q in both countries. This suggests that the negative relationship between board size and enterprise value transcends different corporate governance systems.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
		5.Dummy variable=1 if the chairman is also CEO, otherwise 0 **6.**Proportion of executive directors **7.**Proportion of independent directors **8.**Total number of directors in the audit committee **9.**Dummy variable=1 if the chairman is an independent director, otherwise 0 **10.** Proportion of executive directors in the audit committee. **11.**Proportion of independent directors in the audit committee **12.**Dummy variable=1 if there is a nomination committee, otherwise 0 **13.**Percentage of equity ownership by insiders (executive directors) **14.**Percentage of equity ownership by blockholders (owners with more than a 5 % stake) **15.**Dummy variable=1 if number of blockholders is greater than 1, otherwise 0 **16.**Percentage of equity ownership by largest blockholder.			

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
		17. Percentage of equity ownership by financial institutions. **Other variables** **18.**Dummy variable=1 for enterprises with government ownership, otherwise 0. **19.**Dummy variable=1 for enterprises listed on the main board, otherwise 0. **20.**Dummy variable=1 for regulated enterprises (enterprises in the financial industry), otherwise 0 **21.**The number of years since company became incorporated			
Nuno Fernandes (2005)	ROA, ROE	1.Executives' total compensation in a given year 2.Number of other board members	Portugal	Multiple Regression	Company performance does not have a significantly positive relationship to executive compensation. Number of other board members is significantly related to company performance.
Pham, P., Suchard, J., and Zein, J. (2007)	Operating Performance: Tobin's Q and EVA	1.Proportion of independent committees, 2.Board size 3.Amount of insider 4. Amount of outsider	Australia	Multiple Regression	Board structure does not have positive relationship with operating performance.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Abor, J., and Biekpe, N. (2007)	ROA	1. Board size 2. Board composition – proportion of NED 3. Board skill – number of board members with degrees or professional qualifications 4. Management skill – number of management members with degrees or professional qualifications 5. CEO dualities 6. Inside ownership – percentage of shares owned or controlled by CEO 7. Family ownership – majority (more than 50%) 8. Foreign ownership – dummy 9. Enterprise size – logarithm of total assets 10. Age – enterprise's year of incorporation 11. Debt ratio – debt to equity	Ghana	Multiple Regression	Board size, board composition, management skill, CEO duality, inside ownership, family ownership, and foreign ownership have significantly positive impacts on profitability.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Bradley, M., Chen, D., Dallas, G.,and Snyderwine, E.(2007)	Tobin's Q	**Ownership Structure** 1. Number of blockholders with at least 5% of shares. 2.Percentage of shares held by top management and directors **Board Structure and Effectiveness** **1.**Equals 1 if the audit committee is fully independent **2.**Equals 1 if the compensation committee is totally independent **3.**Equals 1 if the nomination committee is totally independent **4.**Number of board meetings CTCL **5.**Board size **6.**Equals 1 when CEO is also Chairman **7.**Director Indemnification **8.**Director Indemnification Contracts **9.**Charter Amendments That Limit the Director's Liability	USA	Multiple Regression	1. Credit ratings are negatively related to the presence of antitakeover measures for firms with speculative grade ratings and positively related to the presence of antitakeover measures for firms with investment grade ratings. 2. Spreads are positively related to the presence of antitakeover measures, and this relationship is significantly stronger for enterprises with less than investment grade credit ratings.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
		10. Equals 1 if the board has a lead director **11.**Percentage of directors with over 15 years' tenure **12.**Percentage of directors who sit on at least four other corporate boards **13.**Percentage of directors over 70 **14.**Percentage of directors with zero equity **15.**Percentage of directors who fail to attend at least 80% of board meetings **16.**Percentage of independent directors **Executive Compensation and Turnover** **1.**Annual base salary of CEO as a percentage of total compensation **2.**Annual bonus of CEO as a percentage of total compensation			

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
		3.CEO Shareholding as a percentage of total shares outstanding **4.**CEO Tenure **5.**Proportion of incentive part of CEO compensation **6.**Dilution overhang within 5% of industry peers **Control Variables** 1. LEV 2. ROA 3.SIZE			
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	The results indicate that managerial ownership has a positive effect on enterprise performance. Although return on assets (ROA) and return on sales (ROS) decline post-privatization, enterprises with high managerial ownership, and especially high CEO ownership, exhibit a smaller performance decline.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Lee, J.J., and Zhang, Z. (2008)	Tobin's Q ROA	1. State share 2. Institute share-largest 3. Management share 4. Board share 5. Independent ratio 6. Duality 7. Audit committee 8. Enterprise size-c 9. Debt to asset Growth change in net income	China	Multiple Regression	Factors of ownership governing structures, such as state ownerships, largest shareholder ownership, and managerial ownership were found to negatively affect the enterprises' value and board members and institutional ownerships were found to positively affect enterprises' values. The authors also examined the effect of interactions between enterprises' performances and corporate governance structures on board independence and the existence of audit committees on the valuation of enterprises with high performance values.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Schmid, M.M., and Zimmermann, H. (2008)	Tobin's Q, ROA	**1.**1 if the CEO is also the chairman of the board, 0 otherwise **2.**Percentage of equity owned by officers and directors **3.**Percentage of cumulated voting rights exercised by large outside investors with >5% of voting rights **4.** Number of directors on the board of the company **5.** Outsider membership on the board, measured by the percentage of board seats held by non-officers without relationship to the founding family <u>Control Variables</u> **1.**Leverage, measured as the ratio of total (non-equity) liabilities to total assets **2.**Ratio of operating income to total assets (return on assets)	Switzerland	Multiple Regression	1.Leadership structure in Switzerland has effect on the valuation of an enterprise. 2.Separation of the CEO and chairman functions do not have a relationship with the valuation of enterprises. 3.Leadership structure is positively related to enterprise-level corporate governance characteristics. 4.A curvilinear relationship between leadership structure and managerial shareholdings that is similar to what the authors observe between enterprise value and managerial shareholdings. A possible interpretation is that the agency costs associated with a combined function are mitigated by a higher incentive alignment of the CEO/chairman through an adequate level of managerial shareholdings.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Srichanphet, S. (2008)	EVA	1.Responsibility roles of committees 1.1 Proportion of independent committee members who are not top management 1.2 Independence of chairman. 1.3 Amount of board committee meetings 2.Ownership structure 2.1Concentrated ownership 2.2 Percentage of shareholders who are executives	Thai	Multiple Regression	Just only concentrated ownership which has negative relationship with EVA. Otherwise has positive relationship with EVA.
Isshaq, Z., Bokpin, A.G., and Onumah, M. J. (2009)	Share price	1. Board size 2. Board independence 3. Board meeting 4. Ownership 5. Cash-in cash 6. Leverage 7. Dividend payout ratio 8. Tobin's Q	Ghana	Multiple Regression	Board size, leverage and income found to have a positive and statistically significant relationship to share price However, inside ownership and cash holdings not found to have a positive and statistically significant relationship to share price.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent variables	Dataset	Statistical Analysis	Research Results
Loughran, T., and Wellman, J.W.(2009)	Mutual fund return	1. Enterprise's size is its market capitalization (price times shares outstanding) 2. BE/ME value 3.Prior return is the raw buy-and-hold return from month j-12 to month j-2 4. EM: EV/EBITDA value 5.Tobin's Q value 6.EMD factor is the return on low EM stocks minus high EM stocks. 7. HML factor is the average return on high book-to-market stocks minus low book-to market stocks in month t. 8. SMB is the average return on small enterprises minus large enterprises in month t	UK, Japanese	Multiple Regression	1. Enterprise's size 2. BE/ME value 3.Prior return 4. EM: EV/EBITDA value 5.Tobin's Q value 6.EMD factor is the return on low EM stocks minus high EM stocks. 7.SMB is the average return on small enterprises minus large enterprises in month t All factors have positive effect on mutual fund return.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Chen, C.J.P., Li, Z., Su, X., and Sun, Z. (2010)	Tobin's Q	1.Percentage of political directors on the board 2.Size = total assets 3.Debt ratio 4.Amount of local government's budget deficits 5.Local government's discretionary expenditure and subsidy over its total expenditure 6.Local government's administrative and penalty revenue over its total revenue 7.Marketization index compiled by the National Economic Research Institute	China	Multiple Regression	The authors found that controlling shareholders of family enterprises with political connections tend to concentrate their shareholding and dominate the board of directors so that they can make deals with government officials in secret and enjoy the benefits exclusively among themselves, having a positive effect on Tobin's Q value

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Platt, H., Demirkan, S., and Platt, M. (2010)	1.Terminal values: TV 2. Implied terminal values: ITV	1.Total sales 2.Sales/total assets 3. Market value of equity/ book value of equity 4. ROA 5. Beta is the relative volatility of the enterprise with respect to the market.	USA	Multiple Regression	1.Total sales 2.Total sales divided by total assets 3.ASSETS is total assets 4.MB 5.ROA 6. Beta is the positive relative volatility of the enterprise with respect to the market. All factors have positive effect on TV
Ibrahim, H., and Samad, F.A. (2011)	Tobin's Q ROA ROE	1. Outside directors 2. Duality 3. Enterprise leverage – debt to asset 4. Enterprise age – enterprise's year of incorporation Enterprise size	Malaysia	Multiple Regression	Family ownership experiences a higher value than non-family ownership based on ROE. On the other hand, based on Tobin's Q and ROA, the study found that enterprise value is lower in family than non-family ownership. In addition, corporate governance mechanisms such as the board size, independent director and duality for family and non-family ownership has a strongly significant influence on enterprise performance.

Table 2.3 The chronological development of the effects of CG on enterprise value (Cont.)

Authors	Dependent Variables	Independent Variables	Dataset	Statistical Analysis	Research Results
Kim, S. (2011)	ROA – net income / TA; TA – book value of total asset Tobin's Q	1. Board meetings 2. Board size 3. Busy board (IND on three) 4. CAPEX/TA – capital expenditure scales/TA 5. CEO involved CEO is directly involved in apportioning committee assignments 6. CEO pay slice – The fraction of the enterprise's top five compensation packages captured by the CEO 7. Entrenchment index 0-6 8. Family enterprise 9. Enterprise age 10. Fraction of affiliated directors 11. Insider, outsider 12. Industry dummies 13. Leverage – long term debt/TA 14. No. of committees 15. No. of segments R and D/sales – R and D / revenue	USA	Multiple Regression	The extent of affiliated directors' committee involvement is substantially and negatively associated with enterprise value and subsequent operating performance, and the author argues that incorporating these differences in decision making power has important implications for studies on corporate governance.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter includes the discussion of the research methodology framework, including the research design, samples plan, data collection instruments and procedures, operational definitions of research variables, and analytical measurements. The analytical measurement is divided into the statistical procedures of scale validation, scale dimensionality, exploratory factor analyses, confirmatory factor analyses and structural equation modeling.

This paper is an empirical study which intends to investigate the relationship between corporate governance mechanisms (ownership structure, disclosure and transparency and board responsibilities) and enterprise value. Listed companies on the Stock Exchange of Thailand were employed to observe this relationship.

The main purposes of this study are as follows:

1. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies on the SET100 of the Stock Exchange of Thailand during 2008-2010.

2. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and enterprise value of listed companies on non-SET100 of the Stock Exchange of Thailand during 2008-2010.

3. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and enterprise value of listed companies on SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010.

3.1 Conceptual Framework

The conceptual framework of this study is shown in Figure 3.1

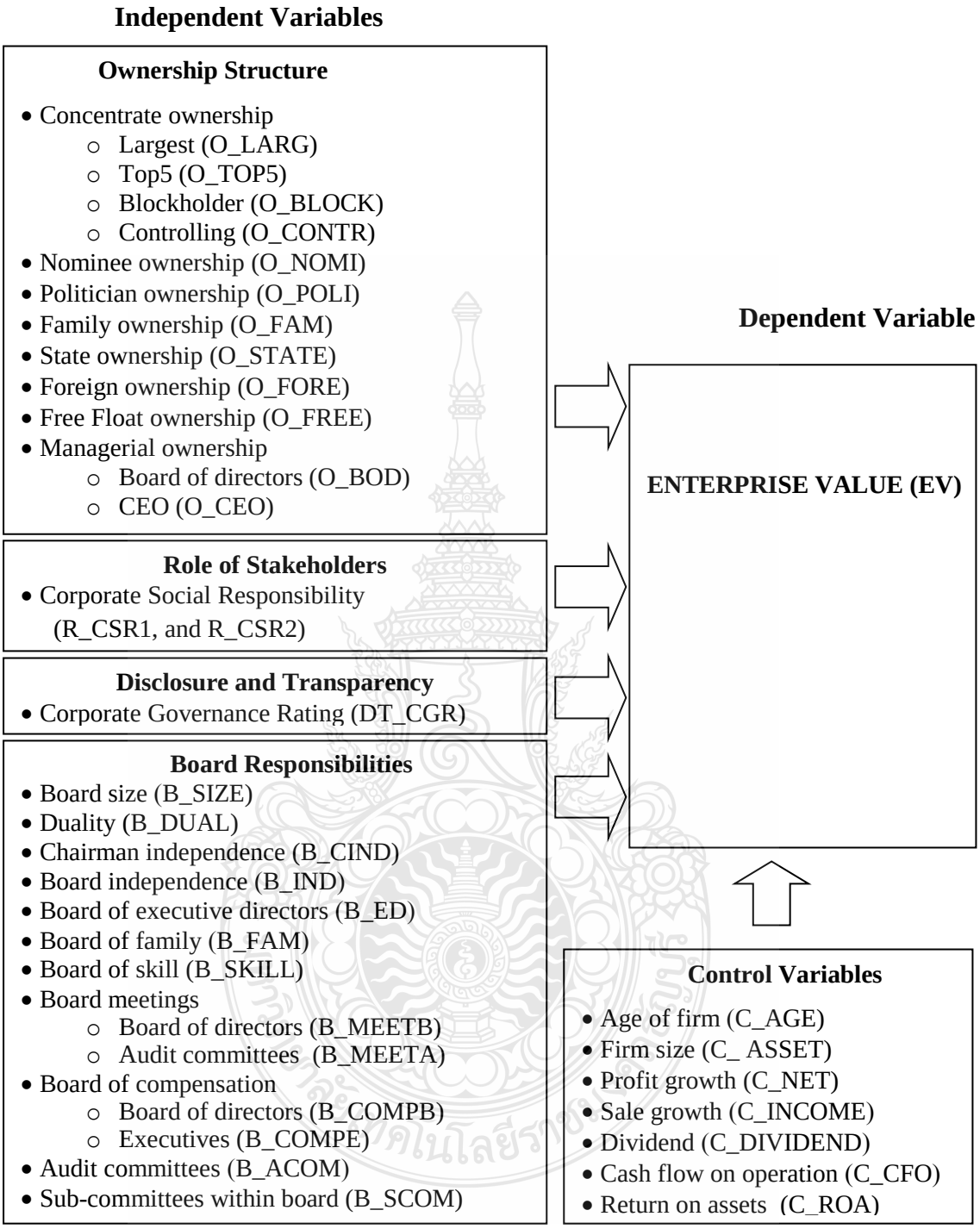

Figure 3.1 Conceptual Framework

The dependent variable was enterprise value calculated according to Arzac (2005) as follows:

$$EV = MVE + Debt - Cash$$

Where:

- MVE = market value of common stock price at the end of the year,
- Debt = book value of total debt,
- Cash = book value of cash and cash equivalents

Table 3.1 shows all independent variables in this study. In addition, Table 3.1 also provides previous studies adopting variables. Table 3.2 shows the control variables used in this study. Table 3.2 also provides previous studies which adopted this variable.

Table 3.1 Independent variables in this study

Abbreviation	Previous Studies
O_LARG	Shleifer and Vishny (1986), Burkart, Gromb, Panunzil (1997), La Porta, Lopez-De-Silanes, Shleifer (1999), Claessens, Djankov, Lang (2000), Lemmon and Lins (2001),Gomes (2000), La Porta et al. (1999).
O_TOP5	Shleifer and Vishny (1997), Hovey, Li, Naughton (2003).
O_BLOCK	Kaplan and Minton (1994), Haniffa and Hudaib (2006), Joh (2003) Bradley, Chen, Dallas, Snyderwine (2007), Krivogorsky (2006), Weir, Laing, McKnight (2002).
O_CONTR	Faccio and Lang (2002) Morck, Shleifer,Vishny (1989), La Porta et al. (1999), Claessens et al. (2000), Lemmon and Lins (2001), Hermalin and Wisbach (1991), Wiwattanakantang (2000).

Table 3.1 Independent variables in this study (Cont.)

Abbreviation	Previous Studies
O_NOMI	Achavanankul (2006), Mak and Kusnadi (2005), Bradley et al. (2007).
O_POLI	Nikomborirak (2011), Chen, Li, Su, Sun (2010), Shleifer and Vishny (1994), Xu, Zhu, Lin (2005).
O_FAM	Claessens et al. (2000), Mak and Kusnadi (2005), Anderson and Reeb (2003). Wiwattanakantang (2000), Patton and Baker (1987), Yeh,Lee, Woidtke (2001), Krivogorsky (2006), Ibrahim and Samad (2011).
O_STATE	Ulasevich (2003), Tian (2001), Morck, Shleifer, Vishniy (1988), Shleifer,Vishniy (1998),Gunasekarage, Hess, Hu (2007), Sun and Tong (2003), Xu and Wang (1999), Zhang, Zhang, Zhao (2001), Bai, Li, Tao, Wang (2000), Clarke (2003), Lee and Zhang (2008).
O_FORE	Randoy and Goel (2003),Randoy, Oxelheim,Stonehill(2001), Stulz (1999), Oxelheim et al.(1998), Claessens et al. (2000).
O_FREE	Shleifer and Vishny(1997), Shahid (2003), Berle and Means(1932).
O_BOD	Jensen and Meckling (1976), Mehran (1995), Morck et al. (1988), McConnell and Servaes, (1990, 1995) Li, Moshirian, Nguyen, Tan (2007), Hu and Zhou (2008).
O_CEO	Mock, Shleifer and Vishny (1988), McConnell and Servaes (1990) and Himmelberg, Hubbard, Palia (1999).
R_CSR1	Graves and Waddock (1994), Griffin and Mahon (1997), McGuire et al., (1988), Waddock and Graves (1997), Bromiley and Marcus, 1989; Wright and Ferris 1997), Aupperle et al., (1985), Teoh et al. (1999).
R_CSR2	Consideration from Global Reporting Initiative Guidelines (GRI, 2002) or CSR disclosures in their annual reports (Boli and Hartsuiker, 2001).

Table 3.1 Independent variables in this study (Cont.)

Abbreviation	Previous Studies
DT_CGR	Brown and Caylor (2004), Gompers,Ishii, Metrick, (2003), Bauer,Guenster, Otten (2003), Yang (2008).
B_SIZE	Anderson, Mansi, Reeb (2004) Jensen (1993), Brown and Caylor (2004), Abor and Biekpe (2007), Yermack (1996), Mak and Kusnadi (2005) Eisenberg, Sundgren, Wells (1998), Carline,Linn,Yadav (2002).
B_DUAL	Patton and Baker (1987), Yermack (1996), Vafeas and Theodorou (1998), Anderson and Anthony (1996), Brown and Caylor (2004), Abor and Biekpe (2007), Brickley, Coles, Jarrell (1997).
B_CIND	Schmid and Zimmermann (2008), Srichanphet (2008).
B_IND	Kren and Kerr (1997), John and Senbet (1998), Felgueiras (2011), Pham, Suchard, Zein (2007), Srichanphet (2008).
B_ED	Morck et al. (1988) ,Schmid (2003), John and Senbet (1998).
B_FAM	Kim (2011), Lei and Song (2004).
B_SKILL	Abor and Biekpe (2007).
B_MEETB	Srichanphet (2008), Isshaq et al. (2009), Kim (2011).
B_MEETA	Abbott et al.(2004), Srichanphet (2008), Isshaq et al. (2009).
B_COMPB	Fernandes (2008), Stuart and Robert (2004),Takao, Woochan, Ju (2003), Bryan et al.(2000), Conyon (1997).
B_COMPE	Fernandes (2008), Stuart and Robert (2004) Takao et al. (2003), Bryan et al.(2000), Conyon(1997).
B_ACOM	Klein (2002), Abbott et.al.(2004), Xie, Davidson,DaDalt (2003).
B_SCOM	SET (2006).

Besides, for deeper analysis, the author analyzed nominee ownership, state ownership, politician ownership and family ownership in two dimensions of ownership. That is, analysis of these variables based on large ownership or top 5 ownership. Therefore, the number of hypotheses also includes as follows:

Table 3.2 Abbreviation of Independent Variables of this Present Study

Independent Variables of this Present Study	Abbreviation
Percentage of large shareholders and nominee shareholders has a positive effect on enterprise value.	O_LNOMI
Percentage of large shareholders and politician shareholders has positive effect on enterprise value.	O_LPOLI
Percentage of large shareholders and family shareholders has positive effect on enterprise value.	O_LFAM
Percentage of large shareholders and state shareholder has positive effect on enterprise value.	O_LSTATE
Percentage of top 5 shareholders and nominee shareholders has positive effect on enterprise value.	O_TNOMI
Percentage of top 5 shareholders and politician shareholders has positive effect on enterprise value.	O_TPOLI
Percentage of top 5 shareholders and family shareholders has positive effect on enterprise value.	O_TFAM
Percentage of top 5 shareholders and state shareholder has positive effect on enterprise value.	O_TSTATE

Factor analysis was used to separate control variables (age of enterprise, enterprise size, profit growth, sales growth, dividend, cash flow on operation (CFO), return on asset (ROA)) into three groups. For details on factor analysis, see APPENDIX. The author constructed the hypotheses and organized all control variables in each group and adjusted the names as follows:

Table 3.3 Abbreviation of control variables after use factor analysis

Control Variables of this Present Study: FC_BSPL	**Abbreviation**	**Previous Studies**
Amount of total assets of enterprise has positive effect on enterprise value.	C_ASSET	Adams and Ferreira (2009) and Krishnan and Park (2005).
Amount of net profit of enterprise has positive effect on enterprise value.	C_NET	Syriopoulos,Tsatsaronis and Roumpis (2007).
Amount of income of enterprise has positive effect on enterprise value.	C_INCOME	Schmid and Zimmermann (2008).
Amount of cash flow operation of enterprise has positive effect on enterprise value.	C_CFO	Lee and Lee (2006).
Control Variables of this Present Study: FC_DIAG	**Abbreviation**	**Previous Studies**
Amount of dividend payment announced has positive effect on enterprise value.	C_DIVIDEND	Aggarwal, Fu, Pan (2010).
Age of enterprise has effect on positive enterprise value.	C_AGE	Abor and Biekpe (2007).
Control Variables of this Present Study: FC_ROA	**Abbreviation**	**Previous Studies**
ROA value of enterprise has positive effect on enterprise value.	C_ROA	Bradley et al. (2007), Lee and Lee (2006).

3.2 Research Design

Quantitative research was used in this study for analyzing the relationship between the independent variable (enterprise value recommended by Arzac (2005)) and the dependent variables (some factors in ownership structure, disclosure and transparency and board structure). Two sources of data were utilized in the study. First, secondary data mostly obtained from many journals which also were used for the literature review and model and hypotheses development, and also gathering a scale measurement for generating the initial set of items in the questionnaire development stage. Second, secondary data was from annual reports of listed companies in the Stock Exchange of Thailand during 2008-2010.

3.2.1 Population

The population of this study comprises registered companies on the SET. These companies were divided into two groups: SET100 and non-SET100 because these registered companies had the available data which are components of corporate governance such as ownership structure report, board of director report and disclosure report. This meets the requirements of the author's objectives because these 100 registered companies are the top 100 companies with the highest average market capital per day within 12 months of the Stock Exchange of Thailand.

3.2.2 Sample Size

After that, data from the SET100 and non-SET100 during 2008-2010 were selected for comparison. The author used annual reports from these companies for the database of this study. The database from the SET100 covered all of research objectives as well. Therefore, the survey results of this population could predict the relationship

between the dependent variables (enterprise value as recommended by Arzac (2005)) and the independent variables (some factors of owner structure, disclosure and transparency and board responsibilities).

3.2.3 Data Collection

Data was collected from financial statements and annual reports, among others, of companies listed on the SET. These companies were divided into two groups: SET100 and non-SET100. Every enterprise reporting data for the years 2008-2010 was included in the following information: Dependent variables such as the component of Arzac's model (market capital, total debt, cash). Independent variables such as some factors of owner structure, disclosure and transparency and board responsibilities. With this information, enterprise values were calculated for enterprises from 2008-2010. Each company reported different amounts of data. Some companies had only one year of data available while others had up to ten years. Companies with four or fewer years of data were dropped from the analysis.

3.3 Research Model

The variables from the registered companies (in the group of SET100 and non-SET100), all CG sections (independent variables: 1.Ownership Structure, 2.Role of Stakeholders, 3.Disclosure and Transparency and 4. Board Responsibilities) from all control variables were analyzed. In order to obtain in-depth analysis, the researcher separated the data analysis into nine models as follows:

Table 3.4 Details of the nine models which were analyzed

	Data from SET100	Data from non-SET100	Total
CG variables	Model 1	Model 4	Model 7
Control variables	Model 2	Model 5	Model 8
Total	Model 3	Model 6	Model 9

The data from SET100

Model 1: Analysis of all data of all CG independent variables (1.Ownership Structure, 2.Role of Stakeholders, 3. Disclosure and Transparency, and 4. Board Responsibilities) from the listed companies in the SET100 of the Stock Exchange of Thailand which relates to enterprise value.

Model 2: Analysis of the control variables from listed companies in the SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 3: Analysis of all data of CG independent variables and control variables from listed companies in the SET100 of the Stock Exchange of Thailand which relates to enterprise value.

The data from non-SET100

Model 4: Analysis of all data of all CG independent variables (1.Ownership Structure, 2.Role of Stakeholders, 3.Disclosure and Transparency, and 4. Board Responsibilities) from listed companies on the non-SET100 of the Stock Exchange of Thailand which relates to enterprise value.

Model 5: Analysis of all control variables from listed companies on the non-SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 6: Analysis of all CG independent variables and control variables from listed companies on the non-SET100 of the Stock Exchange of Thailand which have effect on enterprise value.

The data from SET100 and non-SET100

Model 7: Analysis of all data of all CG independent variables (1.Ownership Structure, 2.Role of Stakeholders, 3.Disclosure and Transparency, and 4. Board Responsibilities) from listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand which relates to enterprise value.

Model 8: Analysis of all data of all control variables from listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand which relates to enterprise value.

Model 9: Analysis of all data of CG independent variables and control variables from listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand which relates to enterprise value.

Before obtaining the findings for the research questions, the author designed one model as the methodology to do so. The answers acquired from all the data on the effect on enterprise value from both registered companies on the SET100 and non-SET100, for all CG independent variables (1. Ownership Structure, 2. Role of Stakeholders, 3. Disclosure and Transparency, 4. Board Responsibilities) and from all control variables was analyzed.

After the author collected data from the annual reports of the sample registered companies on the SET, multiple regression was used for testing and predicting the relationship between the dependent variable (enterprise value recommended by Arzac (2005)) and the independent variables (owner structure, disclosure and transparency and board responsibilities).

Multiple regression was used in this study to analyze the research model. Multiple regression is a data analysis technique for analyzing the relationship between the many variables as follows:

1) There is 1 dependent variable which is the quantitative variable

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

3.4 Data Analysis

3.4.1 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 specifics of 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 all you do is 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, you might again order the scores as shown above, and then count 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); 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. Note, however, that 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.

3.4.2 Inferential Statistics

Inferential Statistics make propositions about a population, using data drawn from the population via some form of 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 that generates the data and deducing propositions from the model. There are different types of inferential statistics that are used. This study uses multiple regression for analysis data. Because aim of this study would like to measure the degree of relationship between more RATIO variables.

3.4.2.1 Multiple Regression

Multiple regression analysis is concerned with predicting the mean value of a dependent variable Y from the known values of the more independent variables X_i. The model can be written as:

$$Y = \beta_{o+} \beta_1 X_1 + \beta_2 X_2 + \ldots \beta_i X_i + \varepsilon$$

Where:

Y	=	Enterprise value
$X_1 - X_i$	=	Independent variables
β_o	=	The Y-intercept, the value of Y when all the X's are zero.
$\beta_1 - \beta_i$	=	The net change in for each unit change in X_i, holding all other X's constant.
ε	=	The residual term.

The values of $\beta_1 - \beta_i$ are called the regression coefficients. They indicate the change in the estimated value of the dependent variable for a unit change in one of the independent variables, when the other independent variables are held constant.

From estimation value β_i with b_i and estimation value β_o with a, the multiple regression is as follows:

$$\hat{Y} = a + b_1X_1 + b_2X_2 + ... + b_kX_k$$

Where:

$\hat{Y}$ = estimation value or predict value of Y variable

e = $Y - \hat{Y}$ = error value or the residual term or differentiated value between real value and estimation value β_i with b_i and estimation value β_o with a. Then, using least square method to find out a, b_1,... b_k which make $\sum_{i=1}^{n} ei^2 = \sum_{i=1}^{n}(Yi - \hat{Y}_i)^2)$= the lowest value.

Multiple regression is used for exploring linear relationships between the predictor and criterion variables that is, when the relationship follows a straight line. (To examine non-linear relationships, special techniques can be used) (Vanitbancha, 2007).

Additional, multiple regression is used when choosing a predictor variable you should select one that might be correlated with the criterion variable, but that is not strongly correlated with the other predictor variables. However, correlations amongst the predictor variables are not unusual. The term multicollinearity (or collinearity) is used to describe the situation when a high correlation is detected between two or more predictor variables. Such high correlations cause problems when trying to draw

inferences about the relative contribution of each predictor variable to the success of the model. There are many statistics which measure multicollinearity or collinearity such as tolerance, VIF (variance inflation factor), eigenvalue and condition index (Vanitbancha, 2007).

Finally, Multiple regression is used when there are different ways that the relative contribution of each predictor variable can be assessed. The stepwise method was selected in this study as it is the most sophisticated of statistical methods. Each variable is entered in sequence and its value assessed. If adding the variable contributes to the model then it is retained, but all other variables in the model are then re-tested to see if they are still contributing to the success of the model. If they no longer contribute significantly, they are removed. Thus, this method should ensure that the researcher ends up with the smallest possible set of predictor variables included in the researcher's model (Vanitbancha, 2007).

3.4.2.1 Assumptions of Multiple Regression

Osborne, Christensen, and Gunter (2001), (Vanitbancha, 2007) identified that some assumptions of multiple regression are tailored toward the practicing researcher. These assumptions are as follows:

1) Error or residual are normally distributed.

Multiple regression assumes that the error term or residual has normal distributions with a mean of 0. Non-normally distributed variables (highly skewed or kurtotic variables, or variables with substantial outliers) can distort relationships and significance tests. Kolmogorov-Smirnov was used for tests to provide inferential statistics on normality.

2) The average value of error should be 0. On the other hand is E (e) = 0

3) The variance of the error term is constant across cases

(heteroscedastic or homoscedasticity) or V(e) = $\boldsymbol{\partial_e^2}$

The variance of the error term is constant across cases and independent of the variables in the model. Homoscedasticity means that the variance of errors is the same across all levels of the independent variables. When the variance of errors differs at different values of the independent variables, heteroscedasticity is indicated (Vanitbancha, 2007). According to Berry and Feldman (1985) and Tabachnick and Fidell (1996) slight heteroscedasticity has little effect on significance tests; however, when heteroscedasticity is marked it can lead to the serious distortion of findings and seriously weaken the analysis, thus increasing the possibility of a Type I error (Vanitbancha, 2007). This assumption can be checked by a visual examination of a plot of the standardized residuals (the errors) by the regression standardized predicted value. Most modern statistical packages include this as an option**.**

4) e_i and e_j should be independent together; $i \neq j$ that is covariance (e_i, e_j) = 0

Independence of errors refers to the assumption that errors are independent of one another, implying that subjects are responding independently (Stevens, 2009). The goal of research is often to accurately model the 'real' relationships in the population (Osborne and Waters, 2002). In educational and social science research it is often difficult to measure variables, which makes measurement error an area of particular concern (Osborne and Waters, 2002).

5) Multicollinearity or independence variables between X_i and X_j should be independent together.

Many difficulties tend to arise when there are more than five independent variables in a multiple regression equation. One of the most frequent is the problem that two or more of the independent variables are highly correlated to one another. This is called multicollinearity. If a correlation coefficient matrix with all the independent variables indicates correlations of .75 or higher, then there may be a problem with multicollinearity. Although most authors assume that reliability estimates (Cronbach alphas) of .7-.8 are acceptable (e.g., Nunnally, 1978) and Osborne, Christensen, and Gunter (2001) reported that the average alpha reported in top Educational Psychology journals was .83, measurement of this quality still contains enough measurement error to make corrections worthwhile. When two variables are highly correlated, they are basically measuring the same phenomenon. When one enters into the regression equation, it tends to explain most of the variance in the dependent variable that is related to that phenomenon. This leaves little variance to be explained by the second independent variable.

Signs of multicollinearity include:

1) None of the t-ratios of the coefficients are statistically significant, but the F-test for the equation as a whole is significant;

2) Adding an additional independent variable to the equation radically changes either the size or the sign (plus or minus) of the coefficients associated with the other independent variables.

If multicollinearity is discovered, the researcher may drop one of the two variables that are highly correlated, or simply leave them in and note that multicollinearity is present.

Multiple Regression Assumption Testing

Vanitbancha (2007) identified that multiple regression assumptions were tested as follows:

1) Error or residual are normally distributed or not.

- Chi-square test
- Kolmogorov-Smirnov test
- Lilliefort test
- Skewness and Kurtosis
- Box plot test

This study uses Skewness and Kurtosis, and the box plot test by using the standardized residual plots as follows:

a. Skewness and Kurtosis

$$\text{Z-score Skewness} = \frac{\text{Skewness value}}{\text{Standard error of Skewness}}$$

$$\text{Z-score Kurtosis} = \frac{\text{Kurtosis value}}{\text{Standard error of Kurtosis}}$$

Normality

- If the sample is less than 300: Z-score skewness and Z-score kurtosis< 2.58
- If the sample is more than 300: Z-score skewness and Z-score kurtosis< 3.29

b. Histogram testing

A histogram shows the standardized residual value for testing the distribution of error as to whether there is normal probability or not. Standardized residual plots will

give a histogram of standard error. If an error does not have normal probability, the pattern of the Y variable should be change.

c. Normal probability testing

For testing the distribution of error as to whether there normal probability or not.

2) Average of error value is zero or E(e) =0

Regarding use least square method for estimating β_o with a and estimating β_i with bi which it will make the sum value of error square has lowest value. This will have the effect on the total error value of 0 ($\Sigma_{ei} = 0$)

Average value of error = E (e) = $\frac{\sum_{ei}}{n} = \frac{o}{n} = 0$

3) The variance of the error term is constant when the value is not known V(e) = σe^2

Investigation of V (e) = σ^2 = constant is by plotting a graph which relates e with $\hat{Y}$. If V(e) is not equally constant, the result will be a problem that is called heteroscedastic. If V(e) is equally constant, the result will be a problem that is called homoscedastic. The variance of the error term were shown by Scatter plot.

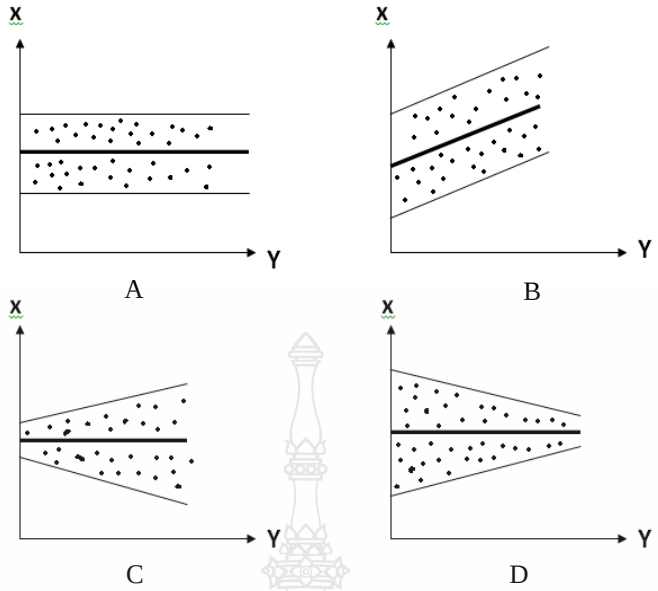

Figure 3.2 Scatter plot

From pictures A and B, it is found that σ^2 values will be instant when $\hat{Y}$ is changed.

From picture C, it is found that σ^2 will have a low value when $\hat{Y}$ has a low value.

From picture D, it is found that σ^2 will have a low value when $\hat{Y}$ has a high value

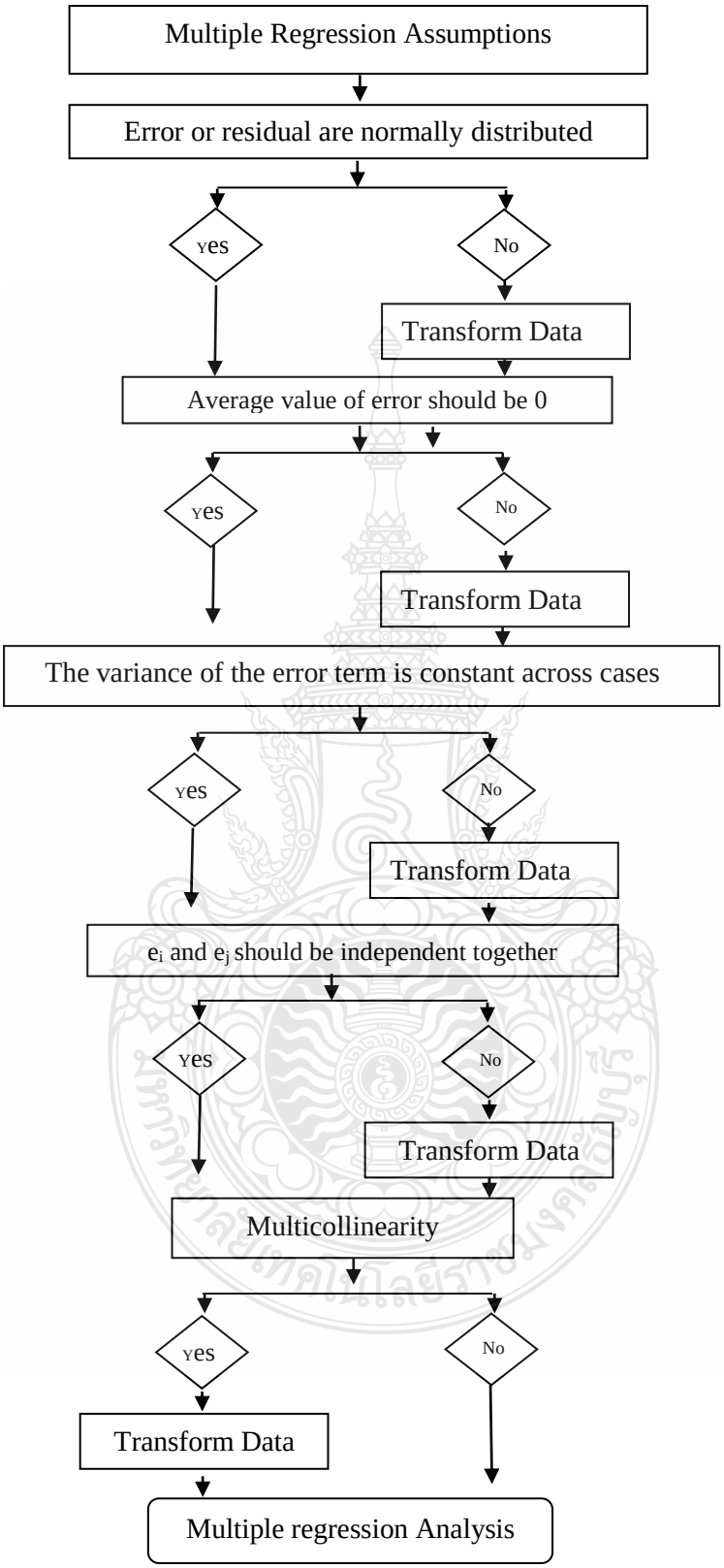

Figure 3.3 Five Assumptions of Multiple Regression

Table 3.5 Summary of Assumptions testing and Tools

Assumptions	Tools
1. Error or residual are normally distributed or not.	1. Skewness and kurtosis: If the sample is less than 300: Z-score < 2.58 If the sample is more than 300: Z-score < 3.29 2. Histogram testing 3. Normal probability testing
2. Average of error value is zero or E(e) =0	1. $\sum_{ei} = 0$
3. The variance of the error term is constant with the value not known V(e) = σe^2	1. Scatter plot
4. e_i and e_j are independent together; i≠j that is covariance (e_i , e_j) = 0	1. Durbin-Watson statistic: Value toward near 2 (1.5 -2.5)
5. Independent variables Xi and Xj must be independent (measures of collinearity.	1. Tolerance: low value or near 0 2. VIF: high value 10 3. Eigenvalue: toward near 0 4. Condition Index: high value 20

Model changing when error term violated from assumption

1. If the covariance value of the error term has increased, the Y value has increased. This shows that the distribution of error has right skewness. The author should change the model to keep the relationship between X and Y in the following type of linearity:

$$Y' = \log(Y) : Y > 0$$

2. If the covariance value of the error term is proportional with the expected Y value or the distribution of error has left skewness, the author should change the model to keep the relationship between X and Y linear. Therefore, Y is changed as follows:

$$Y' = Y^2$$

3. The covariance value of the error term is proportional to the expected Y value. Therefore, Y is changed as follows:

$$Y' = \sqrt{Y} \quad ; \; Y > 0$$

4. If the covariance value of the error term has increased, the Y value has increased. Therefore, Y is changed as follows:

$$Y' = \frac{1}{Y}$$

As regards the selection of independence variables in a multiple regression equation, there are four methods:

1) All possible regressions

2) Backward elimination

3) Forward selection

4) Stepwise regression If the author selects one of the above methods, the author must use F-statistic or t-statistic for hypothesis testing. Stepwise regression was used in

this study. This method selects the independent variables for multiple regression equation with the 2 principals together, such as through backward elimination and forward selection.

The stepwise regression method is used when there is a multicollinearity problem as the method has the criteria to bring 1 independent variables into the multiple regression equation each time. If the independent variables selected for the multiple regression equation have a relationship with other independent variables which are components in the multiple regression equation, the stepwise method will cut one independent variable which has relation off. This means that when there is one independent variable in the multiple regression equation which has a relationship, it will make the regression coefficient value change and the t-test value change. It needs to be cut off.

3.4.2.2 Multiple regression analysis

Multiple regression is a statistical technique that allows researchers to predict someone's score on one variable on the basis of their scores on several other variables. When using multiple regression, many researchers use the term "independent variables" to identify those variables that they think will influence other "dependent variables". The researchers prefer to use the term "predictor variables" for those variables that may be useful in predicting the scores on another variable called the "criterion variable". Normally, the relationship between the explanatory variable X and the mean of the response variable Y is modeled by the straight-line (linear) equation $Y = \beta_{\circ} + \beta x + \infty$. Researchers refer to this model containing a single predictor as a bivariate model, because it contains only two variables. Suppose there are two explanatory variables, the

researchers use lower-case letters to denote observations or the particular values of the variables. The bivariate regression function is generalized for the Multiple regression function $Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$

Statistical techniques and criteria

The statistics used for the data analysis were descriptive statistics such as frequency distribution, percentage, arithmetic mean, and standard deviation. Regression statistics was used to assess model fit and investigate the relationship between EV and all independent variables. That is, regression was explored and the model and hypotheses tested. R-square values (R^2: coefficient of determination) are reported in the regression analysis. The usual interpretation of R^2 value is the relative amount of variance of the dependent variable explained or accounted for by the explanatory variables (Joreskog 1999). Including R^2 values can be interpreted as indicating the reliability of the relationship between independent and dependent variables (Schumacker and Lomax 1996).

Conclusions

The purpose of this chapter was to describe the research methodology approaches on which this study was designed and developed. The research design in this study was that of quantitative research using the survey methodology. Non-probability quota sampling and convenience sampling were used to select the sampling size of the listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010. Several statistical methodologies were applied; that is, validity and reliability measures such as exploratory factor analysis and confirmatory factor analysis. Multiple regression was used for hypothesis testing.

e_i and e_j are independent together ; $i \neq j$ that is covariance (e_i , e_j) = 0

Investigation independence together between e_i and e_j.

Where:

$$e_i = Y_i - \hat{Y}_i \; and \; e_j = Y_j - \hat{Y}_j$$

This can be done through the following two methods:

4.1 A plot graph showing the relationship between et with t. If e_i and e_j have a relationship together, it will be called an autocorrelation. If e_i and e_j do not have a relationship together, it shows that error terms have independence together.

4.2 Using Durbin-Watson statistic for testing

Independence of error testing using the Durbin-Watson technique tests the relationship between e_t and e_{t-1}, where *t* is the period of time. The Durbin- Watson value is between 0-4 or ($0 \leq d \leq 4$) with the meanings as follows:

Table 3.6 Durbin-Watson statistic for testing

Durbin – Watson value	**Meaning**
Value toward near 2 (1.5 -2.5)	Error value of e_t is independent.
Value < 1.5	Relationship between e_i and e_j is in positive direction and Durbin-Watson toward near 4. This shows that e_i and e_j have a relationship.
Value > 2.5	Relationship between e_i and e_j is in positive direction and Durbin-Watson toward near 0. This shows that e_i and e_j have a strong relationship.
Significance of Durbin-Watson Value < Significance which was identified	This shows that e_i and e_j have a relationship.

5) Independence variables X_i and X_j must be independent (measures of collinearity).

When some X variables have a relationship together, this is called multicollinearity. The method for investigating this assumption is to change one independent variable to become a dependent variable with the rest remaining independent variables. Then, the relationship is tested between the independent variable and dependent variable using the four statistics of tolerance, VIF, eigenvalue and condition index.

5.1 Tolerance

- If the tolerance value of the independent variable X_i has low value or is near 0, it shows that X_i has a relationship with other independent variables.

5.2 VIF

- If the VIF_i value of independent variable X_i has high value, it shows that X_i has a relationship with other independent variables.

5.3 Eigenvalue

- The sum of eigenvalues will equal k+1 (k = amount of independent variables). If the eigenvalue is near 0, this shows that Xi has a relationship with other independent variables.

5.4 Condition Index

- If the condition index value of the independent variable X_i has high value, this shows that X_i has a relationship with other independent variables.

CHAPTER 4

RESEARCH RESULT

4.1 Introduction

This chapter discusses this paper as an empirical study aiming to investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency and board responsibilities) and enterprise value in listed companies on the SET100 of the Stock Exchange of Thailand during 2008-2010. The population of this study was registered companies on the SET. These companies were divided into two groups: SET100 and non-SET100 as these registered companies have the available and relevant data which are components of corporate governance. The author used the annual report from these companies as the database of this study. In addition, the database from the SET100 covered all of the research objectives. Therefore, the survey results of this population could predict the relationship between dependent variables (enterprise value calculated following Arzac's model) and independent variables (all factors of CG).

However, the variables from registered companies (in the groups of SET100 and non-SET100), all CG sections (independent variables: 1.ownership structure, 2.role of stakeholders, 3.disclosure and transparency and 4. board responsibilities), and all control variables will be analyzed. In order to conduct in-depth analysis, the researcher separated the analysis into the following nine models:

Table 4.1 Summary of all models in this study

	Data from SET100	Data from non-SET100	Total
CG variables	Model 1	Model 4	Model 7
Control variables	Model 2	Model 5	Model 8
Total	Model 3	Model 6	Model 9

Signage description for data analysis

n	is	Amount of sample
$\bar{X}$	is	Arithmetic mean
S.D., Std.	is	Standard deviation
Ln	is	Data taken by log
t-value	is	t-test statistic
β	is	Constant value
F	is	F-test value
E(e)	is	Average value of error should be zero (0)
Y	is	Enterprise value
X_1 - X_i	is	Independent variables
β_o	is	the Y-intercept, the value of Y when all the X's are zero.
β_1 - βi	is	the net change in for each unit change in X_i, holding all other X's constant.
e_i	is	$Y - \hat{Y}$ = error value or the residual term
$\hat{Y}$	is	estimation value or predicted value of Y variable
V(e), σ_e^2	is	heteroscedastic or homoscedasticity
Tolerance	is	the independent variable X_i with low value or near 0. This shows that X_i has a relationship with the other independent variables.
VIF	is	the independent variable X_i with high value. This shows that X_i has a relationship with the other independent variables.

Eigenvalue	is	the sum of eigenvalue will equal k+1 (k = amount of independent variables). If the eigenvalue is toward or near 0, this shows that Xi has a relationship with the other independent variables.
Condition Index	is	the independent variable X_i with high value. This shows that X_i has a relationship with other independent variables.
R^2	is	the coefficient of determination or that reported in the regression analysis, the usual interpretation of R^2 value is the relative amount of variance of the dependent variable explained or accounted for by the explanatory variables.

This paper studies the relationship between CG factors and EV in SET100 companies during 2008-2010. The sample comprises 1,200 companies. The purpose of the study is as follows;

1. To investigate the relationship between corporate governance mechanism (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies on the SET100 of the Stock Exchange of Thailand during 2008-2010.

2. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies on the non-SET100 of the Stock Exchange of Thailand during 2008-2010.

3. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand during 2008-2010.

4.2 Descriptive Statistics

Tables 4.2- 4.7 present the descriptive statistics in this study, including the mean, standard deviation, minimum and maximum of all variables. Also, the tables compare the statistical significance between SET100 and non-SET100 in order to show how these two groups differ.

Table 4.2 shows the enterprise value of SET100, non-SET100 and all listed firms. The enterprise value (EV) of Thai listed firms ranged from 9.00 million to 1.453 trillion baht with an average of 17,463 million baht. The enterprise value (EV) of SET100 firms ranged from 737.56 million to 1,453million baht with the average of 71,858.46 million baht while the enterprise value (EV) of non-SET100 firms ranged from 9.00 million to 107,369.65 million baht with an average of 4,011.74 million baht. When considering the statistical significance between SET100 and non-SET100, the EV of the two groups was statistically different at a level of 0.03.

Table 4.3 shows the descriptive statistics of proxies representing the ownership structure of SET100, non-SET100 and all listed firms.

The Percentage of shares of largest shareholder (O_LARG) of Thai listed firms ranged from 1.950% to 95.76% with the average at 29.732%. The percentage of shares of largest shareholder (O_LARG) of SET100 firms ranged from 4.48% to 74.59% with the average at 30.39%, while the percentage of shares of largest shareholder (O_LARG) of non-SET100 ranged from 1.95% to 95.76 with the average at 29.56%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of largest shareholder (O_LARG) of the two groups was statistically different at a level of 0.047.

The percentage of shares of top five shareholders (O_TOP5) of Thai listed firms ranged from 2.950% to 99.60% with the average at 58.187%. The percentage of shares of top five shareholders (O_TOP5) of SET100 firms ranged from 8.25% to 87.19% with the average at 56.28% while the percentage of shares of top five shareholders (O_TOP5) of non-SET100 firms ranged from 2.95% to 99.60% with the average at 58.65%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of top five shareholders (O_TOP5) of the two groups was statistically different at a level of 0.084.

The percentage of shares of blockholder shareholders holding at least 5 percent (O_ BLOCK) of O_BLOCK of Thai listed firms ranged from 0.00% to 97.77% with the average at 52.848%. The percentage of shares of blockholder shareholders holding at least 5 percent (O_ BLOCK) of SET100 firms ranged from 0.00% to 88.58% with the average at 50.07%, while the percentage of shares of blockholder shareholders holding at least 5 percent (O_ BLOCK) of non-SET100 ranged from 0.00% to 97.77% with the average at 53.52%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of blockholder shareholders holding at least 5 percent (O_ BLOCK) of the two groups was statistically different at a level of 0.088.

The percentage of shares of controlling shareholders holding at least 25 percent (O_ CONTR) of Thai listed firms ranged from 0.00% to 97.77% with the average at 23.306%. The percentage of shares of controlling shareholders holding at least 25 percent (O_ CONTR) of SET100 ranged from 0.00% to 74.59% with the average at 24.86%, while the percentage of shares of controlling shareholders holding at least 25

percent (O_ CONTR) of non-SET100 ranged from 0.00% to 97.77% with the average at 22.87%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of controlling shareholders holding at least 25 percent (O_ CONTR) of the two groups was statistically different at a level of 0.043.

The percentage of shares of nominee shareholders (O_ NOMI) of Thai listed firms ranged from 0.00% to 78.17% with the average at 5.00%. The percentage of shares of nominee shareholders (O_ NOMI) of the SET100 ranged from 0.00% to 78.17% with the average at 10.44%, while the percentage of shares of nominee shareholders (O_ NOMI) of the non-SET100 ranged from 0.00% to 42.50% with the average at 3.644%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of nominee shareholders (O_ NOMI) of the two groups was statistically different at a level of 0.094.

The percentage of shares of politician shareholders (O_ POLI) of Thai listed firms ranged from 0.00% to 80.50% with the average at 3.11%. The percentage of shares of politician shareholders (O_ POLI) of SET100 ranged from 0.00% to 66.80% with the average at 3.92%, while the percentage of shares of politician shareholders (O_ POLI) of non-SET100 ranged from 0.00% to 80.50% with the average at 2.89%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of politician shareholders (O_ POLI) of the two groups was statistically different at a level of 0.061.

The percentage of shares of family shareholders (O_ FAM) of Thai listed firms ranged from 0.00% to 88.66% with the average at 19.69%. The percentage of shares of family shareholders (O_ FAM) of SET100 ranged from 0.00% to 74.59% with the

average at 14.05% , while the percentage of shares of family shareholders (O_ FAM) of non-SET100 ranged from 0.00% to 88.66% with the average at 21.11%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of family shareholders (O_ FAM) of the two groups was statistically different at a level of 0.029.

The percentage of shares of state shareholders (O_ STATE) of Thai listed firms ranged from 0.00% to 77.28% with the average at 2.87%. The percentage of shares of state shareholders (O_ STATE) of SET100 ranged from 0.00% to 77.28% with the average at 8.52%, while the percentage of shares of state shareholders (O_ STATE) of non-SET100 ranged from 0.00% to 55.16% with the average at 1.43%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of state shareholders (O_ STATE) of the two groups was statistically different at a level of 0.024.

The percentage of shares of foreign shareholders (O_ FORE) of Thai listed firms ranged from 0.00% to 90.26% with the average at 16.34%. The percentage of shares of foreign shareholders (O_ FORE) of SET100 ranged from 0.00% to 84.97% with the average at 23.74%, while the percentage of shares of foreign shareholders (O_ FORE) of non-SET100 ranged from 0.00% to 90.26% with the average at 14.52%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of foreign shareholders (O_ FORE) of the two groups was statistically different at a level of 0.071.

The percentage of shares of free float shareholders (O_ FREE) of Thai listed firms ranged from 2.20% to 99.91% with the average at 38.11%. The percentage of

shares of free float shareholders (O_ FREE) of SET100 ranged from 20.90% to 99.62% with the average at 44.17%, while the percentage of shares of free float shareholders (O_ FREE) of non-SET100 ranged from 2.20% to 99.91% with the average at 36.59%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of free float shareholders (O_ FREE) of the two groups was statistically different at a level of 0.028.

The percentage of shares held by board of directors (O_ BOD) of Thai listed firms ranged from 0.00% to 99.69% with the average at 16.22%. The percentage of shares held by board of directors (O_ BOD) of SET100 ranged from 0.00% to 74.59% with the average at 12.01%, while the percentage of shares held by board of directors (O_ BOD) of non-SET100 ranged from 0.00% to 99.69% with the average at 17.32%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares held by board of directors (O_ BOD) of the two groups was statistically different at a level of 0.00.

The percentage of shares held by CEO (O_ CEO) of Thai listed firms ranged from 0.00% to 96.69% with the average at 5.64%. The percentage of shares held by CEO (O_ CEO) of SET100 ranged from 0.00% to 61.60% with the average at 5.13%, while the percentage of shares held by CEO (O_ CEO) of non-SET 100 ranged from 0.00% to 96.69% with the average at 5.79%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares held by CEO (O_ CEO) of the two groups was statistically different at a level of 0.066.

The percentage of shares of largest shareholder and nominee shareholders (O_ LNOMI) of Thai listed firms ranged from 1.95% to 95.76% with the average at 36.90%.

The percentage of shares of largest shareholder and nominee shareholders (O_ LNOMI) of SET100 ranged from 7.67% to 89.68% with the average at 45.45%, while the percentage of shares of largest shareholder and nominee shareholders (O_ LNOMI) of non-SET100 ranged from 1.95% to 95.76% with the average at 34.76%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of largest shareholder and nominee shareholders (O_ LNOMI) the two groups was statistically different at a level of 0.065.

The percentage of shares of largest shareholder and politician shareholders (O_ LPOLI) of Thai listed firms ranged from 1.950% to 95.76% with the average at 31.83%. The percentage of shares of largest shareholder and politician shareholders (O_ LPOLI) of SET100 ranged from 1.95% to 74.59% with the average at 32.18%, while the percentage of shares of largest shareholder and politician shareholders (O_ LPOLI) of non-SET100 ranged from 1.95% to 95.76% with the average at 31.74%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of largest shareholder and politician shareholders (O_ LPOLI) of the two groups was statistically different at a level of 0.005.

The percentage of shares of largest shareholder and family shareholders (O_ LFAM) of Thai listed firms ranged from 1.950% to 95.76% with the average at 41.18%. The percentage of shares of largest shareholder and family shareholders (O_ LFAM) of SET100 ranged from 4.48% to 74.59% with the average at 38.66%, while the percentage of shares of largest shareholder and family shareholders (O_ LFAM) of non-SET100 ranged from 1.95% to 95.76% with the average at 41.80%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares

of largest shareholder and family shareholders (O_ LFAM) of the two groups was statistically different at a level of 0.068.

The percentage of shares of largest shareholder and state shareholder (O_ LSTATE) of Thai listed firms ranged from 1.950% to 98.60% with the average at 30.87%. The percentage of shares of largest shareholder and state shareholder (O_ LSTATE) of SET100 ranged from 4.48% to 98.60% with the average at 32.61%, while the percentage of shares of largest shareholder and state shareholder (O_ LSTATE) of non-SET100 ranged from 1.95% to 95.76% with the average at 30.44%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of largest shareholder and state shareholder (O_ LSTATE) of the two groups was statistically different at a level of 0.079.

The percentage of shares of top five shareholders and nominee shareholders (O_ TNOMI) of Thai listed firms ranged from 2.950% to 99.60% with the average at 61.15%. The percentage of shares of top five shareholders and nominee shareholders (O_ TNOMI) of SET100 ranged from 16.79% to 91.59% with the average at 63.61%, while the percentage of shares of top five shareholders and nominee shareholders (O_ TNOMI) of non-SET100 ranged from 2.95% to 99.60% with the average at 60.52%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of top five shareholders and nominee shareholders (O_ TNOMI) of the two groups was statistically different at a level of 0.093.

The percentage of shares of top five shareholders and politician shareholders (O_ TPOLI) of Thai listed firms ranged from 2.950% to 99.60% with the average at 58.96%. The percentage of shares of top five shareholders and politician shareholders

(O_ TPOLI) of SET100 ranged from 13.10% to 90.19% with the average at 56.65%, while the percentage of shares of top five shareholders and politician shareholders (O_ TPOLI) of non-SET100 ranged from 2.95% to 99.60% with the average at 59.52%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of top five shareholders and politician shareholders (O_ TPOLI) of the two groups was statistically different at a level of 0.071.

The percentage of shares of top five shareholders and family shareholders (O_ TFAM) of Thai listed firms ranged from 2.950% to 98.87% with the average at 62.28%. The percentage of shares of top five shareholders and family shareholders (O_ TFAM) of SET100 ranged from 13.10% to 87.19% with the average at 59.82%, while the percentage of shares of top five shareholders and family shareholders (O_ TFAM) of non-SET100 ranged from 2.95% to 99.87% with the average at 62.88%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of top five shareholders and family shareholders (O_ TFAM) of the two groups was statistically different at a level of 0.001.

The percentage of shares of top five shareholders and state shareholder (O_ TSTATE) of Thai listed firms ranged from 2.950% to 99.60% with the average at 58.41%. The percentage of shares of top five shareholders and state shareholder (O_ TSTATE) of SET100 ranged from 8.25% to 90.48% with the average at 56.82%, while the percentage of shares of top five shareholders and state shareholder (O_ TSTATE) of non-SET100 ranged from 2.95% to 99.60% with the average at 58.79%. When considering the statistical significance between SET100 and non-SET100, the

percentage of shares of top five shareholders and state shareholder (O_ TSTATE) of the two groups was statistically different at a level of 0.10.

The percentage of shares of politician shareholders (O_POLI1) of Thai listed firms ranged from 0.76% to 4.39% with the average at 1.21%. The percentage of shares of politician shareholders (O_POLI1) of SET100 ranged from 0.76% to 4.20% with the average at 1.35%, while the percentage of shares of politician shareholders (O_POLI1) of non-SET100 ranged from 0.69% to 4.39% with the average at 1.18%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of politician shareholders (O_POLI1) of the two groups was statistically different at a level of 0.114.

Table 4.4 shows the descriptive statistics of proxies representing the role of stakeholders of SET100, non-SET100 and all listed firms.

The number of disclosed CSR activities (R_CSR1) of Thai listed firms ranged from 0.00 to 5.00 with the average at 1.14. The number of disclosed CSR activities (R_CSR1) of SET100 ranged from 0.00 to 5.00 with the average at 1.38, while the number of disclosed CSR activities (R_CSR1) of non-SET100 ranged from 0.00 to 5.00 with the average at 1.07. When considering the statistical significance between SET 100 and non-SET100, the number of disclosed CSR activities (R_CSR1) of the two groups was statistically different at a level of 0.047.

The policies of the enterprise regarding social responsibility (R_CSR2) of Thai listed firms ranged from 0.00 to 1.00 with the average at 0.429. The policies of the enterprise regarding social responsibility (R_CSR2) of SET100 ranged from 0.00 to 1.00 with the average at 0.55, while the policies of the enterprise regarding social

responsibility (R_CSR2) of non-SET100 ranged from 0.00 to 1.00 with the average at 0.39. When considering the statistical significance between SET100 and non-SET100, the policies of the enterprise regarding social responsibility (R_CSR2) of the two groups was statistically different at a level of 0.000.

Table 4.5 shows the descriptive statistics of proxies representing the disclosure and transparency of SET100, non-SET100 and all listed firms.

The corporate governance rating (DT_CGR) of Thai listed firms ranged from 1.00 to 5.00 with the average at 2.59. The corporate governance rating (DT_CGR) of SET100 ranged from 0.00 to 5.00 with the average at 3.58, while the corporate governance rating (DT_CGR) of non-SET100 ranged from 1.00 to 5.00 with the average at 2.35. When considering the statistical significance between SET100 and non-SET100, the corporate governance rating (DT_CGR) of the two groups was statistically different at a level of 0.058.

Table 4.6 shows the descriptive statistics of proxies representing the board responsibilities of SET100, non-SET100 and all listed firms.

The number on board of directors (B_SIZE) of Thai listed firms ranged from 4.00 to 26.00 with the average at 10.59. The number on board of directors (B_SIZE) of SET100 ranged from 5.00 to 21.00 with the average at 11.79 while the number on board of directors (B_SIZE) of non-SET100 ranged from 4.00 to 26.00 with the average at 10.30. When considering the statistical significance between SET100 and non-SET100, the number on board of directors (B_SIZE) of the two groups was statistically different at a level of 0.119.

The duality (Chairman of board of directors is CEO) of Thai listed firms ranged from 0.00 to 1.00 with the average at 0.168. The duality (Chairman of board of directors is CEO) of SET100 ranged from 0.00 to 1.00 with the average at 0.164 while the duality (Chairman of board of directors is CEO) of non-SET100 ranged from 0.00 to 1.00 with the average at 0.166. When considering the statistical significance between SET100 and non-SET100, the duality (Chairman of board of directors is CEO) of the two groups was statistically different at a level of 0.161.

The independence of chairman (B_CIND) of Thai listed firms ranged from 0.00 to 1.00 with the average at 0.214. The independence of chairman (B_CIND) of SET100 ranged from 0.00 to 1.00 with the average at 0.33, while the independence of chairman (B_CIND) of non-SET100 ranged from 0.00 to 1.00 with the average at 0.185. When considering the statistical significance between SET100 and non-SET100, the independence of chairman (B_CIND) of the two groups was statistically different at a level of 0.043.

The percentage of shares of board independent shareholders (B_IND) of Thai listed firms ranged from 0.00 to 7.46% with the average at 0.102%. The percentage of shares of board independent shareholders (B_IND) of SET100 ranged from 0.00 to 1.54% with the average at 0.043%, while the percentage of shares of board independent shareholders (B_IND) of non-SET100 ranged from 0.00 to 7.46% with the average at 0.117%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of board independent shareholders (B_IND) of the two groups was statistically different at a level of 0.015.

The percentage of shares of executive director shareholders (B_ED) of Thai listed firms ranged from 0.00 to 87.65% with the average at 6.39%. The percentage of shares of executive director shareholders (B_ED) of SET100 ranged from 0.00 to 74.60% with the average at 6.38%, while the percentage of shares of executive director shareholders (B_ED) of non-SET100 ranged from 0.00 to 87.65% with the average at 6.43%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of executive director shareholders (B_ED) of the two groups was statistically different at a level of 0.012.

The percentage of shares of board of family shareholders (B_FAM) of Thai listed firms ranged from 0.00 to 94.00% with the average at 10.79%. The percentage of shares of board of family shareholders (B_FAM) of SET100 ranged from 0.00 to 94.00% with the average at 9.25%, while the percentage of shares of board of family shareholders (B_FAM) of non-SET100 ranged from 0.00 to 81.84% with the average at 11.18%. When considering the statistical significance between SET100 and non-SET100, the percentage of shares of board of family shareholders (B_FAM) of the two groups was statistically different at 0.099.

The number of committee members with bachelor degrees (B_SKILL) of Thai listed firms ranged from 0.00 to 43.00 with the average at 10.25. The number of committee members with bachelor degrees (B_SKILL) of SET100 ranged from 0.00 to 24.00 with the average at 11.86, while the number of committee members with bachelor degrees (B_SKILL) of non-SET100 ranged from 0.00 to 43.00 with the average at 9.87. When considering the statistical significance between SET100 and non-SET100, the

number of committee members with bachelor degrees (B_SKILL) of the two groups was statistically different at 0.062.

The number of meetings of board of directors (B_MEETB) of Thai listed firms ranged from 0.00 to 38.00 with the average at 7.67. The number of meetings of board of directors (B_MEETB) of SET100 ranged from 2.00 to 28.00 with the average at 8.81, while the number of meetings of board of directors (B_MEETB) of non-SET100 ranged from 1.00 to 38.00 with the average at 7.37. When considering the statistical significance between SET100 and non-SET100, the number of meetings of board of directors (B_MEETB) of the two groups was statistically different at a level of 0.029.

The number of meetings of audit committees (B_MEETA) of Thai listed firms ranged from 1.00 to 20.00 with the average at 5.82. The number of meetings of audit committees (B_MEETA) of SET100 ranged from 1.00 to 20.00 with the average at 7.20, while the number of meetings of audit committees (B_MEETA) of non-SET100 ranged from 1.00 to 17.00 with the average at 5.41. When considering the statistical significance between SET100 and non-SET100, the number of meetings of audit committees (B_MEETA) of the two groups was statistically different at a level of 0.034.

The board of director compensation (B_COMPB) of Thai listed firms ranged from 0.030 to 329.91 baht with the average at 5.635 baht. The board of director compensation (B_COMPB) of SET100 ranged from 0.30 to 329.91 with the average at 12.44 baht, while the board of director compensation (B_COMPB) of non-SET 100 ranged from 0.03 to 191.59 baht with the average at 3.93 baht. When considering the statistical significance between SET100 and non-SET100, the board of director

compensation (B_COMPB) of the two groups was statistically different at a level of 0.030.

The executive compensation (B_COMPE) of Thai listed firms ranged from 0.27 to 47,399,772 baht with the average at 72,151.59 baht. The executive compensation (B_COMPE) of SET 100 ranged from 3.92 to 47,399,772 baht with the average at 350,066.4 baht, while the executive compensation (B_COMPE) of Non-SET 100 ranged from 0.27 to 128.10 baht with the average at 23.35 baht. When considering the statistical significance between SET100 and non-SET100, the executive compensation (B_COMPE) of the two groups was statistically different at a level of 0.012.

The number of audit committees (B_ACOM) of Thai listed firms ranged from 2.00 to 7.00 with the average at 3.141. The number of audit committees (B_ACOM) of SET100 ranged from 3.00 to 5.00 with the average at 3.161, while the number of audit committees (B_ACOM) of non-SET100 ranged from 2.00 to 7.00 with the average at 3.13. When considering the statistical significance between SET100 and non-SET100, the number of audit committees (B_ACOM) of the two groups was statistically different at a level of 0.108.

The number of sub-committees (B_SCOM) of Thai listed firms ranged from 1.00 to 12.00 with the average at 2.65. The number of sub-committees (B_SCOM) of SET100 ranged from 1.00 to 12.00 with the average at 3.33, while the number of sub-committees (B_SCOM) of non-SET 100 ranged from 1.00 to 7.00 with the average at 2.48. When considering the statistical significance between SET100 and non-SET100, the number of sub-committees (B_SCOM) of the two groups was statistically different at a level of 0.087.

The board of directors compensation (B_COMPB1) of Thai listed firms ranged from 1.31 to 17.67 baht with the average at 3.066 baht. The board of directors compensation (B_COMPB1) of SET100 ranged from 1.20 to 5.80 baht with the average at 2.00 baht, while the board of directors compensation (B_COMPB1) of non-SET100 ranged from 3.51 to 5.26 baht with the average at 0.80. When considering the statistical significance between SET100 and non-SET 100, the board of directors compensation (B_COMPB1) of the two groups was statistically different at a level of 0.078.

The executive compensation (B_COMPE1) of Thai listed firms ranged from 3.51 to 5.8 baht with the average at 1.04 baht. The executive compensation (B_COMPE1) of SET100 ranged from 1.37 to 17.67 baht with the average at 3.88 baht, while the executive compensation (B_COMPE1) of non-SET100 ranged from 1.31 to 4.85 baht with the average at 2.86 baht. When considering the statistical significance between SET100 and non-SET100, the executive compensation (B_COMPE1) of the two groups was statistically different at a level of 0.005.

Table 4.7 shows descriptive statistics of proxies representing the control variables of SET100, non-SET100 and all listed firms.

The age of enterprise (C_AGE) of Thai listed firms ranged from 0.00 to 35.00 years with the average at 14.34 years. The age of enterprise (C_AGE) of SET100 ranged from 1.00 to 35.00 with the average at 12.92, while the age of enterprise (C_AGE) of non-SET100 ranged from 0.00 to 35.00 with the average at 14.68. When considering the statistical significance between SET100 and non-SET 100, the age of enterprise (C_AGE) of the two groups was statistically different at a level of 0.035.

The amount of total assets of enterprise (C_ASSET) of Thai listed firms ranged from of 2.01 to 1,249,148 million baht with the average at 15,007.15 million baht. The amount of total assets of enterprise (C_ASSET) of SET100 ranged from 3.84 to 1,249,147 million baht with the average at 59,793.60 baht, while the amount of total assets of enterprise (C_ASSET) of non-SET100 ranged from 2.01 to 69,341.82 baht with the average at 3,921 baht. When considering the statistical significance between SET100 and non-SET100, the amount of total assets of enterprise (C_ASSET) of the two groups was statistically different at a level of 0.064.

The amount of net profit of enterprise (C_NET) of Thai listed firms ranged from 21,380 to 83,087 million baht with the average at 799.06 million baht. The amount of net profit of enterprise (C_NET) of SET100 ranged from 21,379.45 to 83,087.72 million baht with the average at 3,495.81 baht, while the amount of net profit of enterprise (C_NET) of non-SET100 ranged from 12,225 to 8,031.92 baht with the average at 131.54 baht. When considering the statistical significance between SET100 and non-SET100, the amount of net profit of enterprise (C_NET) of the two groups was statistically different at a level of 0.014.

The amount of total assets, net profit, income, cash flow operation of enterprise (FC_BSPL) of Thai listed firms ranged from of 0.595 to 16.402 million baht with the average at 0.00 million baht. The amount of total assets, net profit, income, cash flow operation of enterprise (FC_BSPL) of SET100 ranged from 5.95E-01 to 16.40 million with the average at 0.559 baht, while the amount of total assets, net profit, income, cash flow operation of enterprise (FC_BSPL) of non-SET 100 ranged from 0.428 to 1.35 baht with the average at 0.184 baht. When considering the statistical significance

between SET100 and non-SET100, the amount of total assets, net profit, income, cash flow operation of enterprise (FC_BSPL) of the two groups was statistically different at a level of 0.052.

The amount of dividend payment announced and age of enterprise (FC_DIAG) of Thai listed firms ranged from 8.68 to 2.395 units with the average at 0.00 units. The amount of dividend payment announced and age of enterprise (FC_DIAG) of SET100 ranged from 4.73E+00 to 2.39 units with the average at 0.13 units , while the amount of dividend payment announced and age of enterprise (FC_DIAG) of non-SET100 ranged from 8.68 to 2.34 units with the average at 0.042 units. When considering the statistical significance between SET100 and non-SET100, the amount of dividend payment announced and age of enterprise (FC_DIAG) of the two groups was statistically different at a level of 0.923.

The return on assets (FC_ROA) of Thai listed firms ranged from 5.5 to 7.24 percent with the average at 0.00 percent. The return on assets (FC_ROA) of SET100 ranged from 3.04E+00 to 4.48 percent with the average at 0.30 percent, while the return on assets (FC_ROA) of non-SET100 ranged from 5.50 to 7.24 baht with the average at 0.098 percent. When considering the statistical significance between SET100 and non-SET100, the return on assets (FC_ROA) of the two groups was statistically different at a level of 0.043.

Table 4.2 Descriptive Statistics: Enterprise value

	SET100					Non-SET100					Total					
	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	p-value
EV	71858.46	154563.68	737.56	1452864.25	250	4011.74	8077.70	9.00	107369.65	1011	17462.72	74200.17	9.00	1452864.25	1261	0.030
EV1	10.2951	1.24043	6.60	14.19	250	7.5361	1.23697	2.20	11.58	1009	8.084	1.656	2.20	14.190	1259	0.070

Table 4.3 Descriptive Statistics: Ownership Structure

	SET100					Non-SET100					Total					
	Mean	Std. Deviation	Min	Max	N	Mean	Std. Deviation	Min	Max	N	Mean	Std. Deviation	Min	Max	N	p-value
O_LARG	30.3951	16.05319	4.48	74.59	250	29.5653	17.49108	1.95	95.76	997	29.732	17.203	1.950	95.760	1248	0.047
O_TOP5	56.2804	16.08699	8.25	87.19	250	58.6501	17.91685	2.95	99.60	997	58.187	17.583	2.950	99.600	1248	0.084
O_BLOCK	50.0797	16.76077	0.00	88.58	250	53.5281	19.84895	0.00	97.77	997	52.848	19.309	0.000	97.770	1248	0.088
O_CONTR	24.8663	24.74948	0.00	74.59	248	22.8796	26.38787	0.00	97.77	994	23.306	26.083	0.000	97.770	1243	0.043
O_NOMI	10.4443	10.71439	0.00	78.17	250	3.6448	5.78806	0.00	42.50	1002	5.001	7.550	0.000	78.170	1253	0.094
O_POLI	3.9259	10.23783	0.00	66.80	250	2.8999	7.65475	0.00	80.50	998	3.114	8.245	0.000	80.500	1250	0.061
O_FAM	14.0509	19.99243	0.00	74.59	250	21.1146	21.90290	0.00	88.66	1010	19.692	21.704	0.000	88.660	1262	0.029
O_STATE	8.5222	19.21381	0.00	77.28	250	1.4373	6.79397	0.00	55.06	997	2.873	10.905	0.000	77.280	1249	0.024
O_FORE	23.7453	19.31716	0.00	84.97	250	14.5229	18.75426	0.00	90.26	998	16.348	19.211	0.000	90.260	1250	0.071
O_FREE	44.1793	15.71214	20.90	99.62	250	36.5987	17.77605	2.20	99.91	996	38.110	17.635	2.200	99.910	1247	0.028
O_BOD	12.0122	17.66203	0.00	74.59	247	17.3272	20.54917	0.00	99.69	988	16.225	20.103	0.000	99.690	1238	0.000
O_CEO	5.1376	11.46283	0.00	61.60	248	5.7973	11.48366	0.00	96.69	997	5.643	11.461	0.000	96.690	1250	0.066
O_LNOMI	45.4562	15.86693	7.67	89.68	250	34.7677	18.56499	1.95	95.76	997	36.908	18.544	1.950	95.760	1248	0.065
O_LPOLI	32.1818	15.98466	1.95	74.59	250	31.7492	17.87421	1.95	95.76	997	31.835	17.499	1.950	95.760	1248	0.005
O_LFAM	38.6670	16.14841	4.48	74.59	250	41.8052	19.07853	1.95	95.76	1001	41.180	18.559	1.950	95.760	1252	0.068
O_LSTATE	32.6158	18.69757	4.48	98.60	250	30.4404	17.93982	1.95	95.76	997	30.876	18.100	1.950	98.600	1248	0.079
O_TNOMI	63.6175	15.31708	16.79	91.59	250	60.5216	17.67006	2.95	99.60	997	61.154	17.261	2.950	99.600	1248	0.093
O_TPOLI	56.6545	16.38638	13.10	90.19	250	59.5290	17.87349	2.95	99.60	997	58.965	17.615	2.950	99.600	1248	0.071
O_TFAM	59.8206	14.35092	13.10	87.19	250	62.8811	17.27625	2.95	99.87	1001	62.284	16.773	2.950	98.870	1252	0.001
O_TSTATE	56.8239	16.62045	8.25	90.48	250	58.7958	17.85679	2.95	99.60	997	58.412	17.625	2.950	99.600	1248	0.100
O_POLI1*	1.3591	1.30406	0.76	4.20	107	1.1808	1.19044	0.69	4.39	425	1.217	1.216	0.760	4.390	534	0.114

The * indicates that the O_POLI variable was not qualified for multiple regression assumption, so Ln was used for the variable to pass the requirement.

Table 4.4 Descriptive Statistics: Role of Stakeholders

	SET100					Non-SET100					Total					
	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	p-value
R_CSR1	1.3817	1.10469	0.00	5.00	241	1.0791	0.97653	0.00	5.00	923	1.142	1.011	0.00	5.00	1164	0.047
R_CSR2	0.5500	0.49853	0.00	1.00	240	0.3980	0.48976	0.00	1.00	922	0.429	0.495	0.00	1.00	1162	0.000

Table 4.5 Descriptive Statistics: Disclosure and Transparency

	SET100					Non-SET100					Total					
	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	p-value
DT_CGR	3.5840	1.34543	1.00	5.00	250	2.3569	1.35936	1.00	5.00	1017	2.593	1.442	1.00	5.00	1272	0.058

Table 4.6 Descriptive Statistics: Board Responsibilities

	SET100					Non-SET100					Total					
	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	p-value
B_SIZE	11.7984	2.61413	5.00	21.00	248	10.3098	2.77121	4.00	26.00	1004	10.593	2.810	4.000	26.000	1255	0.119
B_DUAL	0.1647	0.37162	0.00	1.00	249	0.1660	0.37227	0.00	1.00	1000	0.168	0.374	0.000	1.000	1252	0.161
B_CIND	0.3333	0.47235	0.00	1.00	249	0.1852	0.38864	0.00	1.00	999	0.214	0.410	0.000	1.000	1251	0.043
B_IND	0.0431	0.15168	0.00	1.54	247	0.1175	0.45335	0.00	7.46	998	0.102	0.412	0.000	7.460	1250	0.015
B_ED	6.3824	13.84750	0.00	74.60	247	6.4312	14.11032	0.00	87.65	998	6.396	14.031	0.000	87.650	1250	0.012
B_FAM	9.2513	17.84578	0.00	94.00	224	11.1800	17.23334	0.00	81.84	886	10.791	17.368	0.000	94.000	1110	0.099
B_SKILL	11.8635	3.84758	0.00	24.00	249	9.8701	4.13277	0.00	43.00	999	10.255	4.156	0.000	43.000	1251	0.062
B_MEETB	8.8115	4.39572	2.00	28.00	244	7.3713	3.75986	1.00	38.00	948	7.671	3.936	1.000	38.000	1195	0.029
B_MEETA	7.2017	3.76206	1.00	20.00	233	5.4143	2.54832	1.00	17.00	782	5.825	2.967	1.000	20.000	1015	0.034
B_COMPB	12.4446	23.65881	0.30	329.91	246	3.9381	7.55475	0.03	191.59	978	5.635	13.000	0.030	329.91	1227	0.030
B_COMPE	350066.4	3.888E+06	3.92	47399772	245	23.3590	18.80449	0.27	128.10	941	72151.59	1760000.00	0.270	47399772	1189	0.012
B_ACOM	3.1613	0.38989	3.00	5.00	248	3.1364	0.44811	2.00	7.00	990	3.141	0.437	2.000	7.000	1241	0.108
B_SCOM	3.3360	1.40428	1.00	12.00	247	2.4875	1.25249	1.00	7.00	999	2.652	1.328	1.000	12.000	1249	0.087
B_COMPB1	2.0077	0.97047	1.20	5.80	246	0.8051	1.05885	3.51	5.26	978	3.066	1.085	1.310	17.670	1189	0.078
B_COMPE1	3.8890	1.51379	1.37	17.67	245	2.8601	0.80760	1.31	4.85	941	1.042	1.151	3.510	5.800	1227	0.005

Table 4.7 Descriptive Statistics: Control Variables

	SET100					Non-SET100					Total					
	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	Mean	Std. Deviation	Min	Max	n	p-value
C_AGE	12.9280	6.85733	1.00	35.00	250	14.6824	8.01637	0.00	35.00	1017	14.340	7.825	0.000	35.000	1269	0.035
C_ASSET	59793.60	129833.245	3.84	1249147	250	3921.402	6429.95757	2.01	69341.82	1010	15007.15	62160.00	2.010	1249148	1260	0.064
C_NET	3495.81	9430.04817	21379.45	83087.72	250	131.5484	747.13887	12225	8031.92	1010	799.061	4453.797	21380	83087.72	1260	0.014
C_INCOME	64570.24	210112.129	178.94	2019899	250	3539.956	8669.17603	0.15	222594	1010	15649.13	96872.78	0.150	2019899	1260	0.020
C_DIVIDEND	6.3346	5.50358	0.40	39.39	206	6.2412	5.00061	0.00	70.57	625	6.264	5.127	0.000	70.57	831	0.130
C_CFO	3371.30	9237.17581	8260.87	65700.69	247	275.4183	1143.04880	5185.3	21714.58	1004	886.675	4400.044	8260.87	65700.69	1251	0.061
C_ROA	10.9675	10.79233	21.50	53.03	250	4.8369	13.20878	80.95	80.88	1007	6.056	12.993	80.950	80.880	1257	0.109
FC_BSPL	0.55935	1.895564	5.95E-01	16.40	204	0.1840	0.1189684	0.4280	1.35757	620	0.000	1.000	0.595	16.402	824	0.052
FC_DIAG	0.130374	0.9555025	4.73E+00	2.39	204	0.0429	1.0112898	8.6834	2.34599	620	0.000	1.000	8.680	2.395	824	0.923
FC_ROA	0.3000	1.154837	3.04E+00	4.48	204	0.0987	0.9234569	5.5025	7.240	620	0.00	1.000	5.500	7.240	824	0.043
FC_BSPL1	0.9218	1.60436	5.50	2.80	102	2.0545	1.63198	6.62	0.31	19	1.100	1.654	6.620	2.800	121*	0.024
FC_ROA1	2.3119	0.79268	1.35	3.97	227	1.9409	0.93452	2.21	6.88	791	2.024	0.918	2.210	6.880	1018	0.112

* It was noted that the sample size of FC_BSPL1 was lower than the others. This was because the analysis adopted Natural Log (Ln) into the analysis. Ln requires data to be positive numbers. However, some of FC_BSPL1 were negative. As a result, the number of n were somewhat lower that the other variables.

4.3 Five Assumptions of Multiple Regression Testing

After testing the five assumptions of multiple regression, the results from testing showed that the data from this paper could be analyzed to develop an appropriate model. The details of the testing are given in the Appendix with the summary of the results below.

Table 4.8 Summary five Assumptions of Multiple Regression Testing of 9 models

Assumption	Model								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1.Error or residual are normal									
• Skewness and Kurtosis	0.90, 0.45	0.55, 2.61	2.10, 1.78	2.56, 0.85	1.69, 0.52	2.19, 2.59	3.29, 3.22	1.21, 3.16	1.40, 0.48
• Histogram testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Normal probability testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Average error value is zero or E(e) =0	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. The variance of the error term is constant V(e) = σ_{e}^{2}	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Scatter plot									
4. e_i and e_j are independent together									
• Durbin–Watson statistics	1.76	1.92	2.07	2.11	2.27	2.31	1.96	1.97	2.03
5. Independent variables Xi and Xj must be independent	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Tolerance, VIF, eigen value and condition index									

4.4 Correlations between the dependent and independent variables

Table 4.7 shows the Pearson correlations between the dependent and independent variables. Most of the corporate governance variables correlated with enterprise value (EV). The same table illustrates a highly negative correlation between EV and CG variables, i.e., board of directors shareholders. Also, the results in the table also showed that the highest correlation between EV and CG variables was that of executive compensation (B_COMPE1)

The same table shows there is no highly negative correlation between control variables and CG variables. In addition, the results in the table also show that highest correlations between EV and control variables are those of profit growth, sales growth, cash flow on operation (CFO), amount of assets (FC_BSPL1).

These correlation coefficients could take into account the joint effects of other variables. Therefore, multiple regression analysis should be performed to test the formal hypotheses.

Table 4.9 Correlation Matrix

	EV1	O_STATE	O_TFAM	O_LSTATE	O_CONTR	O_FORE	O_NOMI	O_LNOMI	O_LPOLI	O_POLI1	O_BOD	O_POLI	DT_CGR	B_SIZE	B_SKILL	B_MEETB	B_MEETA	B_FAM	B_COMPB	B_COMPE	B_ACOM	B_SCOM	B_COMPB1	B_COMPE1	FC_BSPL	FC_DIAG	FC_BSPL1
EV1	1																										
O_STATE	.337***	1																									
O_TFAM	.044	.082***	1																								
O_LSTATE	.174***	.339***	.726***	1																							
O_CONTR	.156***	.135***	.705***	.849***	1																						
O_FORE	.260***	-.051	.127***	.131***	.149***	1																					
O_NOMI	.356***	.029	-.134***	-.075***	-.064*	.471***	1																				
O_LNOMI	.329***	.188***	.642***	.852***	.782***	.348***	.227***	1																			
O_LPOLI	.122***	.137***	.725***	.900***	.841***	.127***	-.087***	.831***	1																		
O_POLI1	-.015	-.043	-.056	-.094*	-.054	-.020	.043	-.077	.202***	1																	
O_BOD	-.199***	-.170***	.133***	-.098***	-.078***	-.237***	-.109***	-.125***	-.054	-.003	1																
O_POLI	.038	-.038	-.046	-.061*	-.038	-.049	-.023	-.055	.182***	.794***	-.022	1															
DT_CGR	.393***	.204***	-.026	.071*	.013	.052	.218***	.129***	.045	.031	-.082***	.044	1														
B_SIZE	.296***	.225***	-.007	.024	-.003	.049	-.011	-.011	-.008	-.039	-.158***	-.002	.208***	1													
B_SKILL	.255***	.165***	.004	.057*	.036	.024	.002	.066*	.031	-.014	-.132***	.027	.222***	.452***	1												
B_MEETB	.180***	.256***	-.103***	.019	-.050	-.119***	.080***	-.010	-.013	-.001	-.143***	.048	.025	.073*	.045	1											
B_MEETA	.324***	.239***	.003	.087***	.065*	-.028	.085***	.092***	.023	.039	-.073*	.031	.132***	.172***	.173***	.257***	1										
B_FAM	-.086***	-.147***	.089***	-.146***	-.155***	-.183***	-.107***	-.164***	-.108***	.028	.665***	-.009	-.047	-.104***	-.145***	-.064*	-.066*	1									
B_COMPB	.339***	.297***	-.021	.072*	.042	.045	.121***	.130***	.039	-.030	-.134***	-.011	.176***	.235***	.143***	.152***	.182***	-.085***	1								
B_COMPE	.090***	.258***	.050	.092***	.075*	-.004	.043	.106***	.091***	.076	-.002	-.016	.016	.041	.041	.095***	.105***	-.027	.029	1							
B_ACOM	.054	.077***	-.011	-.004	-.018	-.037	-.044	-.040	-.005	.004	-.034	.008	.066*	.239***	.110***	.037	.051	-.005	.084***	.080***	1						
B_SCOM	.307***	.220***	-.001	.084***	.029	-.025	.147***	.114***	.039	-.016	-.109***	-.015	.391***	.214***	.230***	.104***	.262***	-.121***	.172***	.071*	.019	1					
B_COMPB1	.573***	.239***	-.042	.062*	.017	.111***	.220***	.167***	.027	.001	-.219***	.041	.369***	.373***	.309***	.196***	.307***	-.146***	.548***	.049	.093***	.369***	1				
B_COMPE1	.578***	.286***	.086***	.134***	.130***	.191***	.201***	.254***	.133***	.115***	-.109***	.057*	.293***	.268***	.227***	.056	.200***	-.075*	.263***	.546***	.066*	.273***	.411***	1			
FC_BSPL	.481***	.495***	.041	.178***	.138***	.042	.139***	.206***	.083*	.035	-.144***	.010	.198***	.150***	.116***	.193***	.197***	-.109***	.234***	.057	.010	.132***	.251***	.242***	1		
FC_DIAG	.046	-.070*	-.085*	-.094**	-.139***	.005	.013	-.121**	-.048	.043	-.137***	.056	.077*	.257***	.107***	.010	.055	-.112***	.033	-.011	.095***	-.022	.075*	.057	.000	1	
FC_BSPL1	.841**	.452***	.100	.268***	.271***	-.053	.070	.431***	.236***	.186	-.304***	.144	.262***	.202*	.166	.274***	.089	-.296***	.189*	.100	.045	.045	.211*	.250***	.639***	-.045	1

This table presents the Pearson correlations of different pairs of dependent and independent variables.

The definitions of variables are given in Table 4.9

***, **, and * denote statistical significance at

4.5 Multiple Regression Results

All data from the SET100

Model 1: Analysis of all CG independent variables (1.Ownership Structure, 2.Role of Stakeholders, 3.Disclosure and Transparency and 4. Board Responsibilities) from listed companies on the SET100 of the Stock Exchange of Thailand which have effect on enterprise value.

Model 1: Ln EV = EV1 and Ln B_COMPE = B_COMPE1

Table 4.10 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.541 and 0.521 respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 54%.

Table 4.10 also provides evidence of the relationship between all variables of CG and EV. There are 3 variables (from all 20 variables) of Ownership Structure, 4 variables (from all 13 variables) of Board Responsibilities, 1 variable (from a total of 1 variable) of Disclosure and Transparency has effect on EV. The equation for multiple regression is as follows:

$$EV1 = \beta_0 + \beta_1 O\_STATE + \beta_2 B\_COMPB + \beta_3 DT\_CGR + \beta_4 B\_COMPE1 + \beta_5 O\_TFAM + \beta_6 O\_NOMI + \beta_7 B\_SIZE + \beta_8 B\_ACOM + \varepsilon$$

Most coefficients of each variable in each section are positively related with EV. These are (O_STATE) percentage of shares of state shareholder, (B_COMPB) compensation of board of directors, (DT_CGR) ranking of corporate governance rating,

(O_TFAM) percentage of shares of top 5 shareholders and family shareholders, (O_NOMI) percentage of shares of nominee shareholders, (B_SIZE) number on board of directors, (B_COMPE1) amount of executive compensation. The more these variables increase, the greater the effect on enterprise value. However, (B_ACOM) when the number of audit committees increases there is a negative relationship with EV.

Table 4.10 Model 1: Multiple Regression of CG Relating to EV

Variable	**Expected Sign**	**Coefficient (Standardized Coefficient)**	**t-statistic p-value**
(Constant)	None	7.975	11.440
			0.000
O_STATE	+	0.018	4.492
		0.281	0.000
B_COMPB	+	0.031	5.487
		0.308	0.000
DT_CGR	+	0.229	4.296
		0.231	0.000
B_COMPE1	+	0.106	2.503
		0.138	0.013
O_TFAM	+	0.014	2.907
		0.159	0.004
O_NOMI	+	0.021	2.993
		0.159	0.003
B_SIZE	+	0.062	2.404
		0.134	0.017
B_ACOM	+	-0.401	-2.323
		-0.122	0.021
F-value = 5.395, p-value = 0 .000, R^2 = 0.541 , Adjusted R^2 =			0.521

The equation for multiple regression is as follows:

EV1 = 7.975+0.018*O_STATE+0.031* B_COMPB + 0.229 *DT_CGR+ 0.106*B_COMPE1+0.014*O_TFAM+0.021* O_NOMI +0.062*B_SIZE+ (-0.401)* B_ACOM + ε

Model 2: Analysis of all control variables from the listed companies on the SET100 of the Stock Exchange of Thailand which have effect on enterprise value.

Model 2: Ln EV = EV1 and Ln FC_BSPL= FC_BSPL1

Table 4.11 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.770 and 0.766 respectively, which means that explanatory variables are able to explain and predict the dependent variable by 77%.

Table 4.11 also provides evidence of the relationship between all control variables and EV. The equation for multiple regression is as follows:

$$EV1 = \beta_o + \beta_1 FC\_BSPL1 + \beta_2 FC\_DIAG + \varepsilon$$

There are two groups of control variables: FC_BSPL1 (total assets of enterprise has effect on enterprise value, percentage net profit growth of enterprise has effect on enterprise value, percentage of sales growth has effect on enterprise value, amount of cash flow operation of enterprise has effect on enterprise value) and FC_DIAG (dividend payment and age of enterprise). The more these variables increase, the greater the effect on enterprise value.

Table 4.11 Model 2: Multiple Regression of CG Relating to EV

Variable	Expected Sign	Coefficient (Standardized Coefficient)	t-statistic p-value
(Constant)	None	11.712	204.685
			0.000
FC_BSPL1	+	0.548	17.654
		0.851	0.000
FC_DIAG	+	0.279	5.103
		0.055	0.000
F-value = 26.041, p-value = 0 .000, R^2 = 0.770, Adjusted R^2 = 0.766			

The equation for multiple regression is as follows:

$$EV1 = 11.712+0.548*FC\_BSPL1+0.279*FC\_DIAG + \varepsilon$$

Model 3: Analysis of all CG independent variables, control variables of listed companies on SET100 of the Stock Exchange of Thailand which have effect on enterprise value.

Model 3: Ln EV = EV1, Ln B_COMPE = B_COMPE1

and Ln B_COMPB = B_COMPB1

Table 4.12 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.654 and 0.639 respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 65%.

Table 4.12 also provides evidence of the relationship between all variables of CG, control variables and EV. There are 2 variables (from all 20 variables) of Ownership Structure, 2 variables (from all 13 variables) of Board Responsibilities, 6 variables (from all 7 variables) of control variables which have effect on EV. The equation for multiple regression is as follows:

$$EV1 = \beta_0 + \beta_1 FC\_BSPL + \beta_2 B\_COMPB1 + \beta_3 FC\_DIAG +$$

$$\beta_4 O\_LSTATE + \beta_5 B\_COMPE1 + \beta_6 O\_NOMI + \varepsilon$$

Most coefficients of each variable in each section have a positive relationship with EV. These variables are FC_BSPL1 (total assets of enterprise has effect on enterprise value, percentage net profit growth of enterprise has effect on enterprise value, percentage of sales growth has effect on enterprise value, amount of cash flow operation of enterprise has effect on enterprise value) and FC_DIAG (dividend payment and age of enterprise), percentage of shares of largest and state shareholder (O_LSTATE), (B_COMPB1) compensation of board of directors, (B_COMPE1) amount of executive compensation , and (O_NOMI) percentage of shares of nominee shareholders. The more these variables increase, the greater the effect on enterprise value.

Table 4.12 Model 3: Multiple Regression of CG Relating to EV

Variable	Expected Sign	Coefficient (Standardized Coefficient)	t-statistic p-value
(Constant)	None	8.473	37.162
			0.000
FC_BSPL	+	.298	9.202
		.499	0.000
B_COMPB1	+	.306	4.245
		.222	0.000
FC_DIAG	+	.356	4.689
		.246	0.000
O_LSTATE	+	.016	4.367
		.242	0.000
B_COMPE1	+	.099	2.697
		.139	0.008
O_NOMI	+	.014	2.052
		.106	0.042
F-value = 4.211, p-value = 0 .000, R^2 = 0.654 , Adjusted R^2 = 0.639			

The equation for multiple regression is as follows:

EV1 = 8.473+0.298* FC_BSPL+0.306* B_COMPB1 +0.356* FC_DIAG +0.016* O_LSTATE +0.099* B_COMPE1+0.014* O_NOMI + ε

All data from non-SET 100

Model 4: Analysis of all CG independent variables (1.Ownership Structure, 2.Role of Stakeholders, 3.Disclosure and Transparency, 4.Board Responsibilities) from listed companies on the non-SET 100 of the Stock Exchange of Thailand which have effect on enterprise value.

Model 4: Ln EV = EV1

Table 4.13 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.356 and 0.348 respectively, which means the explanatory variables are able to explain and predict the dependent variable by 35%.

Table 4.13 also provides evidence of the relationship between all variables of CG and EV. There are 2 variables (from all 20 variables) of Ownership Structure, 5 variables (from all 13 variables) of Board Responsibilities having effect on EV. The equation for multiple regression is as follows:

EV1 = β_0 + β_1 B_COMPE + β_2 B_COMPB +β_3 O_CONTR+ β_4 B_SCOM + β_5 B_MEETB + β_6 B_MEETA+ β_7 O_FORE + ε

Most coefficients of each variable in each section are positively related with EV. These variables are (B_COMPE) amount of executive compensation, (B_COMPB) amount of compensation of board of directors, (O_CONTR) percentage of shares of controlling shareholders, (B_SCOM) number of sub-committees, (B_MEETB) number of meetings of board of directors , (B_MEETA) number of meetings of audit committees, and (O_FORE) percentage of shares of foreign shareholder. The more these variables increase, the greater the effect on enterprise value.

Table 4.13 Model 4: Multiple Regression of CG Relating to EV

Variable	**Expected Sign**	**Coefficient (Standardized Coefficient)**	**t-statistic p-value**
(Constant)	None	6.010	41.018
			0.000
B_COMPE	+	.027	12.799
		.450	0.000
B_COMPB	+	.022	4.654
		.160	0.000
O_CONTR	+	.006	3.891
		.133	0.000
B_SCOM	+	.103	3.078
		.109	0.002
B_MEETB	+	.030	2.697
		.093	0.007
B_MEETA	+	.037	2.263
		.081	0.024
O_FORE	+	.005	2.194
		.077	0.029
F-value = 4.815, p-value = 0 .000 , R^2 = 0.356, Adjusted R^2 = 0.348			

The equation for multiple regression is as follows:

EV1 = 6.010+0.027* B_COMPE+0.022* B_COMPB+0.006*O_CONTR+

0.103*B_SCOM+0.030*B_MEETB+0.037* B_MEETB +0.005*O_FORE+ ε

Model 5: Analysis of all control variables from listed companies on non-SET100 of the Stock Exchange of Thailand which have effect on enterprise value.

Model 5: Ln: EV = EV1 and Ln FC_BSPL= FC_BSPL1

Table 4.14 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.569 and 0.544 respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 55%.

Table 4.14 also provides evidence of the relationship between all control variables and EV. The equation for multiple regression is as follows:

$$EV1 = \beta_o + \beta_1 FC\_BSPL1 + \varepsilon$$

There is 1 group of control variables – FC_BSPL1 (total assets of enterprise has effect on enterprise value, percentage net profit growth of enterprise has effect on enterprise value, percentage of sales growth has effect on enterprise value, amount of cash flow operation of enterprise has effect on enterprise value) – that have effect on EV. That is, the more these variables increase, the greater the effect on enterprise value.

Table 4.14 Model 5: Multiple Regression of CG Relating to EV

Variable	Expected Sign	Coefficient (Standardized Coefficient)	t-statistic p-value
(Constant)	None	11.181	45.076
			0.000
FC_BSPL1	+	0.453	4.740
		0.754	0.000
F-value = 22.467, p-value = 0 .000, R^2= 0.569, Adjusted R^2 = 0.544			

The equation for multiple regression is as follows:

$$EV1 = 11.181+0.453*FC\_BSPL1 + \varepsilon$$

Model 6: Analysis of all CG independent variables and control variables from listed companies on non-SET100 of the Stock Exchange of Thailand which have effect on enterprise value.

Model 6: Ln EV= EV1, Ln B_COMPE = B_COMPE1, Ln B_COMPB = B_COMPB1, Ln O_POLI = Ln O_POLI1 and Ln FC_ROA = FC_ROA1

Table 4.15 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.589 and 0.576 respectively, which mean that the explanatory variables are able to explain and predict the dependent variable by 58%.

Table 4.15 also provides evidence of a relationship between all variables of CG, control variables and EV. There is 1 variable (from all 20 variables) of Ownership Structure, 2 variables (from all 13 variables) of Board Responsibilities, 4 variables (from all 7 variables) of control variables that have effect on EV. The equation for multiple regression is as follows:

$$EV1 = \beta_0 + \beta_1 FC\_BSPL + \beta_2 B\_COMPE1 + \beta_3 B\_COMPB1 + \beta_4 O\_POLI1 + \varepsilon$$

Most coefficients of each variable in each section are positively related with EV. These variables are FC_BSPL (total assets of enterprise has effect on enterprise value,

percentage net profit growth of enterprise has effect on enterprise value, percentage of sales growth has effect on enterprise value, amount of cash flow operation of enterprise has effect on enterprise value), (B_COMPB1) amount of compensation of board of directors, and (B_COMPE1) amount of executive compensation. The more these variables increase, the greater the effect on enterprise value.

However, (O_POLI1) when the percentage of politician shareholders increases, there is a negative relationship with EV.

Table 4.15 Model 6: Multiple Regression of CG Relating to EV

Variable	**Expected Sign**	**Coefficient (Standardized Coefficient)**	**t-statistic p-value**
(Constant)	None	7.530	22.025
			0.000
FC_BSPL	+	5.391	7.180
		0.437	0.000
B_COMPE1	+	0.445	5.090
		0.298	0.000
B_COMPB1	+	0.279	4.191
		0.256	0.000
O_POLI1	+	-0.181	-3.232
		-0.182	0.002
F-value = 10.447, p-value = 0 .000, R^2 = 0.589 , Adjusted R^2 = 0.576			

The equation for multiple regression is as follows:

EV1 = 7.530+5.391*FC_BSPL+ 0.445*B_COMPE1+0.279*B_COMPB1+

(-0.181)* O_POLI1 + ε

All data from SET100 and non-SET100

Model 7: Analysis of all CG independent variables (1.Ownership Structure, 2.Role of Stakeholders, 3.Disclosure and Transparency and 4.Board Responsibilities) from listed companies on the SET100 and non-SET 100 of the Stock Exchange of Thailand which have effect tonenterprise value.

Model 7: Ln EV = EV1, Ln B_COMPE = B_COMPE1 and Ln B_COMPB = B_COMPB1

Table 4.16 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.555 and 0.548 respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 55 %.

Table 4.16 also provides evidence of a relationship between all variables of CG and EV. There are 7 variables (from all 20 variables) of Ownership Structure, 5 variables (from all 13 variables) of Board Responsibilities, 1 variable (from 1 variable) of Disclosure and Transparency which have effect on EV. The equation for multiple regression is as follows:

$$EV1 = \beta_0 + \beta_1 B\_COMPB1 + \beta_2 B\_COMPE1 + \beta_3 O\_LNOMI + \beta_4 O\_NOMI + \beta_5 O\_STATE + \beta_6 DT\_CGR + \beta_7 B\_MEETA + \beta_8 O\_CONTR + \beta_9 B\_SIZE + \beta_{10} O\_LPOLI + \beta_{11} O\_POLI + \beta_{12} B\_FAM + \beta_{13} O\_BOD + \varepsilon$$

Most coefficients of each variable in each section are positively related with EV. These variables are (B_COMPE1) the amount of executive compensation, (B_COMPB1) amount of compensation of board of directors, (O_LNOMI) percentage of shares of largest shareholders and nominee shareholders, (O_NOMI) percentage of shares of nominee shareholder , (O_STATE) percentage of state shareholder, (DT_CGR) ranking of corporate governance rating , (B_MEETA) number of meetings of audit committees, (O_CONTR) percentage of shares of controlling shareholders , (B_SIZE) number on board of directors, (O_POLI) percentage of politician shareholders, (B_FAM) percentage of shares of family shareholder .The more these variables increase, the greater the effect on enterprise value.

However, when the percentage of shares of largest shareholders and politician shareholders (O_LPOLI) and (O_BOD) percentage of shares held by board of directors increase, there is a negative relationship with EV.

Table 4.16 Model 7: Multiple Regression of CG Relating to EV

Variable	Expected Sign	Coefficient (Standardized Coefficient)	t-statistic p-value
(Constant)	None	5.098	21.133
			0.000
B_COMPB1	+	0.443	9.662
		0.297	0.000
B_COMPE1	+	0.372	9.223
		0.259	0.000
O_LNOMI	+	0.025	4.816
		0.289	0.000
O_NOMI	+	0.023	3.568
		0.105	0.000
O_STATE	+	0.015	3.925
		0.108	0.000
DT_CGR	+	0.105	3.358
		0.090	0.001

Table 4.16 Model 7: Multiple Regression of CG Relating to EV (Cont.)

Variable	Expected Sign	Coefficient (Standardized Coefficient)	t-statistic p-value
B_MEETA	+	0.041	2.896
		0.076	0.004
O_CONTR	+	0.012	3.713
		0.185	0.000
B_SIZE	+	0.043	2.671
		0.074	0.008
O_LPOLI	+	-0.030	-4.818
		-0.324	0.000
O_POLI	+	0.018	3.236
		0.096	0.001
B_FAM	+	0.010	3.084
		0.101	0.002
O_BOD	+	-0.007	-2.389
		-0.079	0.017
F-value = 5.707 , p-value = 0 .000, R^2 = 0.555, Adjusted R^2 = 0.548			

The equation for multiple regression is as follows:

EV1 = 5.093+ 0.443* B_COMPB1+ 0.372* B_COMPE1 +0.025*O_LNOMI +0.023*O_NOMI +0.015 * O_STATE+0.105* DT_CGR+0.041* B_MEETA +0.012*O_CONTR+0.043* B_SIZE +(-0.030)*O_LPOLI+0.018* O_POLI +0.010*B_FAM + (-0.007)*O_BOD + ε

Model 8: Analysis of all control variables from listed companies on SET100 and non-SET 100 of the Stock Exchange of Thailand which have effect on enterprise value.

Model 8: Ln EV = EV1 and Ln FC_BSPL = FC_BSPL1

Table 4.17 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.745 and

0.741 respectively, which means that explanatory variables are able to explain and predict the dependent variable by 74%.

Table 4.17 also provides evidence of a relationship between all control variables and EV. The equation for multiple regression is as follows:

$$EV1 = \beta_0 + \beta_1 FC\_BSPL1 + \beta_2 FC\_DIAG + \varepsilon$$

There are 2 groups of control variables: FC_BSPL1 (Total asset of enterprise, percentage net profit growth of enterprise, percentage of sales growth, amount of cash flow operation of enterprise) and FC_DIAG (age of enterprise, dividend payment announced). The more these variables increase, the greater the effect on enterprise value.

Table 4.17 Model 8: Multiple Regression of CG Relating to EV

Variable	**Expected Sign**	**Coefficient (Standardized Coefficient)**	**t-statistic p-value**
(Constant)	None	11.660	194.295
			0.000
FC_BSPL1	+	0.554	18.270
		0.849	0.000
FC_DIAG	+	0.231	4.233
		0.197	0.000
F-value = 17.914, p-value = 0 .000, R^2 = 0.745, Adjusted R^2 = 0.741			

The equation for multiple regression is as follows:

$$EV1 = 11.66 + 0.554*FC\_BSPL1 + 0.231*FC\_DIAG + \varepsilon$$

Model 9: Analysis of all CG independent variables, control variables from listed companies on SET100 and non-SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 9: Ln EV = EV1, Ln B_COMPE = B_COMPE, Ln B_COMPB = B_COMPB1, Ln O_POLI = Ln O_POLI1 and Ln FC_ROA = FC_ROA1

Table 4.18 shows the multiple regression model is significant at 0.5%, indicating that this model is statistically valid. The R^2 and adjusted R^2 of the model are 0.664 and 0.652 respectively, which means that the explanatory variables are able to explain and predict the dependent variable by 66%.

Table 4.18 also provides evidence of a relationship between all variables of CG and EV. There are 2 variables (from all 20 variables) of Ownership Structure, 4 variables (from all 13 variables) of Board Responsibilities, 4 factors (from all 7 factors) of control variables that relate to EV. The equation for multiple regression is as follows:

$$EV1 = \beta_0 + \beta_1 FC\_BSPL + \beta_2 B\_COMPB1 + \beta_3 B\_COMPE1 + \beta_4 O\_NOMI + \beta_5 O\_POLI1 + \beta_6 B\_MEETA + \beta_7 B\_SKILL + \varepsilon$$

Most coefficients of each variable in each section is positively related with EV. These variables are FC_BSPL (total assets of enterprise, percentage net profit growth of enterprise, percentage of sales growth, amount of cash flow operation of enterprise), (B_COMPB1) amount of compensation of board of directors, (B_COMPE1) amount of executive compensation, (O_NOMI) percentage of shares of nominee shareholders, (B_MEETA) number of meetings of audit committees, (B_SKILL) number of

committee members with bachelor degrees. The more these variables increase, the greater the effect on enterprise value.

However, when the largest shareholders and (O_POLI1) percentage of shares of politician shareholder increases, there is a negative relationship with EV.

Table 4.18 Model 9: Multiple Regression of CG Relating to EV

Variable	Expected Sign	Coefficient (Standardized Coefficient)	t-statistic p-value
(Constant)	None	5.703	16.676
			0.000
FC_BSPL	+	0.931	6.651
		0.332	0.000
B_COMPB1	+	0.324	4.512
		0.227	0.000
B_COMPE1	+	0.489	5.624
		0.274	0.000
O_NOMI	+	0.041	3.955
		0.183	0.000
O_POLI1	+	-0.162	-3.037
		-0.128	0.003
B_MEETA	+	0.070	3.034
		0.140	0.003
B_SKILL	+	0.042	2.491
		0.111	0.014
F-value = 6.205, p-value = 0 .000, R^2 = 0.664 , Adjusted R^2 = 0 .652			

The equation for multiple regression is as follows:

EV1 = 5.703+0.931* FC_BSPL +0.324*B_COMPB1+0.489*B_COMPE1

+0.041*O_NOMI+ (-0.162)*O_POLI1+0.070* B_MEETA+0.042*B_SKILL+ ε

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This paper aimed to investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency and board responsibilities) The main purposes of this study were as follows:

1. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of the SET100, companies listed on the Stock Exchange of Thailand during 2008-2010.

2. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of the non-SET100, companies listed on the Stock Exchange of Thailand during 2008-2010.

3. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies on the Stock Exchange of Thailand during 2008-2010.

Quantitative research was employed in this study to analyze the relationship between the dependent variables (enterprise value as recommended by Arzac (2005)) and the independent variables of corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency and board responsibilities). Data were collected from the financial statements, annual reports and other relevant

documents of companies listed on the SET. The samples included all companies that had information align with the research objectives during the period of 2008-2010. As a result, 424 companies with 1,272 observations were incorporated in this study. These companies were divided into two groups: SET100 and non-SET100. Stepwise multiple regression analysis was employed to identify the factors influencing enterprise value.

5.1 Summary of the Findings

The findings as regards the purposes of this study were as follows:

1. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of the SET100,
companies listed on of the Stock Exchange of Thailand during 2008-2010.

Regarding this purpose, the three models (from model 1-3) were purposed as follow:

All data from SET100

Model 1: Analysis of all CG independent variables (1.ownership structure, 2.role of stakeholders, 3.disclosure and transparency and 4. board responsibilities) from listed companies on the SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 1*:* $EV1 = 7.975 + 0.018*O\_STATE + 0.031* B\_COMPB +$

$+0.229*DT\_CGR + 0.106*B\_COMPE1 + 0.014*O\_TFAM + 0.021*O\_NOMI$

$+0.062*B\_SIZE + (-0.401)*B\_ACOM + \varepsilon$

In the case of Model 1, there are three variables (from all twenty variables) of ownership structure that significantly relate to EV, namely, O_NOMI, O_STATE, O_TFAM, respectively, with the most influence on EV. There are four variables (from all thirteen variables) of board responsibilities that relate to EV, namely, B_ACOM, B_COMPE1, B_SIZE, B_COMPB, respectively. There is one variable of disclosure and transparency that relates to EV.

Model 2: Analysis of all control variables from listed companies on the SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 2: $EV1 = 11.712 + 0.548* FC\_BSPL1 + 0.279* FC\_DIAG + \varepsilon$

In the case of Model 2, there are two variables (from all three variables) of control variables that relate to EV, but FC_BSPL1 relates to EV the most.

Model 3: Analysis of all CG independent variables, control variables from listed companies on the SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 3: $EV1 = 8.473 + 0.298*FC\_BSPL + 0.306*B\_COMPB1 + 0.356*FC\_DIAG + 0.016*O\_LSTATE + 0.099*B\_COMPE1 + 0.014*O\_NOMI + \varepsilon$

In the case of model 3, there are two variables (from all twenty variables) of ownership structure that relate to EV, namely, O_LSTATE and O_NOMI. There are two variables (from all thirteen factors) of board responsibilities that relate to EV. That is B_COMPB1, and B_COMPE1.

Table 5.1 Summary showing each variable for models 1-3 and their positive or negative relationship to EV among the sample in the SET100 group

Model 1 (CG variables)		Model 2 (Control variables)		Model 3 (CG and Control variables)	
Positive effect on EV(+)	**Negative effect on EV(-)**	**Positive effect on EV(+)**	**Negative effect on EV(-)**	**Positive effect on EV(+)**	**Negative effect on EV(-)**
O_STATE	B_ACOM	FC_BSPL1	-	FC_BSPL	-
B_COMPB	-	FC_DIAG	-	B_COMPB1	-
DT_CGR	-	-	-	FC_DIAG	-
B_COMPE1	-	-	-	O_LSTATE	-
O_TFAM	-	-	-	B_COMPE1	-
O_NOMI	-	-	-	O_NOMI	-
B_SIZE	-	-	-	-	-

2. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of the non-SET100, companies listed on of the Stock Exchange of Thailand during 2008-2010.

Regarding this purpose, the three models (from model 4-6) were purposed as follow:

All data from non-SET100

Model 4: Analysis of all CG independent variables (1.ownership structure, 2.role of stakeholders, 3.disclosure and transparency and 4. board responsibilities) from listed companies on the non-SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 4: $EV1 = 6.010 + 0.027*B\_COMPE + 0.022*B\_COMPB + 0.006*O\_CONTR + 0.103*B\_SCOM + 0.030*B\_MEETB + 0.037*B\_MEETA + 0.005*O\_FORE + \varepsilon$

In the case of Model 4, there are two variables (from all twenty variables) of ownership structure that most relate to EV, namely, O_CONTR, and O_FORE. There are five variables (from all thirteen variables) of board responsibilities that relate to EV. However, B_SCOM, B_MEETA, B_MEETB are the three that most relate to EV.

Model 5: Analysis of all control variables from listed companies on the non-SET 100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 5: $EV1 = 11.181 + 0.453*FC\_BSPL1 + \varepsilon$

In the case of Model 5, there is one variable (from all three variables) of the control variables that relates to EV, that is FC_BSPL1.

Model 6: Analysis of all CG independent variables, control variables from listed companies on the non-SET 100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 6: $EV1 = 7.530 + 5.391*FC\_BSPL + 0.445*B\_COMPE1 + 0.279*B\_COMPB1 + (-0.181)*O\_POLI1 + \varepsilon$

In the case of Model 6, there is one variable (from all twenty variables) of ownership structure that relates to EV, namely, O_POLI1, which most relates to EV. There are two variables (from all thirteen variables) of board responsibilities that most relate to EV, namely, B_COMPE1and B_COMPB1.

Table 5.2 Summary showing each variable for each model and their positive or negative relationship to EV among the sample in the non-SET100 group

Model 4 (CG variable)		**Model 5 (Control variable)**		**Model 6 (CG and Control variable)**	
Positive effect on EV(+)	**Negative effect on EV (-)**	**Positive effect on EV(+)**	**Negative effect on EV(-)**	**Positive effect on EV(+)**	**Negative effect on EV(-)**
B_COMPE	-	FC_BSPL1	-	FC_BSPL	O_POLI1
B_COMPB	-	-	-	B_COMPE1	-
O_CONTR	-	-	-	B_COMPB1	-
B_SCOM	-	-	-	-	-
B_MEETB	-	-	-	-	-
B_MEETA	-	-	-	-	-
O_FORE	-	-	-	-	-

3. To investigate the relationship between corporate governance mechanisms (ownership structure, role of stakeholders, disclosure and transparency, board responsibilities) and the enterprise value of listed companies on the Stock Exchange of Thailand during 2008-2010.

Regarding this purpose, the three models (from model 7-9) were purposed as follow:

All data from SET100 and non-SET100

Model 7: Analysis of all CG independent variables (1.ownership structure, 2.role of stakeholders, 3.disclosure and transparency and 4. board responsibilities) from listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 7: $EV1 = 5.098 + 0.443*B\_COMPB1 + 0.372*B\_COMPE1 + 0.025*O\_LNOMI + 0.023*O\_NOMI + 0.015*O\_STATE + 0.105*DT\_CGR + 0.041*B\_MEETA + 0.012*O\_CONTR + 0.043*B\_SIZE + (-0.030)*O\_LPOLI + 0.018*O\_POLI + 0.010*B\_FAM + (-0.007)*O\_BOD + \varepsilon$

In the case of Model 7, there are seven variables (from all twenty variables) of ownership structure that relate to EV with O_LPOLI, and O_NOMI showing the strongest relationship to EV. There are five variables (from all thirteen variables) of board responsibilities with B_COMPB1, B_COMPE1, B_SIZE having the strongest relationship to EV. There is one variable (from one variable) of disclosure and transparency that relates to EV.

Model 8: Analysis of all control variables from listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 8: $EV1 = 11.660 + 0.554*FC\_BSPL1 + 0.231*FC\_DIAG + \varepsilon$

In the case of Model 8, there are two variables (from all three variables) of control variables that relate to EV, that is FC_BSPL1 and FC_DIAG

Model 9: Analysis of all data of CG independent variables, control variables from listed companies on the SET100 and non-SET100 of the Stock Exchange of Thailand which relate to enterprise value.

Model 9: $EV1 = 5.703 + 0.931*FC\_BSPL + 0.324*B\_COMPB1 + 0.489*B\_COMPE1 + 0.041*O\_NOMI + (-0.162)*O\_POLI1 + 0.070*B\_MEETA + 0.042*B\_SKILL + \varepsilon$

In the case of Model 9, there are two variables (from all twenty variables) of ownership structure that relate to EV with O_NOMI exhibiting the strongest relationship. There are four variables (from all thirteen variables) of board responsibilities with B_COMPE1, B_COMPB1, B_MEETA the three with the most significant relationships to EV. There is one variable (from all three variables) of control variables that relate to EV, that is FC_BSPL1.

Table 5.3 Summary showing each variable for each model and their positive or negative relationship to EV among the sample in the SET100 and non-SET100 groups

Model 7 (CG variable)		**Model 8 (Control variable)**		**Model 9 (CG and Control variable)**	
Positive effect on EV(+)	**Negative effect on EV(-)**	**Positive effect on EV(+)**	**Negative effect on EV(-)**	**Positive effect on EV(+)**	**Negative effect on EV(-)**
B_COMPB1	O_LPOLI	FC_BSPL1	-	FC_BSPL	O_POLI1
B_COMPE1	O_BOD	FC_DIAG	-	B_COMPB1	-
O_LNOMI	-	-	-	B_COMPE1	-
O_N0MI	-	-	-	O_NOMI	-
O_STATE	-	-	-	B_MEETA	-
DT_CGR	-	-	-	B_SKILL	-
B_MEETA	-	-	-	-	-
O_CONTR	-	-	-	-	-
B_SIZE	-	-	-	-	-
O_POLI	-	-	-	-	-
B_FAM	-	-	-	-	-

According to the controlled variables, the analysis found that they were significantly related to enterprise value in a positive manner. These results are consistent with prior studies. Studies in Anglo-Saxon countries found that enterprise

size (total assets) was positively related to enterprise value. (Lazonick, W.,O'Sullivan, M., 2000). In addition, the results also agreed with Syriopoulos, Tsatsaronis and Roumpis (2007), and Chen, Guo and Mande (2006) who found that the profit growth of an enterprise has a positive relationship with enterprise value. As regards the sales growth of the enterprises, the finding was consistent with Schmid and Zimmermann (2008) and their finding that sales growth was positively related with enterprise value. For CG proxies, this study clearly identified that nominee ownership was related to enterprise value. This finding is similar to Bradley et al. (2007), Shleifer and Vishny (1986), Burkart, Gromb, Panunzil (1997), La Porta et al. (1999), Claessens et al. (2000), and Lemmon and Lins (2001). In addition, this study recognized that compensation of board responsibility was more likely to increase enterprise value. The finding concurs with Anderson, Mansi, Reeb (2004), and Abor and Biekpe (2007) who found that the bigger the size the board of directors, the greater enterprises can reduce their costs.

Table 5.4 sums up the results of prior studies and this study. It was found that financial information significantly correlated to enterprise value in both this study and prior studies. In addition, both ownership structure and board responsibilities had positive relation with enterprise value. Nevertheless, it was unclear in both this study and prior studies whether role of stakeholders and disclosure and transparency were significantly linked to enterprise value.

Table 5.4 Comparison of prior studies and this present study

Authors	Dependent variable	Ownership structure												CSR		DT			Board responsibilities									Control		
		H_1	H_2	H_3	H_4	H_5	H_6	H_7	H_8	H_9	H_{10}	H_{11}	H_{12}	H_{13}	H_{14}	H_{15}	H_{16}	H_{17}	H_{18}	H_{19}	H_{20}	H_{21}	H_{22}	H_{23}	H_{24}	H_{25}	H_{26}	H_{27}	H_{28}	BSPI	DIAG	ROA
Shleifer, A., and Vishny, R.W. (1986)	Share price	+						+																					+	+	
Isshaq, Z., Bokpin, A.G., and Onumah, M. J. (2009)	Share price	-										-	-				+			+				+		-				+	+	+
Claessens, S., Djankov, S., and Lang, L.H.P. (2000)	ROA	+				+		+	+																					+	+	+
Wiwattanakantang, Y. (2000)	TQ , ROA	+	+	+	-	+		+	+	+							-				+									+	+	+
Bauer, R., Guenster, N., and Otten, R. (2003)	TQ , ROE,Net Profit Margin															+														+	+	+
Gompers, P.A., Ishii, J.L. and Metrick, A. (2003)	Net Profit Margin ,TQ	-								+							+			+	+	+						+	+	+	+	+
Randoy, T., and Goel, S. (2003)	TQ, ROA	+		+				+		+	+	+	+														+	+	+			+
Shahid, S.F.A. (2003)	ROA ,ROE ,Stock market	+	+	+	+				+		+	+																		+	+	+
Abbott, L.J., Parker, S., and Peters, G.F. (2004)	ROA, ROE			-																					+			+	+	+	-	+
Nuno Fernandes (2005)	ROA, ROE															+	+										-			+	+	+
Abor, J., and Biekpe, N. (2007)	ROA							+		+			+				+	+					+						+	+		
Li, D., Moshirian, F., Nguyen, P., and Tan, L.W. (2007)	ROA, ROS						+		+			+	+					-												+	+	+
Jong, A., DeJong, D.V., Mertens, G., and Wasly, C.E. (2001)	TQ			-												+										+			-	+	+
Beiner, S., Drobetz, F. and Zimmermann, H. (2004)	TQ	+															-			-												
Mak, Y.T., and Kusnadi,Y (2005)	TQ			+	+			+									-													+	+	+
Bradley, M., Chen, D., Dallas, G.,and Snyderwine, E. (2007)	TQ			-									-			+	+										+			-	+	+
Chen, C.J.P., Li, Z., Su, X., and Sun, Z. (2010)	TQ						+	+																						+		+
Lee, J.J., and Zhang, Z. (2008)	TQ,ROA	-							-			+						+		+	+							+		+		
Schmid, M.M., and Zimmermann, H. (2008)	TQ,ROA											+	+					-														
Ibrahim, H., and Samad, F.A. (2011)	TQ,ROA,ROE							+									+	+	+													
Kim, S. (2011)	ROA ,TQ					+			+					+	+		+									+	+	+	+	+		+
Pham, P., Suchard, J., and Zein, J. (2007)	TQ , EVA			-								+					-			-	-									+		
Srichanphet, S. (2008)	EVA				-							+							+	+				+								
Black, B. (2002)	Market capitalization									+						+																
Lei and Song (2004)	TQ	+						-				+	+			+		-				+				+	+					
Fernandes(2005),Stuart and Robert(2004),Takao,Woochan,Ju (2003)	Stock Return,ROA																									+						
Xie,Davidson,DaDalt(2003)	EV																													+	+	+
Loughran, T., and Wellman, J.W.(2009)	Mutual Fund Return																													+	+	+
Platt, H., Demirkan, S., and Platt, M. (2010)	Terminal Values :TV Implied Terminal Values:ITV																													+	+	+
Summary of prior studies		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		-		-	-			-	-				-				-	-		-	-					-	-			-	-	
	Enterprise value	+	+		+	+	+	+	+	+		-				+	+					+	+	+	+	+	+	-	+	+	+	
		-					-																										

Table 5.5 Comparison of multiple regression results of SET100 and non-SET100

Similarity	Difference		Overall
	SET100	Non-SET100	
FC_BSPL • C_ASSET • C_NET • C_INCOME • C_CFO	FC_DIAG • C_DIVIDEND • C_AGE		FC_BSPL • C_ASSET • C_NET • C_INCOME • C_CFO
Board responsibilities • B_COMPE • B_COMPB	Ownership structures • O_NOMI	Ownership structures • O_FORE Board responsibilities • B_MEETA • B_MEETB	Ownership structures • O_NOMI Board responsibilities • B_COMPE • B_COMPB

Table 5.5 compares the multiple regression results of the SET100 and non-SET100. The similarity of these two groups reveals that financial information and board responsibilities were significantly related to enterprise value. However, when considering the SET100, it was found that financial information was more likely to influence enterprise value, while financial information had no relationship to enterprise value in the non-SET100. Moreover, the ownership structure was significantly influence enterprise value in both the SET100 and non-SET100. Percentage of nominee shareholders was significantly associated with enterprise value in the SET100, while percentage of foreign shareholders was significantly associated with enterprise value in non-SET100. The overall analysis of SET100 and non-SET100 revealed that financial information and ownership structure are significantly correlated to enterprise value.

5.2 Discussion and Implications

This study creates significant contributions to academic literature. The implications and contributions are classified according to SET100 and non-SET100 companies for investors and creditors, boards of directors and regulators as follows:

5.2.1 Investors and creditors

For SET 100

As the findings reveal that the most influential factors on enterprise value in a positive manner are ownership structures, this indicates that enterprise value depends on the components of shareholders of firms. If common shares are held by government, family, and concentrated groups, it is more likely that enterprise value will be higher than other groups. Furthermore, it is noted that firms that have been operating over longer periods of time and whose total assets are larger are more likely to have higher enterprise value. This result is of benefit to investors and creditors as they should have useful information in making a decision by investing in large shareholder structures from which they should be able to gain returns on their investments in reasonable amounts. However, to invest in firms whose shareholders consists of politicians, they should make serious considerations regarding the results of this study that indicate that firms with politician shareholders may result in negative enterprise value. In addition, investors and creditors should pay attention to the financial information of the companies as it is a fundamental analysis of enterprise value. Furthermore, investors and creditors should invest in listed companies that pay high dividend payments and listed companies which have been operating for many years.

For non-SET 100

Research results indentified that owner structures, larger firms (high total assets) and aging firms, investors should pay attention to firms with foreign investments. The finding shows that these firms have potentially high enterprise value. This may be because those foreign investors have statistical information that these firms are more likely to grow faster than larger firms or they may consider the price/earnings ratios as still being low. Smaller firms have a higher chance to grow in the future. Moreover, the findings show that the greater the number of board meetings and audit committee meetings, the enterprise value tends to increase. This may be because investors observe how hard the board of directors and audit committees work. If the number of these meetings are high, this means that these watchdog mechanisms are functioning well. This results in higher returns in the future for investors.

5.2.2 Companies and Board of Directors

For SET 100

As the findings reveal that the most influential factors on enterprise value in a positive manner are financial information and ownership structures, the board of directors should pay attention to the way their manage their operations for better financial performance in addition to considering the ownership structure in an appropriate manner. The analysis showed that the increase in percentage of nominee shareholders increases enterprise value. However, to manage the ownership structure this way may not be ethical as it appears to conceal vital information from investors and creditors.

For non-SET 100

It is noted that enterprise value is more likely to increase when listed companies have a higher proportion of foreign shareholders. Therefore, the board of directors should clearly signal their management styles. This is because foreign investors tend to pay attention to qualitative information, especially corporate governance mechanisms, and not just financial information. Moreover, the enterprise value depended on the number of board meetings and audit committee meetings. The board of directors should set policies to encourage the numbers of these meeting and may consider disclosing board minutes as public data.

5.2.3 Regulators

For SET 100

As the findings reveal that the most positive influential factor on enterprise value is ownership structure, regulators (i.e. Security Exchange Commission) should pay attention to the way listed companies form their shareholders. They may construct shareholders in the nominee fashion. However, regulators should set rules not allowing listed companies to form their nominees. For example, they should define "nominee" on a principle basis rather than a rule basis. This allows for the inspection as to how the nominee is formed in listed companies.

For non-SET 100

As enterprise value is more likely to increase when listed companies have a high proportion of foreign shareholders and high numbers of board meetings and audit committee meetings, regulators should encourage listed companies to disclose this

information to the public. This helps foreign investors to see how seriously listed companies consider disclosure and transparency.

5.2.4 Overall

It is noted that the overall analysis indicates that information from financial statements is still important. The results show that higher income, dividend and cash flows from operations are more likely to increase the enterprise value of firms. Investors should also consider investing in these firms. Besides, the CG rating by the Stock Exchange of Thailand should be taken into consideration. This is because the result indicates that the higher the CG rating, the greater the increase in enterprise value. Lastly, this study revealed useful information regarding the good relationship between agents and owners as asserted in agency theory in Thai listed companies. There was a significant influence of both board and executive compensation on enterprise value in a positive manner.

In addition to the above findings, it is of important note that firms whose shareholders are nominees seem to have higher enterprise value. This study provides evidence of the relationship of CG components and enterprise value, especially nominee shareholders. However, these results should be carefully taken into consideration in the area of nominee shareholders. Even if these groups create enterprise value, it is somewhat difficult to justify whether these companies are transparent. For example, companies under the control of nominee shareholders may have related party transactions as well as transferring expenses within nominee control of enterprises; however, these transactions are not declared in financial statements.

Prior studies have indicated that investors and creditors have been ignored financial information and disclosures in financial statements and annual reports, especially retail or individual investors. The information provide value relevance for investment decision making such as financial operational results, companies' plans and strategies as well as firms' corporate governance indications. The information is useful for investment in long-terms.

Prior studies have shown that management, those in-charged with management (i.e. board of directors) and audit committees should pay attention to corporate governance and other non-financial management (i.e. corporate social responsibility). These concerns are potentially promoting firms' sustainability in long-terms. Recently, it is to believe that corporate governance and corporate social responsibility would create more sale volume and eventually profit.

Lastly, regulators who are in-charge corporate governance of countries should play a great role to facilitate firms' corporate governance by providing practical cases to firms. Therefore, firms would have platforms to implement corporate governance. In addition, regulators should look for the ways to promote firms' corporate governance by comparing existing corporate governance and well-known corporate governance in other countries. It is to look more appropriate ways to adopt corporate governance in each firm.

5.3 Limitations of the Study

The key limitations of this paper are as follows:

1. Even though this study attempted to analyze long-range data during 2008-2010 information, corporate governance mechanisms seem to change over time. The

research in this area should be continuous to observe how the mechanisms are developed.

2. The proxies representing corporate governance mechanism appear not to be publicly available. This study tries hard to pinpoint such proxies. However, the present proxies may not represent all corporate governance mechanisms of listed firms or some proxies may not be included in the analysis.

3. This study focused on Thai listed companies as an emerging market. However, the dataset environment may differ from other emerging markets. Therefore, further studies should carry on research in different dataset environments.

4. This study did not pay attention to dataset environment such as economic situation, the Stock Exchange index. These factors may influence firm valuation. Therefore, further study is recommended to introduce more data relating to economic environment factors. It is to reduce omitted variables.

5.4 Future research

Future research should introduce more proxies of corporate governance to observe their characteristics, rather than enterprise value. However, this study highlights the significant proxies of corporate governance which should be replicated as control variables in future research. However, the development of firms' corporate governance has been widely recognized in emerging markets. Those in-changed with corporate governance (i.e. stock exchange commission, stock exchange, etc.) have introduced new regulations to promote corporate governance. Therefore, to observe new corporate governance mechanisms, it is important to explore indicators

representing firms' corporate governance mechanism continuously and timely. In addition, further studies should compare these results with other emerging markets so as to construct and confirm models that fit into other emerging markets in different regions. Moreover, further study should pay attention to new dataset like the countries where have market for alternative investment (MAI). This new dataset should introduce new idea of corporate governance of smaller business rather than developed firms which corporate governance are maturity. Also, the analysis of each business sector should give raise a clearer picture of sectors' corporate governance. Finally, it is also of interest to investigate whether corporate governance mechanisms have potential influence in reducing the costs of financial resources. This would be of benefit to new small and medium enterprises.

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APPENDICES

APPENDIX A

Assumption of Multiple Regression analysis

1. Error or residual are normally distributed.

1) Skewness testing and kurtosis testing

2) Histogram graph plotting and normal P-P Plot

Model 1

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 1: Ln EV = EV1 and Ln B_COMPE = B_COMPE1

Table 1: Skewness value and Kurtosis value of Model 1

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e01	246	-1.268	0.155	8.18	39.378	0.309	127.44
	After						
e1	242	-0.140	0.156	0.90	0.139	0.312	0.45

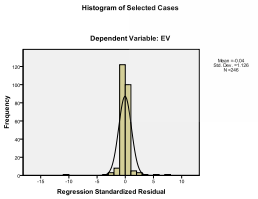
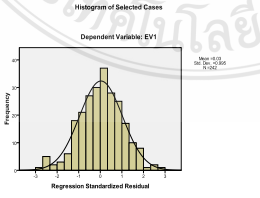
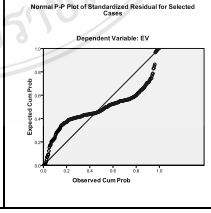
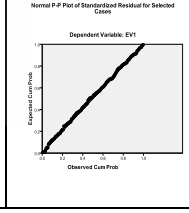
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 1: Histogram and normal P-P Plot of Model 1

Model 2

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 2: Ln EV =EV1, Ln FC_BSPL = FC_BSPL1

Table 2: Skewness value and Kurtosis value of Model 2

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e02	204	0.629	0.17	3.692	13.560	0.339	40.01
	After						
e2	102	0.130	0.239	0.55	1.236	0.474	2.61

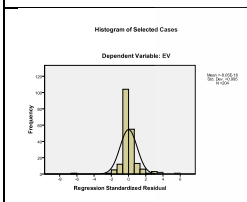
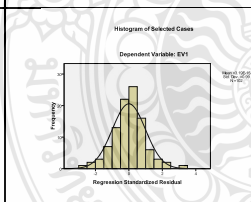
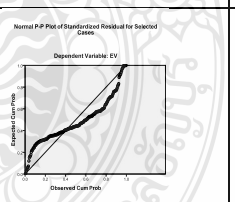
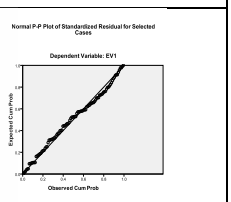
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 2: Histogram and normal P-P Plot of Model 2

Model 3

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Detail of this process is as follows: Model 3: Ln EV =EV1, Ln B_COMPE = B_COMPE1 and Ln B_COMPB = B_COMPB1

Table 3: Skewness value and Kurtosis value of Model 3

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e03	198	-1.411	0.173	8.16	14.894	0.344	43.30
	After						
e3	198	-0.363	0.173	2.10	0.614	0.344	1.78

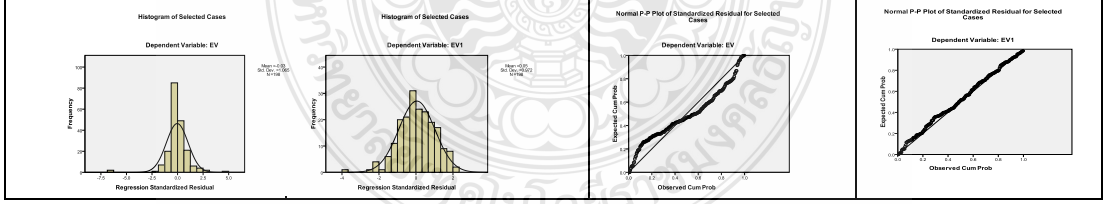
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 3: Histogram and normal P-P Plot of Model 3

Model 4

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 4: Ln EV =EV1

Table 4: Skewness value and Kurtosis value of Model 4

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e04	897	4.225	0.082	51.52	39.552	0.163	242.65
	After						
e4	722	-0.233	0.091	2.56	0.155	0.182	0.85

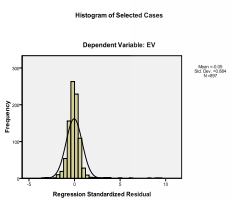
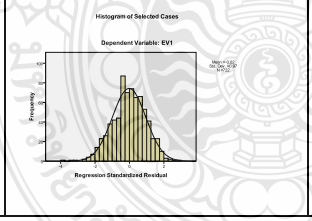
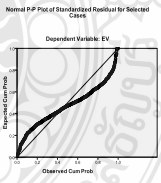
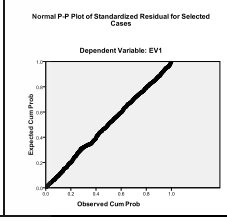
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 4: Histogram and normal P-P Plot of Model 4

Model 5

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 5: Ln EV =EV1, Ln FC_BSPL = FC_BSPL1

Table 5: Skewness value and Kurtosis value of Model 5

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std.Error	Z-score	Statistic	Std.Error	Z-score
	Before						
e05	620	4.672	0.098	47.61	57.995	0.196	295.95
	After						
e5	19	-0.887	0.524	1.69	0.527	1.014	0.52

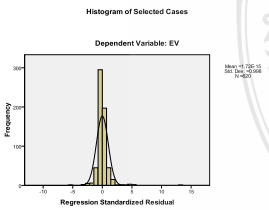
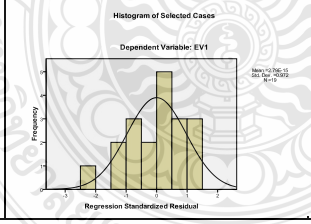
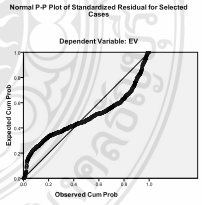
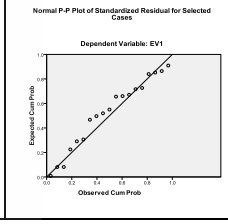
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 5: Histogram and normal P-P Plot of Model 5

Model 6

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 6 : Ln EV =EV1, Ln B_COMPE = B_COMPE1, Ln B_COMPB = B_COMPB1, O_POLI = O_POLI1 and Ln FC_ROA = FC_ROA1

Table 6: Skewness value and Kurtosis value of Model 6

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e06	588	4.971	0.101	49.22	63.655	0.201	316.69
	After						
e6	243	-0.342	0.156	2.19	0.807	0.311	2.59

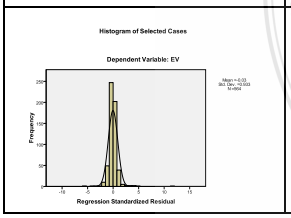
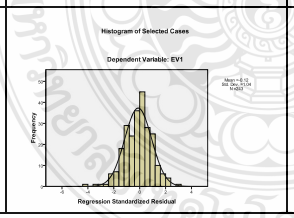
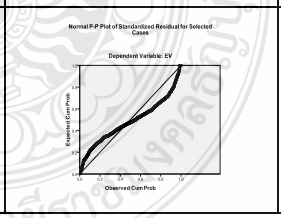
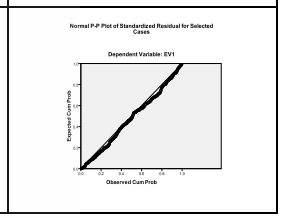
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 6: Histogram and normal P-P Plot of Model 6

Model 7

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 7: Ln EV =EV1 and Ln B_COMPE = B_COMPE1

Table 7: Skewness value and Kurtosis value of Model 7

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e07	1154	5.325	0.072	73.96	121.122	0.144	841.13
	After						
e7	844	-0.287	0.087	3.29	0.542	0.168	3.22

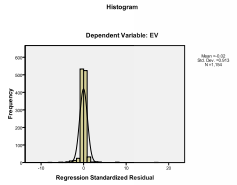
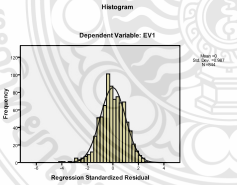
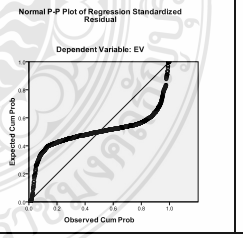
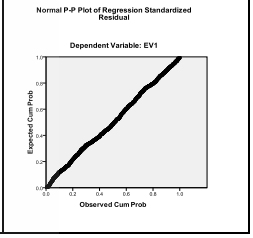
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 7: Histogram and normal P-P Plot of Model 7

Model 8

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 8: Ln EV =EV1 and Ln FC_BSPL = FC_BSPL1

Table 8: Skewness value and Kurtosis value of Model 8

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e08	824	1.529	0.085	17.95	61.255	0.170	360.01
	After						
e8	121	-0.267	0.220	1.21	1.384	0.437	3.16

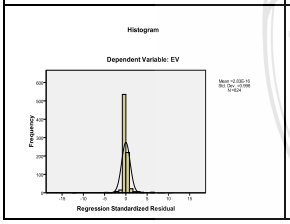
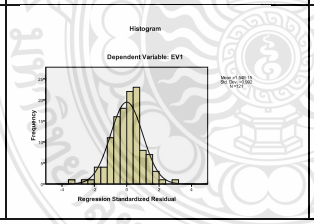
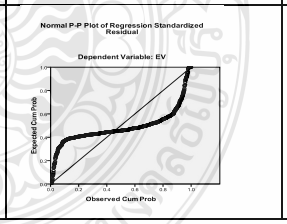
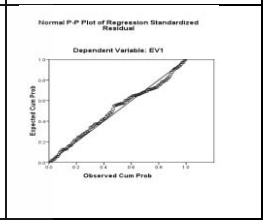
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 8: Histogram and normal P-P Plot of Model 8

Model 9

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Model 9 : Ln EV = EV1 , Ln B_COMPE = B_COMPE1 , Ln B_COMPB = B_COMPB1, Ln O_POLI = O_POLI1 and Ln FC_ROA= FC_ROA 1

Table 9: Skewness value and Kurtosis value of Model 9

Descriptive Statistics

	N	Skewness			Kurtosis		
	Statistic	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
	Before						
e09	802	0.316	0.086	3.67	53.225	0.172	309.45
	After						
e9	483	-0.201	0.144	1.40	0.137	0.287	0.48

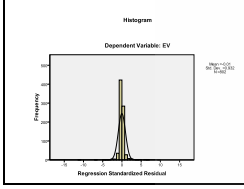
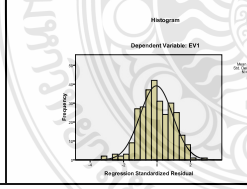
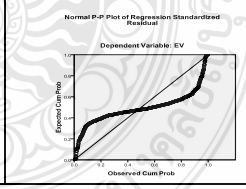
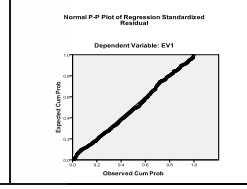
Histogram		**Normal P-P Plot**	
Before	After	Before	After
			

Figure 9: Histogram and normal P-P Plot of Model 9

2. Average value of error should be 0 or E(e) =0

Data was transformed by taking log into data when the error term was not aligned with the multiple regression assumption. Details of this process are as follows:

Table 10: Descriptive statistics of error term

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
e01	246	-5448.371	1.523	-1.268	0.155	39.378	0.309
e1	242	0.058	0.870	-0.140	0.156	0.139	0.312
e02	204	-0.0003	38801.490	0.629	0.170	13.560	0.339
e2	102	0.000	0.495	0.130	0.239	1.236	0.474
e03	198	-1207.243	40365.143	-1.411	0.173	14.894	0.344
e3	198	0.042	0.751	-0.363	0.173	0.614	0.344
e04	897	-369.472	7105.637	4.225	0.082	39.552	0.163
e4	722	-.0259	0.948	-0.233	0.091	0.155	0.182
e05	620	0.000	4499.254	4.672	0.098	57.995	0.196
e5	19	0.000	.642	-0.887	0.524	0.527	1.014
e06	588	0.775	4437.064	4.971	0.101	63.655	0.201
e6	243	-0.088	0.783	-0.342	0.156	0.807	0.311
e07	1154	-1170.906	60644.943	5.325	0.072	121.122	0.144
e7	844	-0.025	1.099	-0.287	0.084	0.542	0.168
e08	824	-.0002	20964.074	1.529	0.085	61.255	0.170
e8	121	.0002	0.544	-0.267	0.220	1.384	0.437
e09	802	-311.286	20982.056	0.316	0.086	53.225	0.172
e9	286	-0.034	0.892	-0.201	0.144	0.137	0.287

e01 – e09 was the error term value before data was transformed. e1 – e9 was the error term value after the data was transformed. The above table shows that the error or residual has a mean toward zero.

3. The variance of the error term is constant across cases (Heteroscedastic or Homoscedasticity) or V(e) = σ_e^2

Model 1

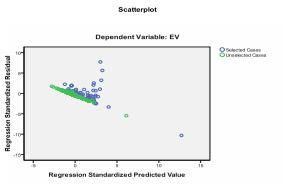
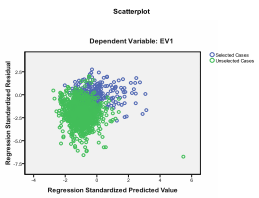
Before	After
	

Figure 10: Scatterplot before and after the data of Model 1 was transformed

Model 2

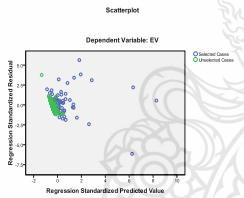
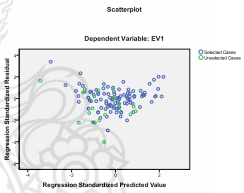
Before	After
	

Figure 11: Scatter plot before and after the data of Model 2 was transformed

Model 3

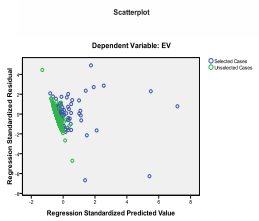
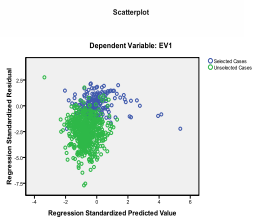
Before	After
	

Figure 12: Scatter plot before and after the data of Model 3 was transformed

Model 4

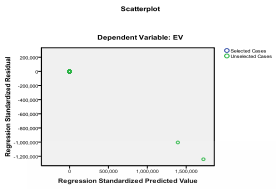
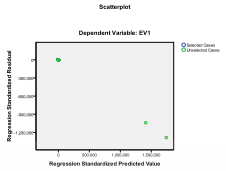
Before	After
	

Figure 13: Scatter plot before and after the data of Model 4 was transformed

Model 5

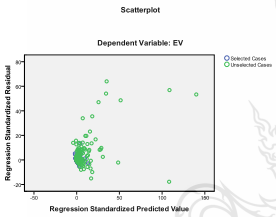
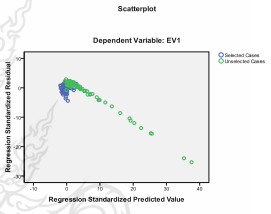
Before	After
	

Figure 14: Shown Scatterplot before and after data of Model 5 was transformed

Model 6

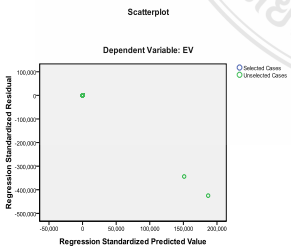
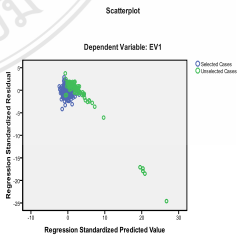
Before	After
	

Figure 15: Scatter plot before and after the data of Model 6 was transformed

Model 7

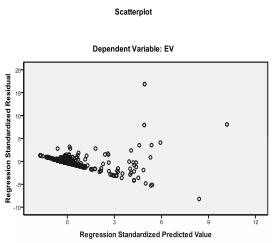
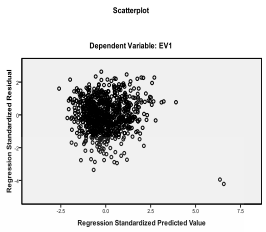
Before	After
	

Figure 16: Scatter plot before and after the data of Model 7 was transformed

Model 8

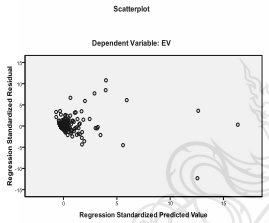
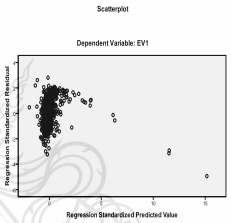
Before	After
	

Figure17: Scatter plot before and after the data of Model 8 was transformed

Model 9

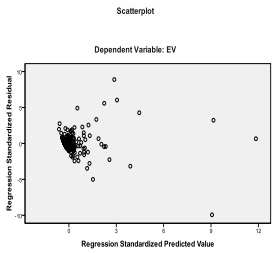
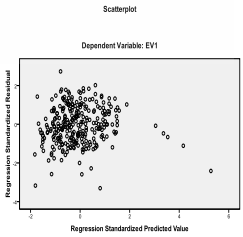
Before	After
	

Figure 18: Scatter plot before and after the data of Model 9 was transformed

4. e_i and e_j should be independent together; $i \neq j$ that is covariance $(e_i,e_j) = 0$;

Durbin - Watson statistic value

Table 11: Normally the Durbin-Watson statistic value before and after the data of 9 models was transformed

Model	Before	After
1	1.750	1.760
2	1.773	1.924
3	1.868	2.070
4	1.924	2.111
5	1.967	2.266
6	1.943	2.309
7	1.764	1.964
8	1.713	1.974
9	1.723	2.031

Normally, the Durbin-Watson statistic value is near 2 (1.5 -2.5), meaning that the error value of e_t is independent.

Table 11 shows the Durbin-Watson statistic value before was not over 2.5 and that also after the Durbin-Watson Statistic value was not over 2.5. Therefore, the research data achieved this multiple regression assumption.

5. Multicollinearity or independent variables between X_i and X_j should be independent together: Investigation from tolerance, VIF, eigenvalue and condition index

Normally the tolerance value is a low value or near 0. This shows that X_i has a relationship with other independent variables. The VIF_i value of an independent variable Xi has a high value over 10. This shows that Xi has a relationship with other independent variables. The sum of eigenvalues will equal k+1 (k = amount of

independent variables). If the eigenvalue is near 0, it shows that Xi has a relationship with other independent variables. For the condition index, if the condition index value of the independent variable Xi is higher than 20, it shows that Xi has a relationship with other independent variables.

Table 12: Tolerance, VIF , Eigenvalue and Condition Index of Model 1

Model		Tolerance	VIF	Eigen value	Condition Index
Before	(Constant)			3.239	1.000
	O_STATE	.875	1.143	.801	2.011
	B_COMPB	.893	1.119	.582	2.359
	B_ACOM	.930	1.075	.371	2.954
	B_CIND	.994	1.006	.007	21.543
After	(Constant)			7.020	1.000
	O_STATE	.653	1.531	.831	2.907
	B_COMPB	.811	1.234	.464	3.891
	DT_CGR	.888	1.127	.418	4.096
	B_COMPE1	.837	1.195	.122	7.579
	O_TFAM	.860	1.163	.072	9.855
	O_NOMI	.909	1.100	.043	12.832
	B_SIZE	.821	1.219	.024	16.941
	B_ACOM	.922	1.085	.006	34.908

Table 13: Tolerance, VIF, Eigenvalue and Condition Index of Model 2

Model		Tolerance	VIF	Eigen value	Condition Index
Before	(Constant)			1.311	1.000
	FC_BSPL	.998	1.002	1.006	1.142
	FC_DIAG	.998	1.002	.683	1.386
After	(Constant)			1.501	1.000
	FC_BSPL1	.999	1.001	1.000	1.225
	FC_DIAG	.999	1.001	.499	1.734

Table 14: Tolerance, VIF, Eigenvalue and Condition Index of Model 3

Model		Tolerance	VIF	Eigen value	Condition Index
Before	(Constant)			3.565	1.000
	FC_BSPL	.829	1.206	1.049	1.844
	FC_DIAG	.965	1.036	.833	2.069
	B_MEETB	.882	1.134	.371	3.101
	B_COMPB	.827	1.209	.138	5.082
	B_SKILL	.972	1.029	.045	8.907
After	(Constant)			4.311	1.000
	FC_BSPL	.817	1.224	1.067	2.010
	B_COMPB1	.876	1.141	.870	2.226
	FC_DIAG	.870	1.149	.401	3.279
	O_LSTATE	.780	1.282	.171	5.018
	B_COMPE1	.908	1.101	.124	5.891
	O_NOMI	.907	1.103	.057	8.733

Table 15: Tolerance, VIF,Eeigenvalue and Condition Index of Model 4

Model		Tolerance	VIF	Eigenvalue	Condition Index
Before	(Constant)			6.176	1.000
	B_COMPE	.907	1.102	1.062	2.412
	O_CONTR	.212	4.712	.847	2.701
	B_COMPB	.951	1.051	.817	2.750
	O_STATE	.680	1.471	.772	2.828
	DT_CGR	.870	1.150	.562	3.315
	O_LSTATE	.181	5.513	.358	4.151
	B_CIND	.979	1.022	.197	5.600
	O_CEO	.922	1.085	.130	6.883
	O_FREE	.638	1.568	.058	10.301
	B_SCOM	.839	1.193	.020	17.427
After	(Constant)			5.415	1.000
	B_COMPE	.904	1.106	.798	2.605
	B_COMPB	.943	1.060	.585	3.043
	O_CONTR	.965	1.036	.495	3.306
	B_SCOM	.888	1.127	.338	4.005
	B_MEETB	.940	1.064	.179	5.508
	B_MEETA	.882	1.134	.131	6.432
	O_FORE	.917	1.091	.060	9.518

Table 16: Tolerance, VIF, Eigenvalue and Condition Index of Model 5

Model		Tolerance	VIF	Eigenvalue	Condition Index
Before	(Constant)			1.849	1.000
	FC_BSPL	.969	1.032	1.019	1.347
	FC_ROA	.969	1.032	.980	1.374
	FC_DIAG	.999	1.001	.152	3.482
After	(Constant)			1.791	1.000
	FC_BSPL1	1.000	1.000	.209	2.928

Table 17: Tolerance, VIF, Eigenvalue and Condition Index of Model 6

Model		Tolerance	VIF	Eigenvalue	Condition Index
Before	(Constant)			7.567	1.000
	FC_BSPL	.691	1.447	1.117	2.603
	FC_ROA	.901	1.110	.958	2.811
	B_SKILL	.847	1.181	.743	3.191
	FC_DIAG	.884	1.131	.565	3.661
	O_CONTR	.226	4.434	.461	4.053
	B_COMPE	.658	1.520	.220	5.860
	O_FORE	.886	1.129	.157	6.937
	B_MEETB	.955	1.047	.098	8.783
	O_LSTATE	.143	7.011	.063	10.933
	O_LPOLI	.126	7.918	.032	15.353
	B_SCOM	.858	1.166	.018	20.320
After	(Constant)			3.956	1.000
	FC_BSPL	.842	1.187	.553	2.675
	B_COMPE1	.907	1.102	.360	3.315
	B_COMPB1	.837	1.195	.108	6.038
	O_POLI1	.984	1.016	.023	13.134

Table 18: Tolerance, VIF, Eigenvalue and Condition Index of Model 7

Model		Tolerance	VIF	Eigenvalue	Condition Index
Before	(Constant)			5.392	1.000
	O_STATE	.512	1.954	1.221	2.101
	B_COMPB	.905	1.105	.942	2.393
	O_NOMI	.965	1.036	.876	2.480
	O_CONTR	.205	4.870	.725	2.726
	O_LSTATE	.056	18.002	.524	3.208
	O_LARG	.024	42.208	.249	4.652
	B_COMPE	.868	1.152	.054	10.036
	O_LPOLI	.046	21.628	.013	20.286
	O_POLI	.406	2.464	.004	36.441
After	(Constant)			8.705	1.000
	B_COMPB1	.622	1.608	1.372	2.519
	B_COMPE1	.744	1.344	.918	3.080
	O_LNOMI	.163	6.124	.813	3.273
	O_NOMI	.679	1.472	.737	3.436
	O_STATE	.775	1.291	.495	4.193
	DT_CGR	.822	1.216	.281	5.567
	B_MEETA	.860	1.163	.208	6.472
	O_CONTR	.236	4.235	.174	7.067
	B_SIZE	.770	1.299	.128	8.257
	O_LPOLI	.130	7.714	.073	10.950
	O_POLI	.671	1.491	.059	12.175
	B_FAM	.551	1.815	.020	21.124
	O_BOD	.530	1.887	.018	21.796

Table 19: Tolerance, VIF, Eigenvalue and Condition Index of Model 8

Model		Tolerance	VIF	Eigenvalue	Condition Index
Before	(Constant)			1.000	1.000
	FC_BSPL	1.000	1.000	1.000	1.000
	FC_DIAG	1.000	1.000	1.000	1.000
	FC_ROA	1.000	1.000	1.000	1.000
After	(Constant)			1.560	1.000
	FC_BSPL1	.998	1.002	.996	1.252
	FC_DIAG	.998	1.002	.444	1.874

Table 20: Tolerance, VIF, Eigenvalue and Condition Index of Model 9

Model		Tolerance	VIF	Eigenvalue	Condition Index
Before	(Constant)			2.847	1.000
	FC_BSPL	.716	1.396	1.413	1.420
	B_COMPB	.861	1.161	1.048	1.648
	FC_DIAG	.958	1.044	.988	1.698
	O_STATE	.715	1.399	.603	2.173
	O_NOMI	.782	1.279	.485	2.424
	O_FORE	.805	1.243	.359	2.816
	FC_ROA	.976	1.025	.257	3.327
After	(Constant)			5.492	1.000
	FC_BSPL	.700	1.429	1.099	2.236
	B_COMPB1	.686	1.457	.507	3.293
	B_COMPE1	.733	1.363	.469	3.421
	O_NOMI	.813	1.230	.190	5.381
	O_POLI1	.980	1.021	.154	5.974
	B_MEETA	.814	1.228	.066	9.131
	B_SKILL	.874	1.144	.024	15.243

Table 21: Factor Analysis of Control Variables

Component Matrix[a]

	Component		
	1	2	3
C_ASSET	.967		
C_NET	.945		
C_INCOME	.911		
C_CFO	.862		
C_DIVIDEND		.760	
C_AGE		-.688	.432
C_ROA		.369	.880

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

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