CORPORATE GOVERNANCE AND PREDICTION OF FINANCIAL FAILURE OF COMPANIES LISTED ON THE STOCK EXCHANGE OF THAILAND

SIRIRAT POUNGSANGSUK

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF

PHILOSOPHY PROGRAM IN BUSINESS ADMINISTRATION

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ABSTRACT

The aim of this study was to investigate the influence of corporate governance (CG) and financial ratios and to evaluate the reliability of these factors in relation to the prediction of the financial failure of companies listed on the Stock Exchange of Thailand (SET). Data sets included non-financial firms in the Years 2006, 2007 and 2008 to make three-year, two-year and one-year forecasting prior to financial failure in 2009. The study was conducted by the logistic regression analysis method. Fifteen variables were selected to develop the models. Three models were mainly developed and investigated: Model 1 included corporate governance variables, while Model 2 included financial ratio variables. Moreover, Model 3 included both corporate governance variables and financial ratios. All models were tested to determine whether corporate governance and financial ratios were related to the probability of financial failure and whether they could be significant indicators for evaluating the ability to predict the financial failure of firms listed on SET.

It was found that CG variables, representing auditor's opinion and board size and financial ratios, retained earnings to total assets, return on assets and capital structure did influence financial failure at the significant level of .001. In Model 3, which included CG and financial ratios, financial failure was correctly predicted at 99.70%. These findings should contribute to the field of management by increasing the understanding of potential financial failure, and could be used by decision makers in their evaluation of business performance.

Keywords : corporate governance, financial failure, prediction

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Sirirat Poungsangsuk

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ABBREVIATIONS

ANN	Artificial Neural Network
CSR	Corporate Social Responsibility
CRB	Case-based Reasoning
ERP	Enterprise Resource Planning
FCM	Failing Company Model
HRM	Human Resource Management
IAF	Internal Audit Function
MDA	Multiple Discriminant Analysis
NCGC	National Corporate Governance Committee
OECD	Organization for Economic and Co-operation
OLS	Ordinary Least Squares
SET	Stock Exchange of Thailand
SOFM	Self Organizing Feature Map

CHAPTER 1

INTRODUCTION

This study focuses on the exploring influencing variables and testing the predictive ability of corporate governance and financial ratios on the financial failure of companies listed on the Stock Exchange of Thailand (SET).The chapter is organized as follows: background and statement of the problem, theoretical perspective, purposes of the study, research questions and hypotheses. The chapter concludes the definition of terms, limitation of the study, scope of the study, and describes its significance.

Background and Statement of the Problem

Business units are critical to the economy whether they produce products or services because they affect job creation, income distribution, export and increasing the value of gross domestic product (GDP). However, factors such as the global economic crisis, economic downturn in the country and political issues may affect the stability of business and cause financial failure. In the case of companies listed on the Stock Exchange of Thailand, it may be withdrawn from the market, which affects both internal and external shareholders, investors, creditors and other stakeholders.

Companies currently rely on several factors in order for the business to operate efficiently and effectively. One of these important factors is promoting good corporate governance (CG). It is the ethic of business people that care about integrity coupled

with the sustainable growth of the business. Corporate governance is critical to the business. It demonstrates performance management systems, which help create transparency, accountability and confidence to the shareholders, investors, and stakeholders. The cost of corporate bankruptcy is high (Beaver, 1968) and the economic impact to the country is widespread. Therefore, the selection of warning signs before the event is necessary to help organizations prepare or modify the guidelines in order to escape from financial failure that may occur. Corporate governance (CG) and financial ratios that have an influence on the financial failure of companies listed on the Stock Exchange of Thailand (SET) are investigated in this study. A number of previous studies relating to CG and predictive ability have been conducted for two main reasons: (1) predicting financial failure can have a significant impact on the economy; and (2) it serves as an effective early warning signal of impending financial failure.

In the past, researchers such as Beaver (1966), Altman (1968 & 1977), Deakin (1972 & 1977), Blum (1974), Libby (1975), Ohlson (1980), Lau (1987), Daily and Dalton (1994), Khunthong (1997), Solomon and Solomon (2004), Pramodh and Ravi (2007), Chung (2008), Chen, Ying and Kleeman (2010), and Halim et al. (2010) focused on prediction using financial ratios. However, the use of financial ratios alone may not have been sufficient for analysis as the financial statements result from the performance of executive management and shareholders. These may be principles or hired agents or agencies. From the literature review, derived from both local and international sources, CG variables are investigated, shareholders' stake, shareholders' rights, shareholders' education; board of director is foreign investors, auditor's opinion,

ownership structure, board independence and board size used in conjunction with financial ratio analysis. The equation used to examine the ability of CG and financial ratios in predicting the financial failure. Essentially, in this study the researcher attempts to isolate the governance variables and combinations of ratios that can be considered trends that may forecast a failure.

Globally, corporations and authorities at several levels have focused on CG. For example, the World Bank places emphasis on CG in Thailand's development effort in a number of critical areas such as international financial stability, broadening access to capital, promoting efficiency, fighting corruption, and tying savings to broadening welfare provisions. The lack of strict CG has manifested itself in the collapses of corporate giants including Enron, WorldCom, Tyco, Global Crossing in the USA, and Parmalat SpA in Italy.

The 1997 Asian financial crisis was triggered in Thailand when investors lost their confidence and started to withdraw capital due to the collapse of the Thai Baht. To solve the problem, good governance among listed Thai companies has been introduced by SET. At the onset, the roles of the audit committee were first studied in 1995. Since early 1998, all listed companies have been required to establish audit committees and the "Code of Best Practices for Directors of Listed Companies" was issued as a guideline by SET in the same year. In 2000, representatives from the various professional organizations formed the Good Corporate Governance Committee which published a report on CG. The report became a framework for developing good CG systems and practices among organizations in the Thai capital market. The Corporate Governance Center was founded in July 2002 to help listed companies

develop their CG system. The centre facilitates listed companies and those preparing to be listed to locate consulting services and it serves as a venue for directors and executives to exchange of ideas regarding CG practices. SET has been continuously helping listed Thai companies to follow the principles of good governance. The starting point was in 1995 before the financial crisis, when SET studied the roles of audit committees. Subsequently, in early 1998, it issued a listing requirement indicating that effective from 1999 onwards, all listed companies must have an audit committee. In that year, the SET also issued a guideline known as the "Code of Best Practices for Directors of Listed Companies". Two years later, the Good Corporate Governance Committee, consisting of representatives from a variety of professional organizations, disseminated a report on CG. The report set out a framework to be used by organizations in the Thai capital market for developing good CG systems and practices.

The Thai government designated 2002 as the "Compass for Good Corporate Governance" and established the National Corporate Governance Committee (NCGC). In the same year, SET also proposed 15 principles of good CG for listed companies to implement. Starting from the accounting period ending December 31, 2002, listed companies have been required to demonstrate, in their annual registration statement (Form 56-1) and annual reports, how they apply the 15 principles. If they choose not to apply any one of the 15 principles, they are required to provide justification for not doing so.

In July 2002, the SET established the Corporate Governance Center to help listed companies develop their CG systems. The center provides consulting services to

and exchanges ideas about CG practices with directors and executives of listed companies, as well as those of firms preparing to be listed (SET, 2001). According to a SET report, the study focuses on financial statements of the companies listed on SET that are under threat of delisting in various kinds of businesses and industries. Therefore, there is the need for a tool or an indicator that acts as the early warning system of the early warning ratios. The tool or the indicator can predict corporation bankruptcy, Altman (1968). Such predictions can shed light on the companies' credibility and serve as a warning system for the concerned parties before the companies are actually threatened with delisting. The researcher has developed the concept of forecasting using CG as the tools to indicate the trends of the businesses. This is a kind to a physical check-up that tells one whether they have any chronic disease or potential health issue so he or she can take preemptive measures. This forecasting can reduce the problems that would arise from debt restructuring or from undergoing a business rehabilitation program. Furthermore, the forecasting can reduce the risk of financial institutions being affected by bad debts that may result in businesses not being able to continue or being forced into bankruptcy.

In the prediction of business financial failure, there is a variety of statistical techniques such as logistic regression analysis (LRA) , multiple discriminant analysis (MDA) ,artificial neural network (ANN) that have been used to solve the problems facing bankruptcy prediction. These techniques have been developed by many researchers using common financial ratios. In this study, Logistic Regression Analysis (LRA) is used. CG and financial ratios that integrate predictive abilities to predict financial failure and the CG from the perspective of the "OECD Principles of Corporate

Governance" published by Organization for Economic and Co-operation and Development (OECD) in 2004 and adopted by SET in 2006, and which is divided into five sections as follows: Rights of Shareholders, Equitable Treatment of Shareholders, Role of Stakeholders, Disclosure and Transparency and Board Responsibilities, are focused. In this study, three sections of CG consisting of Rights of Shareholders, Equitable Treatment of Shareholders and Disclosure and Transparency are studied.

The motivation to undertake this dissertation has its roots in the Year 2007 financial crises that have had negative effects on a large number of businesses in Thailand. Many companies are facing financial difficulties, which has resulted in a lack of liquidity. A company's operational flexibility can be lessened by financial difficulties and some key failure factors in investment opportunities. As a result, investors, financial institutions, and regulation agencies are adversely affected. The numbers of the listed companies under threat of delisting or those that have already been delisted are on the rise. The causes of delisting include failure of rehabilitation programs, failure to submit financial reports, voluntary delisting, and mergers and acquisitions (M&A). From 2005-2009, these kinds of occurrences were increasing. Some delisted businesses were long-established with a great deal of experience in their sector, but they could not achieve the goals of their business.

Having a warning system for such a crisis should be helpful for the SET-listed companies, policy planners, investors, and government agencies. It should also give insights into the support needed by the SET sector. The rest of this chapter discusses the purposes of the study, research questions and hypotheses. The chapter concludes the

definition of terms, notes the delimitation and limitation of the study, and describes its significance.

Chapter 2 includes the definition of corporate governance including agency theory, stewardship theory, and stakeholder theory, financial failure, and financial ratios analysis, bankruptcy law in Thailand, and related research. Chapter 3 is the theoretical framework, research design, sample and methodology, data processing and analysis used in this study. Chapter 4 discusses the empirical results and analysis of results. Finally, Chapter 5 includes conclusion and recommendations, limitations and further research of this study.

Theoretical Perspective

Agency theory perspective laid the foundation for a growing reliance on incentive pay based on financial targets and stock options that focused managers on the task of creating shareholder value. The agency perspective insists that the purpose of the corporation is to create wealth for its owners. Sharing wealth with managers and agency are justified provided that manager create substantially more wealth than the shared wealth. However, the portion shared with managers might not be enough to solve the agency problem. Following the lead of Jensen and Meckling (1976), agency theorists developed a variety of prescriptions about how to monitor manager and provide incentives to align manager's interests with the interest of shareholders. Scholars, including Fama (1980) and Eisenhardt (1989) developed a basis of thinking

that would come to dominate the discussion of corporate governance. Others contributing to this discussion include Kumar and Sivaramakrishnan (2008), and McKnight and Weir (2009).

Donaldson and Davis (1991) argue that agency theory, with its roots in organizational economics and transaction cost approaches, reductionist view of behavior. Agency theory is focused on shareholder rights and the separation of ownership from control.

Stewardship theory recognizes the importance of structures that empower the steward and offers maximum autonomy built on trust. Stewardship theory, by contrast, with root in psychology and organization behavior, involves an optimistic view of managerial motivation, one that values the notion of higher motivation in the hierarchy of an executive's need (Maslow 1943 and 1954).

However, stakeholder theory further extends the purpose of the corporation from maximizing shareholders wealth to delivering wider outputs to a range of stakeholders and emphasizes corporate efficiency in a social context (Litza, Sun and Kirkbride, 2004). Firms have connections with many different stakeholders: investors, political groups, customers, communities, employees, trade associations, suppliers, and government. Each stakeholder is different in nature and conditions. Principal, thus, will have to choose the agents with management expertise to handle these stakeholders. Therefore, these three theories will be incorporated in this study, as they will increase its comprehensiveness by involving the essential elements of CG.

CG is being considered as an important tool to enhance firm sustainability. It helps to control the corporate agents acting in accountability to stakeholder.

Purposes of the Study

From the research background and theoretical perspective, the study on corporate governance and prediction of financial failure of the companies listed on SET. There are four purposes of the study as follows:

1. To investigate the CG which influence on financial failure of companies listed on the SET.

2. To investigate the financial ratios influence on financial failure of companies listed on the SET.

3. To investigate the CG and financial ratios which influence on financial failure of companies listed on the SET.

Research Questions and Hypotheses

According to the objectives mentioned above, CG and financial ratios have a role in predicting the financial failure. Moreover, the researcher needs to find out the variables that influence the prediction and to evaluate the ability to predict. Several studies have been done in this field including Beaver (1966), Altman (1968), Maher and Anderson (1999) in this study.

There are two research questions and six hypotheses to be tested. CG and financial ratios will be computed and determined by using the logistic regression techniques indicating financial failure of business firms, the significance of CG and financial ratios and the predictive ability. This study investigates to solve research questions and evaluate the following the hypotheses.

Research Questions: 1**.** Are CG and financial ratios significant indicators of financial failure of the companies listed on SET?

Research Hypotheses

H1: CG has the relate on financial failure of the companies listed on SET.

H2: Financial ratios have influence on financial failure of the companies listed on SET.

H3: CG and financial ratios have influence on financial failure of the companies listed on SET.

Research Questions: 2. Are financial failure prediction models successful as a sound early warning tool that integrates accounting and CG to predict the financial failure?

Research Hypotheses

H4: CG has the ability to predict the financial failure.

H5: Financial ratios have the ability to predict the financial failure.

H6: CG and Financial ratios have the ability to predict the financial failure**.**

Definition of Terms

Failure: The operation or financial status of the companies listed on the stock exchange that is categorized either as: the listed companies that entered "rehabilitation sector" or when SET determines that a firm does not meet its required criteria. The firm will then be ordered by the Exchange to delist its securities.

In this study, compulsory delisting for sampling is used to compare with non-failure. A firm identified as compulsory delisting encompasses three conditions: (1)

company's operations and SET's criteria are not met by company's operations and financial conditions; (2) SET regulations are significantly violated or not complied with by the listed company; and (3) when the company is liquidated to dissolve the business, when the court places the company under receivership or legally order it to close the business, or when the company fails to rehabilitate, then the court places it under receivership or bankruptcy is declared. This study is under any one of the three conditions mentioned above.

Non-failure: The operation or financial status of the companies listed on the stock exchange that are not under the threat of delisting and the companies with high liquidity and consistently good performance (SET, 2001).

Limitations of the Study

This study has two limitations that may affect the accuracy of Logistic regression analyses : (1) the methodology violates the assumption of normality for independent variables; and (2) some companies' financial statements disclosure is not complete. It should also be noted that this study is restricted to statements of financial position and statements of comprehensive income.

Scope of the Study

The scope of the study is as follows:

1. The population under study is the companies listed on SET. The companies are also separated into those non-failure and failure. In this study, non-financial sectors are studied except financial sectors because during the study period, there were no financial companies were withdrawn by SET.

2. The CG is under three conditions above and selected based on the prediction significance of financial failure of the companies.

3. Financial ratios are selected based on the prediction significance of financial failure of the companies listed on SET.

4. The period of study is from 2006 to 2009.

5. Logistic regression analyses (LRA) have been used in this study.

The sample of non-financial firms is selected from SET data base during 2006-2009. Samples from the years 2006, 2007 and 2008 are used as three-year, two-year and one-year forecasting prior to financial failure in 2009, respectively.

Significance of the Study

The predictive ability of the CG and financial ratios on financial failure is contributed to many users. Stakeholders can detect in advance whether a firm is likely to enter the financial failure condition and can take actions to prevent the occurrence of ultimate failure as early as possible to reduce the substantial losses of failure.

1. Management can decide from the findings of this study how they would manage the business and the findings can be a warning signal to the management for financial planning to prevent the company from the delisting and restructuring.

2. Knowing potential financial failure in advance could support creditor's decision making on evaluation the business performance and borrowers pay back ability.

3. Investors can use the financial ratios technique to help make better investment decisions. The businesses with low financial risk as well as high and sustainable performance can be methodically indentified.

4. Legislators can use the data to set the regulation to regulate the companies. According to the Rules of the Stock Exchange concerning the Board of Directors and Audit Committee of the company, the Audit Committee must consist of at least three members, at least one person with knowledge of accounting and finance and one with knowledge of the law, which will help the company take care of the issues better.

CHAPTER 2

LITERATURE REVIEW

In this study, the CG variables and financial ratios influencing on the financial failure prediction and evaluation of their ability to predict are studied. The models are developed by using CG variables and financial ratios of companies listed on the Stock Exchange of Thailand. The researcher has reviewed the literature and theoretical concepts related to CG and financial ratios.

This chapter includes the definition of corporate governance including agency theory, stewardship theory, and stakeholder theory, financial failure, financial ratios analysis, bankruptcy law in Thailand and related studies.

Corporate Governance

The development of corporate governance in Thailand has been continued after Thailand faced the economic crisis in 1997. There are several studies. For example, Abla, Clasesens, and Djankov (1998), Prowse (1998) reported on the relationship between inefficient corporate governance systems and economic crises and Maher and Anderson (2003) found that inefficient corporate governance system was an accelerating factor that caused the economic crisis in Thailand.

The National Corporate Governance Committee can be defined may ways**:**

- A relationship between the board of directors, its management team, its shareholder and other stakeholders in controlling the company's direction and monitoring its operation and administration.

- A structure of an internal controlling process ensuring that the board of directors evaluates the management team's transparency and efficiency.

- A system having a corporate control structure combining strong leadership and operation monitoring. Its purpose is to establish a transparent working environment and enhance the company's competitiveness. It also strives to preserve capital and increase shareholders' long-term value with the consideration of these factors business ethics, stakeholders and social concerns factor, throughout the process.

The purpose of corporate governance is to direct and control the activities of an organization by establishing structures, rules and procedures for decision making.

Gelauff and den Broeder (1997) defined the CG as "institutional arrangements which are designed to control relationships between the various stakeholders in firms, and which affect the actions of different stakeholders". Sternberg (2004) defined it as "the mechanism by which corporate actions, assets, and agents are directed at achieving corporate objectives established by the corporation's shareholders… [CG arrangements] are the means by which corporate agents are held accountable to the shareholders for achieving the corporation's objectives." Solomon & Solomon (2004) define CG as a central and dynamic aspect of business. The term "governance" derives from the Latin gubernare meaning "to steer", usually applied to the steering of a ship, which implies that CG involves the function of direction rather than control. There are many ways of

defining corporate the accountability of companies to many other groups of people, or "stakeholders".

The Malaysian High Level Finance Committee Report on Corporate Governance defines CG as follows: "Corporate Governance is the process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability with the ultimate objective of realizing long-term shareholder value, whilst taking into account the interests of other stakeholders."

More comprehensively, in its Principles of CG, the OECD (2004) offered the following definition: "Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. CG also provides the structure though which the objectives of the company are set, and the means of attaining these objectives and monitoring performance are determined."

The Principles of Good Corporate Governance for Listed Companies

The Principles of Good Corporate Governance for Listed Companies in Thailand, revised in 2006, are divided into two parts: the principles and the recommended best practices. The principles and the recommended best practices are presented in 5 categories namely,

1. **Rights of Shareholders**: Shareholders are the owners of the company. They control the company by appointing the board of directors to act as their representatives. Shareholders are eligible to make decisions on any of significant

corporate changes. Therefore, the company should encourage shareholders to exercise their rights, e.g. the directors' remuneration is approved by shareholders on an annual basis or the shareholders have the opportunity to vote in the director election.

2. **Equitable Treatment of Shareholders**: All shareholders, including those with management positions, non-executive shareholders and foreign shareholders should be treated in an equal way. Minority shareholders whose rights have been violated should be redressed e.g. the rights of shareholders to vote on a one share, one vote or not.

3. **Role of Stakeholders**: Stakeholders of a company should be treated fairly in accordance with their legal rights as specified in relevant laws. The board of directors should provide a mechanism to promote cooperation between the company and its stakeholders in order to create wealth, financial stability and sustainability of the firm e.g. the company should have a clear policy on securing tangible benefits, welfare, and right of staff.

4. **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 e.g. financial situation, overall operation result, shareholder structure, and the corporate governance of the company.

5. **Responsibilities of the Board**: The board of directors plays an important role in corporate governance for the best interest of the company. The board is accountable to shareholders and independent of management e.g. the board of directors should identify their term clearly in the governance policy.

According to the five categories of the governance principles mentioned above, some sections that the Stock Exchange of Thailand suggests in the responsibility of the board of directors are interesting in their application to modeling the prediction of financial failure. Priors studies , including Shaw (1981), Chaganti, Mahajan, and Sharma (1985) Pfeffer (1972b), Dailay and Dalton (1994a), Hermalin and Weisbach (1988), printed out the correlation of the board structure, the number of board, and the proportion of independent directors.

In this study, the author is interested in the variables under some parts of the corporate governance including ownership structure, board of directors, shareholder rights, and audit committee. This is because these categories include the executive's role which, based on the literature review or related researched, influence the financial failure. Therefore, a review of relevant literature and research is conducted as follows.

According to the literature review for variables that are associated with CG or good governance, most research is conducted to study the relationship between CG mechanisms on the performance of the company by using the proportion of shares held domestically and shares held by foreigners. The business performance comes in the form of financial statements which reveal the financial position and profit and loss statement showing the operations of the company.

CG is important and receives the attention of the public, regulatory agencies, and the companies' management. This is because CG creates effective management, transparency, disclosure, and standardized performance. Thus, CG thereby promotes efficiency and competitive advantage, adds value to business, and satisfies all stakeholders.

Ownership Structure

Ownership structure is one of the incentives in aligning the interest of managers with that of shareholders. In addition, the presence of outside blockholders is also an important mechanism in CG (Byrd, Parrino & Pritsch, 1998). However, large ownership or ownership concentration may contribute to deficiencies in CG (Thillainathan, 1999). In Malaysia, the controlling-shareholder (i.e., those holding more than 50% ownership) through a pyramid structure is common (Thillainathan, 1999). The controlling shareholders, either individuals/families or corporations, are in the position to expropriate minority interests using their dominant voting right.

Firm owners were defined by Hansmann (1996) as those who have the formal right to control the firm and the formal right to appropriate the firm profit. Ownership was defined by Jensen and Meckling (1998) as possession of decision right and the right to break off that right. Within any firm, ownership and control are almost inseparable. Some degree of ownership of the equity positions is usually held by the controllers. Thus, the success of CG depends on ownership structure. However, there are also complicated relationships among ownership, control, and firm value. For example, as Danis and McConnell (2002) pointed out, management that owns the company can align their interests with those of the company's shareholders.

Morck, Shleifer, and Vishny (1998) and McConnell and Servaes (1990) found the evidence in the USA of the effects of ownership structure on corporate decisions and on firm value. The alignment effect of inside ownership plays a major role in the reinforced position effects over some degrees of managerial ownership. Bertrand, Frederic and Robert (2004) also found that there is an association among larger families, a larger number of smaller firms in the group, and somewhat deeper groups.

When the founder transfers ultimate control and is less likely to jointly hold board positions in the same firm once he/she retires, the effects of family composition on group size and structure are stronger for the groups. They suggested that distortions in the organization and governance of the groups stem from potential conflicts between family members once the founder has retired.

It was suggested by Sheifer and Vishny (1997) that, in countries that are generally less developed and where property rights are not well defined and/or not well protected by judicial systems, the benefits from concentrated ownership are relatively larger. This proposition was confirmed empirically by La Prota, Lopez-De-Silanes and Shleifer (1999). They show that there is an association between the ownership stakes of the top three shareholders of the largest listed corporations in a broad sample of countries around the world and weak legal and institutional environments. The issue of ultimate control was also investigated. The chain of ownership was traced to find who has the most voting right. It is suggested that the large shareholders can benefit from the ownership and control separation.

It was noted by many researchers that cross shareholdings and pyramidal structures can enhance the owners' control rights. Reduced firm value is a result of the effect of the divergence between control and ownership (Classens, Djankov, & Lang, 2002; Claessens, et al. 2002b). It was also found by Clasessens, Djankov and Lang (2000) that, as in other East Asian countries, Thai public companies have a high concentration of ownership and are family dominated. It has also been found by other studies in East Asia that firm valuation is affected by CG factors (Mitton, 2002; Lins, 2003; Zhuang et al., 2000).

Claessins, Djankov and Lang (2000) argued that high ownership concentration was typically both a result and a cause of weak CG. Investors should be able to use CG as a means to monitor and control management when protection systems are weak (Alba, Clasessens & Djankov, 1998). The effectiveness of some important mechanisms of shareholder protection, such as the system of the board of directors, shareholder participation through voting during shareholder meetings, transparency and disclose, is reduced by the high concentration of ownership.

Board of Directors

A board of directors is to ensure that managers maximize shareholder value. Their main duties are the hiring and firing of managers and monitoring and compensating management. Adams and Ferreira (2007) present board characteristics that have been studied include the size of board, its dependence from the management, the background of the directors, and business as measured by the number of seats the members hold on the board of other companies.

This study investigates independent boards and size of the board is related to prediction of financial failure.

Boards play a major role in CG reform. They consider and resolve various issues related to: executive compensation; accounting treatment of options; director ties and conflicts of interest; composition, function, and efficiency of board committees; provision of consulting services by external auditors; making announcement of ethical conduct; and so on. Improved internal CG mechanisms and enhanced accounting,

disclosure, and auditing standards may also result in better CG (Limpaphayom & Connelly, 2004).

Clarke (2007) argued that the board of directors is the epicenter of CG, the arena in which all of the mechanisms of governance are required to respond to market signals and institutional pressures in order to secure the commercial viability and accountability of the business. The evident fact that boards of directors often do not live up to these great expectations is one of the continuing dilemmas of CG. Whenever a major corporation fails, the first resounding question is "Where was the board?" the disappointing answer is that if the board of directors were not asleep at the wheel, they certainly did not demonstrate the strategic alertness or fiduciary commitment that ostensibly they were there to provide.

All boards necessarily are based on creative tension, exhibiting the capacity to question and challenge, as well as to support and sustain. Frequently, the greatest source of tension is between what the board of directors believe is their legitimate desire to exercise ultimate control of the company, and management's determination to retain what they define as the necessary level of operational control of the business (Demb & Neubauce, 1992; Lorsch & Carter, 2004; Useem & Zelleke, 2006). Usually, this tension is interpreted through an agency perspective of the need to discipline managers to deliver value to shareholders involving the following:

The agency conflicts among the different agents related to the firm and the effectiveness of the internal and external control mechanisms in inducing managerial value enhancing actions. These controls traditionally have been classified as internal or external. Internal controls principally include the board of directors and mutual monitoring among managers (Fama, 1980; Fama & Jensen, 1983), the direct manager's

remuneration schemes (Murphy, 1985), the supervisory role played by the large shareholders (Demsetz & Lehn, 1983) and the use of debt financing (Jensen, 1986). External controls are exerted by the market for corporate control (Grossman & Hart, 1980), the managerial labor market (Fama, 1980) and the product market (Hart, 1983). Fernandez and Arrondo 2008 state that the outcome of tension is generally believed to be that though the board does have formal power over management, in practice management dominates the board.

CG was defined by Iskander and Chamlou (2000) as maximizing value subject to meeting the corporation's financial and other legal and contractual obligations. By the across-the-board definition, the boards of directors need to balance the interests of shareholders with those of other stakeholders in order to achieve long-term sustained value for the corporation.

Shareholder rights

Good CG is important because, in most large companies, the owners of funds do not manage the business, and the managers do not own the funds. The term “Good CG” describes company’s rules, regulations and mechanisms which ensure the protection of the rights of shareholders (owners of funds), and that management of the company is for the best and long-term interests of shareholders. Directors, acting as links between shareholders and management, have an essential role in establishing good CG. Shareholder confidence is crucial and must be earned. It is given when the company conducts its affairs according to the following principles:

Fund owners have the right to participate in important decision-making processes (usually by shareholder resolutions); the right to receive returns in full honestly; and the right to fair practice without discrimination, based on the number of shares held, free of influence from major shareholders.

The essence of governance is protecting shareholder rights and it must be an ultimate policy goal. Many areas are involved in supporting these rights such as allowing shareholders the power to choose and replace directors, permitting minority interests to be formally represented on the board, and giving shareholders information on how directors vote on key issues. Proxy voting and timely receipt of relevant materials before shareholders' meetings, however, are the major areas for further improvement. Minority shareholders also lack of alternative mechanisms to protect themselves against companies' crimes.

Audit Committee

Audit committees are considered another bastion of governance establishing a link between the external auditor and the board, reducing the risk of illegal activity, and preventing fraudulent financial reporting. However, the effectiveness of corporate auditing is open to question (Clarke & Dean, 2007). Spira (1999) suggests there is little evidence that audit committees will protect auditor independence and lead to improved financial reporting; rather they tend to serve a ceremonial function providing an external symbol of legitimacy.

Many companies establish the role of audit committee well. For example, it is agreed that financial statements, and generally accepted accounting principles (GAAP)

or international accounting standards (IAS), now international financial reporting standards (IFRS), rules should be well understood by at least one committee member.

It is mandatory to establish an audit committee but different countries have different rules governing the composition of the members of the audit committee. It was found by Nam and Lum (2005) that at least one independent commissioner and a minimum of two outsiders are required in the audit committee of Indonesian banks. At least two-thirds of the total committee members of Korean banks must be outside directors. A majority of independent directors and at least three non-executive directors are required in the Malaysian banks' audit committees. Thailand has similar rules as a minimum of three members and at least two independent directors are required in the banks' audit committees. In some banks, members of the audit committee understand the accounting discipline well or have finance expertise, although this is not mandatory; and Nam and Lum (2005) indicated that this is often the case in Indonesian banks and Thai banks. The audit committee is responsible for overseeing the appointment of external auditors for the bank. At least 60 percent of the banks in all four countries used external auditing service from one of the big four audit firms.

It is found that variables used in the study and indicators in the area of corporate governance from the literature and theories are as follows:

1. Control rights: the independence of the chairman is significant to the economic value of the business but the concentration of the shareholders has negative relationship and is significant to the economic value. This is variable used by Srichanphet (2009).

2. Foreign : this variable used by Khan (2010) , he investigated the CSR reporting information of Bangladeshi listed commercial banks and explores the potential effects of CG element on CSR disclosures. The results also displayed no significant relationship between the women representation in the board and CSR reporting. Conversely, non-executive directors and existence of foreign nationalities have been found to have a significant impact on the CSR reporting. Companies with good CG would entice investors to invest. A study by Li (2005) found that investors will avoid investing in companies with low oversight and change the investment to be direct investment for their better right protection. According to Principal-Agent theory, encouraging the company and its management to realize the importance of all interested parties reduces conflicts that may arise among stakeholders. At the same time, there should be the establishment of the Nomination and Remuneration Committee to enhance greater transparency of the Board of Directors of the Company.

3. Education: Management's education is an important part in the planning, control and decision-making process, which includes expertise in the business. This study measures the level of executives' education, using bachelor's degree and higher as the criteria, according to the assumption that good education can lead to better management. This is variable used by Catherine & Dan (1994).

4. Auditor's opinion: The expressing of auditor's opinion and the thorough financial statements auditing result in the useful information used in decision-making. Whether an auditor would express his opinion with reservation or not depends on the performance and transparency of the information. Unclear or reserved opinion may be the cause of the financial failure. This is variable used by Jaikengkit (2004).

5. Ownership structure: for the consideration of the stakeholders in the business. President, The directors and senior management of the company should have contributed to the financial risks of the business, as other shareholders. Therefore, the proportion of the shareholding of the company affects the function more effectively in order to maintain the availability of other stakeholders of the company. The proportion of shares held high. Has the authority to decide this is variable used by Minow and Bingham (1995).

6. Board independence: According to Agency theory, Board of Directors has the authority to supervise and evaluate the performance of management. Furthermore, according to the principles of the Corporate Governance, Section 2, deals with the equal and fair treatment of the shareholders. Proportion of independent directors is responsible for the operation. This is variable used by Pfeffer (1972b), Daily and Dalton (1994a), Hermalin and Weisbach (1988).

7. Board size: The number of board is in the details of recommendations for best practices No. 1.1, Section 5. This variable is used to measure the relevance of the operation result and the size of the company's Board of Directors, small or large, whether it affects the financial problems of the business or not. This is variable used by Shaw (1981), Chaganti, Mahajan, and Sharma (1985).

This study uses seven corporate governance variables as independent variables and variable selection is based on other prior researches. The detail for the study is as follows:

Table 2.1 Summary of Corporate Governance Variables

Corporate Governance Variable	**Author**
Control rights	Srichanphet (2009)
Foreign	Polsiri and Sookhanaplibarn (2009), Md.Habib-Uz-Zaman Khan (2010), Li (2005)
Education	Catherine & Dan (1994)
Auditor's opinion	Jaikengkit (2004)
Ownership structure	Minow and Bingham (1995)
Board independence	Pfeffer (1972b), Daily and Dalton (1994),Hermalin and Weisbach (1988)
Board size	Shaw (1981), Chaganti, Mahajan, and Sharma(1985)

The theoretical perspectives of corporate governance in general such as agency theory, stewardship theory, and stakeholder theory are used to support this study as CG was developed based on these theories.

Agency theory is the dominant perspective in corporate governance studies. It has been criticized in recent years (Blair, 1996; Hoskisson et al., 2000; Fan, 2004) because of its limited ability to explain sociological and psychological mechanisms inherent of principal-agent interactions (Davis, 1991). The variables used in the study under this theory are Control rights, Foreign, Ownership structure, Board independence and Board size. Shareholders choose the board of directors to serve on the selection of the management to be their representative in the management. The shareholders define the pay packages for the board the directors and the management as the remuneration of the administration. The performance of the board and the management is determined from the information in the financial reports of the company.

Stewardship theorists contend that superior corporate performance is associated with the majority of inside directors because; first, they ensure more effective and efficient decision- making and second, they contribute to maximize profits for shareholders (Kiel and Nicholson 2003). Consequently, insider-dominated boards are favored for their depth of knowledge, access to current operating information, technical expertise and commitment to the firm. The variable used in the study under the theory is Education. The executive's good education enables the administration with morality, quality and efficiency. They usually think of the common good rather than personal gain.

Stakeholder theory focuses on managerial or strategic decision-making and suggests that the interest of all stakeholders have intrinsic value, and no sets of interests are assumed to dominate others (Clarkson, 1995; Abdullah and Valentine, 2009). The variable used in the study under the theory is Auditor's opinion. It is a mechanism to control the preparation of the information in financial reports to report on the operations and performance of the agent correctly to create value for shareholders in the long run.

All the theories assume that the board and management formulate strategy through a partnership approach (Hendry and Kiel, 2004). These perspectives arise from the three main roles identified by the literature within boards of directors: control, service, and resource dependence (Johnson et al., 1996). A literature review of the theories has been studied and used as follows.

Agency Theory

According to the agency theory, the board has the authority to supervise and evaluate the work of management. This is evident from past researches which identify that opportunities sought by the executive will not affect the shareholders if the board of directors and audit committee oversight with fair administration.

Agency theory refers to a set of propositions in governing a modern corporation which is typically characterized by large number of shareholders or owners who allow separate individuals to control and direct the use of their collective capital for future gains. These individuals, typically, may not always own shares but may possess relevant professional skills in managing the corporation. The theory offers many useful ways to examine the relationship between owners and managers and verify how the final objective of maximizing the returns to the owners is achieved, particularly when the managers do not own the corporation's resources.

Agency theory is directed at the ubiquitous agency relationship, in which one party (the principal) delegates work to another (the agent), who performs that work. Agency theory is concerned with resolving two problems that can occur in agency relationships. The first is the agency problem that arises when (a) the desires or goals of the principal and agent conflict and (b) it is difficult or expensive for the principle to verify what the agent is actually doing. The problem here is that the principal cannot verify that the agent has behaved appropriately. The second is the problem of risk sharing that arises when the principal and agent have different attitudes towards risk. The problem here is that the principle and the agent may prefer different actions because of the different risk preferences.

Several empirical studies have since adopted agency theory to identify solutions to specific contexts such as diversification strategies within firms (e.g., Kehoe, 1996; Denis & Sarin, 1999). We relate the theory in a more generic sense of CG. Keasey and Wright (1993) defined CG in terms of "structures, process, cultures and systems that engender the successful operation of organizations".

Agency theory relative to CG assumes a two-tier form of firm control: managers and owners. Agency theory holds that there will be some friction and mistrust between these two groups. The basic structure of the corporation, therefore, is the web of contractual relations among different interest groups with a stake in the company.

It has been argued that the "agency problem" has stemmed from the separation of ownership and control. Berle and Means (1932) discussed the extension of the dispersion of shareholding which, subsequently, separated ownership and control in the USA. Ross (1973) was the first scholar who explored the agency problem and Jensen and Meckling (1976) presented first detailed theoretical exposition of agency theory. The managers of the company were defined as 'agents' and the shareholders as the 'principal'. According to Solomon and Solomon (2004), the problem is that the agents do not always make decision in the best interests of the principal.

Eisenhardt (1989) reviewed agency theory, its contributions to organization theory and the extant empirical work and develops testable propositions. The conclusions are that agency theory (a) offers unique insight into information systems, outcome uncertainty, incentives and risk and (b) is an empirically valid perspective, particularly when coupled with complementary perspectives. The principal

recommendation is to incorporate an agency perspective in studies of the many problems having a cooperative structure.

According to Hat (1995), CG issues arise in an organization wherever two conditions are present. First, there is a conflict of interest or agency problem, involving members of the organization, such as owners, managers, workers or customers. Second, the conflict of interest or agency problem cannot be dealt with through a contract. Hart observes that there are several reasons why contracting to overcome the agency problem might not always be possible. In particular, it is not possible to contract to cover all events. In addition, there are costs associated with negotiating contracts and enforcing them.

Claessens, Djankov and Lang (2000) investigated the separation of ownership and control in 2,980 publicly traded companies in nine East Asian counties. They found that single shareholders control more than two-thirds of firms. The separation of ownership and control is most pronounced among family-controlled firms and among small firms. They found that older firms are more likely to be family controlled, as are smaller firms. Claessens and Fan (2003) found that agency problems, arising from certain ownership structures especially large deviations between control and cash flow rights, are anticipated and priced by investors. The nature of a corporation's ownership structure will affect the nature of the agency problems between managers and outside shareholders, and among shareholders. On the other hand, when ownership is concentrated to a degree that one owner has effective control of the firm, as is typically the case in Asia the nature of the agency problem shifts away from manager-

shareholder conflicts to conflicts between the controlling owner (who is often also the manager) and minority shareholders.

Sarens and Abdolmohammadi (2007) investigated information asymmetry between principals and agents. The results also indicate a positive relationship between company size as well as the number of reporting levels and the size of the Internal Audit Function (IAF), suggestion a monitoring role for internal audit in reducing internal principal/agent problems. Both results support the growing monitoring role of internal audit in CG.

Holmstrom and Milgrom (1994) argued that instead of providing fluctuating incentive payments, the agents will only focus on projects that have a high return and have a fixed wage without any incentive component.

Although Clarke (2004) provided a fair assessment, it did not eradicate or even minimize corporate misconduct. Here, the positivist approach is used where the agents are controlled by principal-made rules, with the aim of maximizing shareholders value. Hence, a more individualistic view is applied in this theory.

Agency theory presumes that self-interested manager are agents of the company's owners who need to be monitored and controlled in order to effectively align their behavior with the interests of the owners.

Stewardship Theory

Stewardship theory has its roots from psychology and sociology. It is defined by Davis, Schoorman and Donaldson (1997) as "a steward protects and maximizes shareholders wealth through firm performance, because by so doing, the steward's utility functions are maximized".

Donaldson and Davis (1991) studied agency theory and argued that shareholder interest require protection by separation of incumbency of roles of board chair and CEO. Stewardship theory argues shareholder interests are maximized by shared incumbency of these roles. Results of an empirical test fail to support agency theory and provide some support for stewardship theory.

On the other end, Daily et al. (2003) argued that in order to protect their reputations as decision makers in organizations, executives and directors are inclined to operate the firm to maximize financial performance as well as shareholders' profit.

Indeed, Fama (1980) contended that executives and directors are also managing their careers in order to be seen as effective steward of establish a good their organization, whilst, Shleifer and Vishny (1997) insist that managers return finance to investors to establish a good reputation so that that can re-enter the market for future finance. Stewardship model can have linking or resemblance in countries like Japan, where the Japanese worker assumes the role of stewards and takes ownership of their jobs and work at them diligently. Moreover, Donaldson and Davis (1991) find that stewardship theory suggests unifying the role of the CEO and the chairman so as to reduce agency costs and to have greater role as stewards in the organization. It was evident that there would be better safeguarding of the interest of the shareholders. It was empirically found that the returns have improved by having both these theories combined rather than separated.

Both agency theory and stewardship theory lead to self fulfilling prophecies. Writer (2001) explains that both theories must form part of a broader dialectic theory. Agency theory founded on a presumption of mistrust propels a downward spiral of increased regulation. In contrast, Stewardship theory is founded on a presumption of

trust, fuels and increasing trust that leads to boards without independent directors, or even to boards that have no monitoring function but rather serve only as advisers.

Stakeholder Theory

In the 1970s, stakeholder theory was first developed. Freeman (1984) presented one of the first written descriptions of stakeholder theory, contained in the management discipline. He proposed a general theory of the firm that includes corporate accountability to a broad range of stakeholders. Solomon and Solomon (2004) later defined 'stakeholders' as shareholders, employees, suppliers, customers, creditors, communities in the local area of the company's operations and the general public. Solomon and Solomon (2004) also argued that a basic issue for stakeholder theory is that companies are so large and their impact on society so extensive that many more sectors, beside their shareholders, should take accountability. Letza, Sun and Kirbride (2004) further explained that stakeholder theory originates from the social entity conception of a corporation. The modern corporation has a large scale and scope that it needs various kinds of professional management expertise and a large amount of capital investment. Share ownership in a corporation, through the stock markets, becomes scattering and investors become are like investors than owners. A public corporation should take social responsibilities such as fairness, social justice and protection of employees because it is involved in many aspects of social life and affects many people in both welfare and potential risks.

Shareholder rights and the separation of ownership from control are the main focuses in agency theory. However, stakeholder theory also includes delivering wider

outputs to a range of stakeholders and the emphasis of corporate efficiency in a social context the corporation's traditional propose of maximizing shareholders' wealth (Litza, Sun & Kirkbride, 2004).

Financial Failure

The meaning of failure

"Corporate failure" fairly obviously encompasses "bankruptcy" which for a company effectively means a creditors' liquidation or the appointment of a receiver. However, the net can be drawn more widely to embrace situations where there is evidence of "financial distress". It may therefore be useful to list a spectrum of potential indicators of such distress, beginning with situations where there is general agreement on what constitutes failure and working down to other circumstances which are more indicative of a company's possible financial difficulties. Some examples of these difficulties are creditors' or voluntary liquidation, appointment of a receiver, suspension of stock exchange listing, going concern qualification by the auditors, composition with the creditors, protection with the creditors, breach of debt covenants, fall in bond or credit rating, new charges taken over the assets of the company or its directors, company reconstruction, resignation of directors, appointment of a company doctor, etc, take over (although not all take over is witness to financial distress, of course), closure or sale of part of business, a cut in dividends of the business, and the

reporting of profits below a forecast or acceptable level; and /or the fall in a company's relative share price.

Generally corporate failure studies concentrate on the first few items in the above list, although some of the others may be taken as indicators of impending difficulties. There is also an extensive literature on changes in corporate bond and credit ratings and on corporate turnarounds.

In this study, the sample of financially failed companies from the rules of the Stock Exchange is selected as per the following.

Delisting of Listed Companies: Criteria and conditions for delisting are imposed to protect minority shareholders. This is because delisting affects both shareholders' interests and the liquidity of securities. Delisting of shares can be classified into two types are compulsory delisting and voluntary delisting.

The meaning of "prediction"

On the other hand, the word "predict" concerns future events or situations. For example, the work introduced by Beaver (1966) entitled "Financial ratios as predictors of failure" was a classic work attempting to predict firms' financial stability. Boonyanet (2002) agrees with Bell (1974) that prediction is a function, mainly dependent on inside knowledge and judgment and long involvement with a situation. In the end, prediction needs more than a single piece of information in order to obtain solutions.

Morris (1998) studied corporate failure and specifically referred to predicting bankruptcy. It is therefore necessary to deal with another semantic issue, which is all

too rarely addressed in the literature- namely, what exactly is meant by "prediction". In fact, prediction has two distinct meanings, and it is important to distinguish them.

1. Prediction can mean "identification" -i.e., in a narrow statistical sense it should be possible historically (or "ex post") for a given population of companies to predict (identify) which businesses went bankrupt and which did not. Such an autopsy can be useful as a way of enhancing understanding of the phenomena which characterize corporate failure.

2. Prediction can mean "forecast"- i.e., it implies that it should somehow be possible to distinguish in advance (or "ex ante") those firms which, within a given time span, will fail and those which will not.

The link between CG and financial failure in businesses determines many factors leading to success and failure. Therefore, the researcher conducts a literature review of the cases of financial failure as follows. The literature review on the subject of CG variable finds that the financial ratio variables which are able to measure financial failure can be selected from financial ratios. When businesses arrive at financial failure, managers must comply with bankruptcy laws and carefully plan the next step.

Financial Ratios Analysis

The main goal of the performance reports and analysis is to enable users of financial statements to understand the changes in operating businesses that influence the results and to better understand the relationship of the changes that occur. Therefore, in

this analysis, there should be reports and analysis of the "main factors" in doing business no matter if they have changed in the past or are expected to change in the future, including the uncertainty in the current economic situation that is expected to have a significant impact on revenue, expenses or profit and the disclosure of changes in the factors that will impact both positively and negatively on revenue, costs or profits of the current financial period. In the operation, there should be the analysis of financial statements in terms of comparison on a year-on-year basis and an explanation of why those changes have occurred. Financial reports include financial statements and other information in annual reports as they are recognized a source of historical information that is important to users. However, users still need other useful information.

The quantitative and qualitative information contained in the annual report of each company are different. Furthermore, the common practice of presenting figures in narrative form remains inadequate. While the preparation of financial statements must be in accordance with generally accepted accounting standards, currently, no standards are specified in the disclosure of the non-numeric data. The results come from the performance of the entrepreneurs or investors that are responsible for utilizing resources effectively in order to create value to the business and they must consider the impact of the products and services of the business. Therefore, the management and the committee are directly responsible to shareholders first, as the shareholders entrust the business to them. In considering the relationship between management and the board of directors of companies with shareholders, there are two related theories, namely: (1) agency theory, and (2) stewardship theory. The two theories make different assumptions about human behavior which create the structure and form of the relationship among management, the board of directors, and shareholders.

Agency theory considers the relationship among individuals within the organization by identifying two groups: either as principals or agents. Principals hire the board of directors and the management, who are the agents, as their representatives to oversee the value creation and profit maximization. If the agents do not act for the sake of their owners' interests, there will be problems. Stewardship theory is that the board of directors and management fully oversee and create value of the business only when the property owners authorize them with responsibility and independence in the decision-making process on policies.

In this research, agency theory and stewardship theory are linked. In doing business, owners are unable to operate with expertise in all aspects and need to employ agents. In employing agents, aside from the expertise discussed in agency theory, the agents need to fully manage and oversee the property, create value and maximize profit. The principals also need to clearly authorize and grant independence to the agents to implement policies to achieve the business goals.

Financial statements as prepared by the accountant are documents containing much valuable information. Some of the information requires little or no analysis to understand. If the income statement shows an operating loss, the seriousness of that problem is fairly self-evident. However, for the most part, some analysis is required to fully understand the financial condition of a company. An important tool of financial statement analysis will be presented through ratio analysis.

There are three groups of individuals that have an intense interest in financial statement analysis: (1) investors are interested in financial statements to evaluate current earnings and to predict future earnings and financial statements greatly

influence the price at which stock is bought and sold; (2) bankers before granting loans usually require that financial statements be submitted and whether or not a loan is made depends heavily on a company's financial condition and its prospects for the future; and (3) perhaps the group that has the most interest in financial statement analysis is management as management needs to discover quickly any area of mismanagement so that corrective action can be quickly taken. Also, financial statement analysis can provide support that the decisions made in the past have been the right decisions.

Financial statements, in addition to showing the results of operations, show the effect. Financial ratio is the data showing the relationship between the values of each item reported in the financial statements which will be useful in the application. Financial ratios can be divided into several categories and the calculation of financial ratios can be made by calculation of the value of each item in the financial statements. Relative financial ratio should be compared with other indicators such as prices of other financial ratios in order to make the analysis useful.

Financial Ratios

In financial failure prediction, financial ratios are often used as independent variables in the model. It is the use of historical data to predict the financial future. In the past, the studies of the financial failure prediction using financial ratios include Beaver (1966), Altman (1968), Deakin (1972), Lee Edmister (1971), Ohlson (1980), Morris (1997), for Thailand Khunthong (1997), Supaporn (2000), Povafong (2011). It is found that the financial ratios variables can be used to predict the failure of the business and used as financial indicators or warning signs of failing conditions that may occur to stakeholders inside and outside the organization. The advantage of the model

can be used in order to modify or improve the situation including the preparation of the defense to cope with the problems that will occur in the future.

Financial ratios are important tools in financial statement analysis in order to find out the performance of business enterprises. There are generally five categories of ratios as follow.

Liquidity ratios

Liquidity ratios are a measure a firm's ability to meet its current obligations as they become due. Liquidity ratios also have been used to measure short-term solvency. A higher level of liquidity provides a strong barrier against financial failure. Most firms meet illiquidity and then become financially insolvent and eventually become bankrupt while they still profitably operate.

Activity ratios

Activity ratios are a measure the efficiency of a firm's asset utilization that is the ability of firm using assets to generate revenue or return. If firms can use assets efficiently, they will earn more revenue and increase liquidity and net income. This type of ratio can measure performance of business enterprises.

Profitability ratios

Profitability ratios are a measure of firm's ability to generate earnings. Profit is one source of funds from operation. Analysis of profit is essentially concerned to stockholders in the form of dividends. The more profit that a firm can generate, the more funds whether in term of working capital or cash increase and enhance the liquidity eventually. Many firms meet the financial distress when they have negative earning. Profit is often used as a management's performance measurement.

Coverage ratios

Coverage ratios are a measure of a company's ability to meet its financial obligations. In broad terms, the higher the coverage ratio, the better the ability of the enterprise to fulfill its obligations to its lenders. The trend of coverage ratios over time is also studied by analysts and investors to ascertain the change in a company's financial position. Common coverage ratios include the interest coverage ratio, debt service coverage ratio and the asset coverage ratio.

Financial leverage ratios

Financial leverage ratios are a measure the long-term solvency of the business and its ability to deal with the opportunities and challenges that may arise in the future.

This study uses eight ratios as independent variables and variable selection is based on Altman's theory and the other prior researches. The detailed financial ratios for the study are as follows:

1. Retained earnings to total assets (RE/TA)

Retained earnings to total assets shows claims against assets indirectly. Business will be profitable to expand the investment in plant, equipment or inventory. If the value of this ratio is high, the probability of having financial failure is low. Altman (1968), Lau (1982), Nittayagasetwat (1994), and Wilson and Sharda (1994), Khunthong (1997), Chuerng-iam (2004), Puagwatana and Guanawardana (2005), and Leehawas and Phadoongsith (2009) employed this variable in their studies. This ratio is a predictive ability ratio in Altman's model. The use of accounting data of listed companies to predict financial failure by the model found that this ratio is a variable that affects the possibility that the company will not face financial problems.

2. Return on assets (ROA)

Return on assets indicates the level of return on total assets of the company that is in any degree and tend to be much of an asset due to the increase of assets. This means the company is profitable. ROA is a measure by earnings before interest and taxes to total assets .ROA is much greater the company have the ability to make a profit of the asset only. The work is consistent with the research of Altman, Haldman and Naraynan (1977), Thomson (2006), Crisostomo (2009), Piruna and Kingkarn (2009). The use of accounting data by the model found that the ratio is a variable that affects the possibility that the company will not face financial failure.

3. Return on equity (ROE)

Return on equity measured by net profit to equity shareholders indicates that the investment of shareholders have a return to shareholders. It measures a firm's efficiency at generating profits from every unit of shareholders' equity. Therefore, low ROE signals the increased financial failure. The financial ratios of this type can be used by businesses to fail and not fail in the simulation studies by Altman, Haldman and Naraynan (1977), Thomson (2006), and Crisostomo (2009). The use of accounting data of listed companies is to predict financial failure. The model finds that this ratio is a variable that affects the possibility that the company will not face financial problems.

4. Total assets (LNTA)

Total assets in business operation companies with more total assets will have less financial trouble than those with less total assets, Ohlson (1980), and Nittayagasetwat (1994).

5. Working capital to total assets (WC/TA)

Working capital to total assets is a measurement of the net liquid assets of the firm relative to the total capital. Liquidity and size aspects are considered. The working capital is the difference between current assets and current liabilities. In Altman's model, this ratio is the best indicator of discontinuance. Ohlson (1980), Law (1982), and Nittayagasetwat (1994) included it in their bankruptcy prediction studies. A higher value of this variable implies a lower probability of becoming financial failure.

6. Current ratio (CA/CL)

Current assets to current liabilities shows the ability to pay the firm's obligation due. This ratio include inventory in computation. This means the higher the ratio, the lower the probability of becoming financially failure. Deakin (1977), Law (1982), Nittayagasetwat (1994), Kryzanowski and Galler (1995), Lee, Han and Kwon (1996), included the ratio in their financial distress studies. Lenard, Alam and Madey (1996) are used in the auditor's going concern uncertainty decision model.

7. Capital structure (CAPSTR)

Capital structure is measured by total liabilities to equity shareholders. It is the ratio of debt to equity (DE Ratio), also known as the Financial Leverage or Gearing. This ratio is used for risk management in lending. It puts the focus on the proportion of loans to suit the size of the investment project (Project Investment). It is determined by the numeric ratio that is appropriate between the amount of loans and a total investment of the project (Debt Ratio) or the amount of the loan and the amount investment of the borrower or project (Debt-to-Equity Ratio) so that it is not too high or too low.

Otherwise, financial risks will occur. This variable is correlated with the occurrence of financial problems and important to this study. This variant has been studied before which is that of Suntraruk (2009).

8. Loss continued for two year or more (LOSS 2)

Loss continued for two year or more Chuerng-iam (2004) Therefore, regarding the financial variables mentioned above, the relevant literature review shows that there are significant variations in the prediction and they should be implemented in order to develop predictive models. It can be summarized as shown in Table 2.2

Table 2.2 Summary of Financial Ratio Variables

Financial Ratio Variables	Authors
Retained earnings to total assets	Altman (1968), Khunthong (1997), Chuerng-iam(2004), Puagwatana and Guanawerdana (2005), Monwiga (2009)
Return on assets	Altman, Haldman & Naraynan, Thomson (2006), Crisostomo (2009), Piruna & Kingkarn (2009)
Return on equity	Altman, Haldman & Naraynan (1977), Thomson (2006), Crisostomo (2009)
Total assets	Khunthong (1997), Parker (2002)
Working capital to total assets	Kuruppu, Laswad & Oyelere (2005), Bandyopadhyay (2006), Ying & Michale (2010)
Current ratio	Dekin (1977), Law (1982), Nittayagasetwat(1994),
Capital structure	Daily and Dalton (1994), Suntraruk (2009)
Loss 2	Khunthong (1997) ,Chuerng-iam (2004).

All financial ratios used in the study are under the theory. The theoretical perspectives of corporate governance in general such as agency theory, stewardship theory, and stakeholder theory are used to support this study as financial ratios was developed based on these theories.

Agency theory is the idea that the management is as the shareholders' Agents and shareholders as a Principal. Both have conflict of interest: shareholders choose the boards of director to select the management to serve as their representatives in the administration. The shareholders define the pay packages for the directors and the management as remuneration in the administration. The performance of the board and the management is determined by the information in the financial reports of the company. Therefore, there must be a mechanism to control the preparation of the information in financial reports to report on the operations and performance of the agent correctly to create value for shareholders in the long run. The control mechanisms are the laws and regulations set by the government agencies, SEC., SET, Ministry of Finance, and Bank of Thailand such as financial statements audited by the auditors in accordance with the rules of the Exchange.

Bankruptcy Law in Thailand

Financial failure may result in the company being sued for bankruptcy or be ordered to the rehabilitation plan. It is causing significant damage to the company, its stakeholders, including the overall economy. Financial failure prediction using CG and financial ratio variables to analyze is an effort to prevent damage to assess or predict problems that may occur in advance. The management should study bankruptcy laws or restructuring procedures to plan for the event**.** Under Thai law, bankruptcy is an involuntary act whereby the law causes the property of a company/debtor to be distributed among its creditors. Bankruptcy laws and procedures are detailed below.

Bankruptcy Process

Any creditor owed more than 2 million baht by a corporate debtor or more than 1 million baht by an individual debtor may file a bankruptcy action against such debtor. However, the debtor must first be proven insolvent. Under Thai law, a debtor shall be presumed insolvent if any of the following events occurs: the debtor transfers assets or rights in management of his assets to another person, for the benefit of all his creditors; the debtor transfers his assets dishonestly or fraudulently; the debtor transfers an asset or creates any right over it, which may be deemed a preferential transfer if the debtor were declared bankrupt; the debtor, in order to avoid paying creditors, leaves Thailand or remains outside Thailand, removes his assets from the jurisdiction of the Court, or consents to a judgment ordering payment of money which he does not pat; the debtor's assets have been attached under a writ of execution, or there are no more assets for

which attachment is possible; the debtor declares to the Court in any action that he cannot pay his debts; the debtor informs any of his creditors that he cannot pay his debts; the debtor submits proposals for compromising on his debts, to any two or more of his creditors; or the debtor receives demand letters from his creditors not less than twice, at intervals of not less than 30 days, and does not pay the debts.

Proceedings in the Case where the Debtor is an Ordinary Partnership, a Limited Partnership, a Limited Company, or any other Juristic Person

Where the debtor is a juristic person, aside from creditors being able to file a bankruptcy action shown above, the liquidator of such juristic person may also submit a petition to the Court asking that such person be adjudged bankrupt if it appears that the contribution of shares has been fully paid up and the assets are insufficient to cover the debts. The Court then issues an order placing the juristic person immediately under absolute receivership, and the meeting of creditors shall appoint one creditor to have the rights and duties as that of a petitioning creditor. He, as well as the receiver, may file a motion for the adjudication of bankruptcy of persons who are found to be unlimited partners in such juristic person without filing a new action. The Court may then order a temporary receivership of the assets of any such person or persons. The petitioning creditor may be required to give security against loss in such amount as the Court may deem proper. If it appears later that the person was or is not an unlimited partner, the Court will terminate the receivership and if such person filed a motion to the Court, the Court has the power to order that the petitioning creditor who asked for the receivership

to pay compensation to such person in a sum as the Court may consider proper, or it may order that the receiver make such payment out of the assets of the juristic person.

Business Reorganization

The proceedings for business reorganization are governed by Chapter 3/1 of the Act. The procedures under Chapter 3/1 start with the filing of a petition for restructuring by the debtor, the creditor(s) owed more than 10 million baht, or a relevant government authority. When the Court approves the application for restructuring, it gives the debtor protection by declaring an automatic stay which restricts the ability of creditors to take action against the company to recover any sums owing to them. The stay prevents any form of legal process being commenced or continued against the company. The stay also prevents creditors from filing dissolution or bankruptcy petitions. After the Court's approval of the application, the creditors are next required to select a plan preparer to draft a rehabilitation plan. The creditors' choice of plan preparer must be approved by the Court. Within one month after the Court's appointment of the plan preparer, all creditors must submit their claims. The plan preparer must then draft the plan, which must be submitted to the creditors for their consideration, within three months. The creditors may approve the plan through a special resolution passed by the creditors who are grouped into various categories. Once approved by the creditors, the plan is submitted to the Court for its final approval. From the time the Court approves the plan, it becomes binding on all creditors. The plan is then implemented within a five-year time frame after the Court's approval, with two one-year extensions allowed. Within this time frame, if the Court decides that the

plan is not successful, it may order its termination and/or put the company under absolute receivership, leading to bankruptcy proceedings and getting the prerogative to nominate the plan preparer. If the debtor does not do so, a meeting of the creditors will be called by the receiver. The receiver will then publish an advertisement fixing the day, time and place of the meeting of the creditors for the purpose of selecting the plan preparer at least seven days in advance in at least one daily newspaper. He will also notify the debtor and all known creditors.

Plan Preparer, Plan Administrator and Receiver

Plan Preparer

In nominating a plan preparer in the meeting of the creditors, a letter of consent from the nominated person must first be supplied. However, if the debtor proposes a plan preparer to which the creditors object, the creditors may only override the debtor's choice and replace him with their own nominee if they are owed at least two-thirds of the debt. Voting is limited to creditors who have requested repayment under the business reorganization.

In order of priority, the parties that have the right to appoint a plan preparer are first, the petitioner; second, the debtor; then third, the creditor. It can be seen that the creditor does not have absolute power in choosing the plan preparer, albeit this is not of much concern to large creditors who can unilaterally control the procedures for nominating the plan preparer. However, it poses a problem for small creditors who have a smaller voice or none at all. If the Court has ordered business reorganization but has not yet appointed a plan preparer, all legal rights of the debtor's shareholders

shall be suspended with the exception of the right to receive dividends. Said rights shall be vested in the interim executive or the receiver, as the case may be, until a plan preparer is appointed.

The Plan Administrator

The plan administrator is principally vested with the duties of managing the business and assets of the debtor according to the business reorganization plan. His appointment, tenure, qualifications and compensation are specifically contained in the plan. His duties commence upon the Court order approving the plan. He may propose a revision of the plan and/or an extension of the plan implementation period. Such extension may be made only two times at no more than one year each. If, however, it is clear that the plan has almost been fulfilled, the plan administrator may request an extension as long as necessary. The plan administrator, pursuant to the plan, may request the Court to permit the amendment or the establishment of new Articles of Association or a new Memorandum of Association of the debtor. The law requires him to report regularly to the receiver and the Court with regard to the implementation of the plan. Specifically, he has to let the Court know of his views as to whether the reorganization of the business has been completed.

The Receiver

The receiver is a government official. He acts in an administrative capacity, being responsible for calling meetings and receiving claims for payment. Such meetings include the creditors' meeting for selecting the plan preparer and creditors' meeting to consider the plan. Before the formal appointment of the plan preparer, the receiver is also vested with the duty to take over the business of the debtor. During

plan implementation, the receiver is entrusted with the duty of supervising the actions of the plan administrator, who can be removed by the Court at the receiver's recommendation. Generally, where the plan preparer or plan administrator for any reason does not exist, his rights and duties fall on the receiver.

The Plan

Specifics of the Plan

At a minimum the plan must contain the reasons for reorganizing the business; details concerning the assets, liabilities, and other binding obligations of the debtor at the time the Court orders business reorganization; principles and methods of business reorganization; redemption of collateral in the case where there are secured creditors and liabilities of a guarantor; ways to solve problems stemming from a temporary lack of liquidity during plan implementation; action to be taken in cases in which a claim or debt is assigned; the name, qualifications, and letter of consent of the plan administrator as well as information about his compensation; the appointment of the plan administrator and his release from the position; time period in which the plan will be implemented, which must not exceed five years; and the refusal of assets of the debtor or refusal of contractual rights, in a case in which the assets of the debtor or contractual rights have obligations which exceed the benefits to be derived there from.

Creditors Meeting for Approval of the Plan

The plan preparer, after having been officially appointed by the Court and announced in the Government Gazette, will proceed to draft the plan. This task must be completed within three months, with two possible extensions of one month each. The plan is then sent to all related parties. After receiving the plan, the receiver will call a

meeting of the creditors in order to discuss whether to accept the plan or how to revise it. A creditor, the debtor, or the plan preparer may request revision of the plan by submitting an application to the receiver at least three days in advance of the meeting.

The resolution approving the plan must be a special resolution passed by the creditors according to their classifications including secured creditors having secured debts of not less than 15% of the total debts; Other secured creditors not included above; unsecured creditors; and preferred creditors (i.e., creditors under Sec. 130 bis).

For the approval of the plan, each group of creditors enjoys equal rights. The plan must have been approved by a special resolution of a meeting of either each group of creditors, or a group of creditors (other than those described in Sec. 90/46 bis below) owed at least 50% of the total debt (Sec. 90/46).

These voting rules also apply to actions to revise the plan, remove the plan administrator, and appoint the creditors' committee for implementation of the plan. There are three types of creditors that are excluded from the aforementioned classification and are deemed to have accepted the plan. These are creditors to be repaid in full within 15 days of the plan, such that the debtors will be deemed to have never been in default; creditors who will receive payment under existing contracts; and subordinated creditors (Sec. 130 bis).

Proceedings after the Court Accepts the Business Reorganization Plan

Once the Court accepts a plan, it becomes binding on all creditors. The plan administrator is principally vested with the duties of managing the business and assets of the debtor according to the business reorganization plan. His appointment, tenure, qualifications and compensation are specifically contained in the plan. The plan is then implemented within a five-year time frame, which begins running on the Court's

approval of the plan. Two one-year extensions are allowed. If, however, it is clear that the plan has almost been fulfilled, the plan administrator may request an extension as long as necessary. The law requires him to report regularly to the receiver and the Court with regard to the implementation of the plan. Specifically, he has to let the Court know of his views as to whether the reorganization of the business has been completed.

Plan Implementation: Creditors' Committee

During this time, the creditors may pass a resolution to appoint a committee of creditors to monitor plan implementation. The committee of creditors must include at least three but not more than seven members. They must be from the group of creditors, or those assigned by the creditors, to act on their behalf. No one creditor may have more than one representative.

Termination/Absolute Receivership

If the Court does not approve the plan, or decides to terminate the business reorganization and decides not to place the debtor company under receivership, but instead merely terminates the restructuring plan, the company is restored to its former state. This means that all rights and liabilities of the former shareholders and directors are reinstated. In such circumstances, the stay is lifted, reinstating all rights and liabilities of the former shareholders and directors. Secured creditors may then decide to foreclose on the debtor's assets.

In the event that the Court orders absolute receivership, the day that the Court accepts the petition for consideration shall be deemed as the day that it is requested that

the debtor be adjudged bankrupt. The creditors must first apply for repayment with the receiver within two months following the date of publication of absolute receivership. For creditors residing outside Thailand, deadline is extended by another two months

Related Research

In this study**,** the related researches reviewed consist of CG and financial ratios and financial ratios.

Corporate Governance and Financial Ratios

Other countries

The history of CG is virtually as old as that of capitalism itself with the first recorded dispute in 1622 in the Netherlands, and whilst Adam Smith understood the issues of CG in 1776, he did not use the phrase CG (Morck & Steier, 2004) the first recognized academic work on the issue of CG was Berle and Means (1932), followed by Coase (1937) as the recognized ownership/performance issues arising from the growing separation of power between executive management of major public companies and their increasingly remote and diverse shareholders. In more recent times, the term "Corporate Governance" first surfaced in the 1970s in the USA to describe the role, functions and responsibilities of the board and management but did not appear in print until 1983 (Earl, 1983).

Farrar (1999), who traced the development of CG with the appearance of managerial capitalism and the need to raise capital from the public, found the link between CG and principal-agent problems is further highlighted.

Gompers and Metrick (2003) explained that, in the company where non-management shareholder proportion is high, investors are confident that their rights will be protected from these non-management people. It has a great influence on the decision of the company as more shares mean more voting rights in meetings. It also acts as a mechanism of external control, thus resulting in increased value.

Srichanphet (2009) studied the relationship of governance mechanisms of the companies on SET including SET50 Index and the economic value of the business. The study mechanism consists of: (1) roles and responsibilities of the board of directors, which is measured by the proportion of independent directors and non-executive directors, the independence of the chairman, and the number of participants in each meeting; and (2) the structure of the shareholders which is measured by the concentration of the shareholders and the proportion of shares held by executives and board members. The results indicate that the independence of the chairman is significant to the economic value of the business but the concentration of the shareholders has negative relationship and is significant to the economic value.

Gompers and Metrick (2003) studied the relationship between CG mechanisms and the performance of the company. With 1,500 samples during 1991-1999, the researcher has adopted 24 CG mechanisms to create a Governance Index (G Index). They are used to represent the rights of shareholders and to study the relationship between the G Index and the results of the company's operations. The

results show that the company that gives its shareholders little right or has low levels of CG has low operation performance while the company which gives its shareholders a great deal of right has high value, high profitability, and high growth rate of sales. The study finds that companies with high shareholder proportion (not including management) have high value, whereas the companies that are owned and operated by the owners have less value. This relationship can be seen more clearly in the countries where shareholders' protection is low.

Chidambaran and Zheng (2006) attempted to find out whether companies with good CG are better than those with poor CG or not. They study the companies with different performance by measuring stock return and profit. After that, the efficiency of CG is measured from 13 items such as the nature of committee, the rights of shareholders, and the ownership by institutional investors. All measures are translated into an overall score for each company to find out how effective CG is. The study found that good CG does not affect the performance of the company. The companies with good CG can have a low performance while the companies with not so good CG can do very well. The study concludes that good governance does not allow the company to perform better.

Gompers et al. (2003) studied the relationship between CG mechanisms and the performance of the company. The results show the companies that give fewer rights to shareholders or have low levels of CG are associated with poor performance as well. The study further found that the companies with a high proportion of non-management shareholders had a higher business value, while the companies focused on having the owners as the management had a lower value. This was consistent with the

study of Klapper and Love (2004), who concluded that good CG results in better company performance.

However, some studies find that there is no such relationship. For example, Bhagat and Black (2002) studied the relationship between the independence of the board of directors and the performance of 934 public companies in the United States and found that the independence of the board and the performance of the business were negatively correlated, as was the case of the work of Bauer et al. (2003) and Pham et al. (2007).

There is also an empirical study which compares the return on investment from the businesses with different levels of good governance. A literature review by the United Nations (2007) found that investing in companies with good CG can provide a higher yield or not less than that from any businesses. Akkaraphutthiphorn and Srichanphet (2007) reported that the return on stocks of companies with better CG, which is measured by the higher ranking of CG, is worth more by comparison, which is measured by higher Tobin's Q. It can be concluded that considering CG as part of the investment activities improves investment returns.

The onset of the research on CG outside the USA was in the early 1990s. Other major world economies, such as Japan, Germany, and the UK, were the first focus of the research. Daily and Dalton (1994) examined the relationships among governance structures and corporate bankruptcy. A logistic regression analysis of bankrupt major corporations and a matched group of survivor firms indicated robust power for financial indicators, constituent common stock holdings, board of director quality, and CG structures as predicators of bankruptcy. Specifically, the model

indicates differences between the bankrupt and matched groups in proportions of affiliated directors, chief executives, board chairperson structure, and their interaction.

Thomson and Jain (2006) contributed to understanding of why CG failure occurred in the largest and one of the most profitable Australian banks. They assessed and critically analyzed the impact of CG failure by management and board of directors on National Australia Bank's performance over the years 2001-2005.

Al-Ajmi (2008) attempted to determine the perceptions of credit and financial analysts working in financial institutions in Bahrain as to the usefulness of 71 financial ratios and 6 attributes of CG named in a questionnaire. There are no significant differences between credit analysts and financial analysts with respect to 40 of the indicators. Credit analysts consider the quick ratio the most useful ratio, followed by the non-recurrent ratio. Financial analysts consider price-earnings the most useful ratio, followed by the market-to-book ratio. The quality of CG practices is also considered important by financial analysts, but less important by credit analysts. These results should be of interest to a variety of stakeholders, including credit analysts, financial analysts, auditors, regulators and educators.

Erkens, Hung and Matos (2009) investigated the role of CG in the 2007-2008 credit crises, using a unique dataset of 306 financial firms from 31countries that were at the center of the crisis. They found that CEOs were more likely to be replaced following large losses if firms had a more independent board, higher institutional ownership, and lower insider ownership. They found that firms with more independent board and institutional ownership experience large losses during the crisis. Overall the findings suggest that while governance is positively associated with the disciplining of

executives for losses incurred during the crisis period, it did not prevent these losses, but instead exacerbated them by encouraging executives to focus on short-term performance.

He (2010) mainly analyzed the relationship between CG structure and financial control and made some suggestions combined with current situation in China to improve the CG structure to protect the financial control system. Ying and Michael (2010) re-examined the well-known Ohlson (1980) model on firm failure prediction. The data come from China's publicly listed companies and cover a range of 11 years (1998-2008). The Ohlson (1980) model was re-estimated and then revised to better fit the specific situation of China's publicly listed companies. The result shows that OENEG (if total liabilities exceed total assets, 0 otherwise) are the two most influential variables in failure prediction and are significant at p ≤. This study contributes to the literature by expanding the application of Ohlson (1980) model to China's publicly listed companies. It provides applicable measures for predicting firm delisting events in China stock markets.

Halim et al. (2010) pertained to the role of financial factors, which influence the success or failure of the construction firms. Some studies have determined the impact of financial factors on the failure of constructions firms, such as bad financial management and lack of capital which are the main determinants of failure. The research was based on secondary data which have been taken from case studies of six representative large- and medium-sized construction's contractors in Malaysia. They used 17 financial ratios, as proposed by Peterson (2005), and found that most of the construction companies do not have sufficient financial resources, lack of monitoring

system for the cash flow and project costs. Without effective financial practices, construction companies are putting their self up to failure.

Ibrahim and Samad (2011) examined the relationship of CG mechanisms and performance between family and non-family ownership of public-listed firm in Malaysia. They were measured by Tobin's Q, ROA and ROE. The results showed that family ownership experienced higher values than that of non-family but firm value was lower than that of non-family. Table 2.2 shows the summary of CG studied.

Parker et al. (2002) investigated the association of various CG attributes and financial characteristics with the survival likelihood of distressed firms. To address the manner in which firms evolve over time. The results suggest that firms that replaced their CEO with an outsider were more than twice as likely to experience bankruptcy. Furthermore, larger levels of blockholder and insider ownership over the sample period are positively associated with the likelihood of firm survival.

Beltratti (2005) aimed at understanding the relation between CG (CG) and corporate social responsibility (CSR). In theory, CG refers mainly to the mechanisms which protect outsiders and ensure an effective working of the firms, while CSR refers mainly to objective function of the firm and the attention for various stakeholders. This relation is important to evaluate which actions are truly socially responsible and which action is simply profit maximization in disguise. It suggested that in the long run, the market mechanism should be able to provide additional resources to these companies which are best at maximizing a widely defined bottom line.

Jamali et al. (2008) explored the interrelationships between CG and CSR: first, theoretically, by reviewing the literature and surveying various postulations on offer;

and second, empirically, by investigating the conception and interpretation of this relationship in the context of a sample of firms operating in Lenanon. These findings are significant and interesting, implying that recent preoccupation with CG in developing countries is starting to be counterbalanced by some interest/attention to CSR, with growing appreciation of their interdependencies and the need to move beyond CG conformance toward voluntary CSR performance.

Khan (2010) investigated the CSR reporting information of Bangladeshi listed commercial banks and explores the potential effects of CG element on CSR disclosures. The results of the study demonstrate that though voluntary, overall CSR reporting by Bangladeshi PCB are rather moderate. The results also displayed no significant relationship between the women representation in the board and CSR reporting. Conversely, non-executive directors and existence of foreign nationalities have been found to have a significant impact on the CSR reporting.

Norwani, Mohamad and Chek (2011) studied with regards to CG and financial reporting issues. It specifically discussed the failure of CG that led to failure in financial reporting. Few cases had been explored in this paper to prove the influence of CG in financial reporting. This paper also highlighted the challenges and recommendations that need to be improved. Enforcement and monitoring became the main hurdles in establishing the good CG. Transparency in financial reporting coupled with minority shareholder involvement was foreseen to give a helping hand pertaining to this topic. The accountability of auditors was recommended to ease the CG and financial reporting.

Burksaitienu and Mazintiene (2011) laid the ground for understanding the process of company failure. They offered owners and managers the information about

the potential cases and consequences of the failure of their company. Their model allows managers in the early stage of company failure to understand and find remedies to failure causes. It helped organizational leaders to identify strategies to prevent failure.

Lima et al., (2011) examined the relationship between CSR and firm performance, taking into account firm value and financial accounting performance in an emerging market – Brazil. The results indicate that CSR is value destroying in Brazil since a significant negative correlation between CSR and firm value was found. Additionally, a neutral relationship characterizes the mutual effect between CSR and financial accounting performance.

Nicolopoulou (2011) focused on the process involved in the knowledge transfer of CSR and sustainability programs and theories about a conceptual framework that addresses three aspects of such a knowledge transfer process the "thinking", the "doing" and the "being". The finding on human resource management (HRM) issues such as new competencies and differing approaches to career development options, talent and management, and a change of the notion of employment contract need to develop to successfully support the transfer of knowledge in terms of professionals in the domain of CSR and sustainability.

Thailand

Thailand's National Corporate Governance Committee (NCGC) defines CG as a system that includes a corporate control structure that combines strong leadership and operations monitoring. The results of such a system, as envisioned by NCGC, are transparent working environment and increase in the company's competitiveness. The

other missions of NCGC are to preserve capital and increase shareholder's long-term value through the process that emphasizes business of ethics and stakeholder and social concerns.

Jaikengkit (2004) examined the contribution of CG information to an "early warning" model that can aid in preventing crises similar to the one that rocked Thailand in 1997. The finding indicates that besides the financial characteristics, CG contains information relevant to corporate failure. The probability of financial distress, CG, and financial characteristics are associated. Therefore, an early warning system cannot be complete without incorporating the CG characteristics.

Jongsureyapart (2006) also discovered the nature and range of CG structures and practices among listed companies in Thailand. The study includes the theories behind the adaptation that Thai listed companies have made on the western models of CG and the effect of CG principles on financial information, i.e., financial reports used by stakeholders in Thai listed companies. The study also investigates the variables for performance measurement concerning CG and recommends the measures for strengthening CG in Thailand show that the CG practices in Thailand are improving after the Asian financial crisis and outside/independent directors and professional organizations are leading the practices. The improvement on internal CG mechanisms and better accounting standards, information disclosure, and auditing standards has resulted in better CG. The practices now gain attention from the financial and investment markets throughout the world.

Piruna and Kingkarn (2009) developed distress prediction models incorporating both governance and financial variables and examine the impact of major CG attributes,

i.e., ownership and board structures, on the likelihood of used. For an emerging market economy where ownership concentration is common, they show that not only financial factors but also CG factors help determine the likelihood that a company will be in distress. Prediction models perform relatively well. Those results suggest evidence of the benefits of business group affiliation in reducing the distress likelihood of member firms during the East Asian financial crisis.

The above literature review found that the researches into corporate governance, both domestic and international, show a relationship with financial failure. The research was conducted in order to carry out the research in the next step.

Financial ratios

Other countries

The univariate approach uses one ratio at a time to predict a firm's financial position. Beaver (1996) conducted an empirical study on financial ratios as predictions of failure. He used matched pairs samples of 79 firms (failed and non-failed) from 1954 to 1964. Empirical tests focused on: (1) comparison of means value; (2) dichotomous classification tests; and (3) analysis of likelihood ratios. He selected ratios on the basis of three criteria: (1) popularity in the literature; (2) performance in previous studies; and (3) definition of the ratio in terms of a "cash flow" concept. Of 30 ratios tested, the best predictors were Cash flow / Total debt, Net income / Total assets, Total liabilities / Total assets, Working capital / Total assets, and Current ratio.

However, Beaver claimed that his major finding was that financial ratio, or more generally, accounting data have the ability to predict failure for at least five years before failure, and not merely for failure prediction.

Altman (1968) attempts an assessment the analytical quality of ratio. It has been suggested that traditional ratio analysis is no longer an important analytical technique in the academic environment due to the relatively unsophisticated manner in which it has been presented. In order to assess its potential rigorously, a set of financial ratios was combined in a discriminant analysis approach to the problem of corporate bankruptcy prediction. The theory is that ratios, if analyzed within a multivariate framework, will take on greater statistical significance than the common technique of sequential ratio comparisons. The model was known as Z-score and was developed in the late 1960s. The Z-score model is a linear analysis in that five measures are objectively weighted and summed up to arrive at an overall score that then becomes the basis for classification of firms into one of the a priori groupings. The samples were composed of 66 corporations with 33 firms in each of the two groups. Thirty-three failed manufacturing firms and a paired sample of non-failed firms were analyzed. Parings are made on the basis of industry and asset size. Twenty-two variables (ratio) were considered as candidates for the discriminant function. The variables were classified into five standard ratio categories, including liquidity, profitability, leverage, solvency, and activity. The ratios were chosen on the basis of their popularity in the literature and their potential relevancy to the study, and there are a few "new" ratios in analysis. However, only five variables were key variable in the linear model. The five variables were Working capital / Total assets, Retained earnings / Total assets, Earnings before interest and taxes / Total assets, Market value of equity / Book value of total debt, and Sales / Total assets.

He used the following procedures to arrive at a final profile of variables: (1) observation of the statistical significance of various alternative functions including determination of the relative contributions of each in-dependent variable; (2) evaluation of interrelation among the relevant variables; (3) observation of the predictive accuracy of the various profiles; and (4) judgment of the analyst. Based on the results, he suggested that the Z-score model be an accurate forecaster of failure up to two years prior to bankruptcy and the accuracy diminished substantially as the lead time increases.

Deakin (1972) developed an alternative to the Beaver and Altman models. He used linear multiple discriminant analysis of 32 firms that failed between 1964 and 1970 and a paired sample of non-failed firms matched by industry classification, asset size, and year of data. Fourteen ratios from Beaver's (1967) study were used to find a combination of variables with greatest predictive accuracy. Ratio of cash flow-to-total debt is an important variable. Deakin's 14 variables set produced his most accurate classification results. He concluded that discriminant analysis can be used to predict business failures "as far as three years in advance with a fairly high accuracy."

Blum (1974) developed a Failing Company Model (FCM) to aid the antitrust division of the Justice Department in assessing the probability of business failure. Blum's definition of failure was based upon the criteria of the international Shoe decision. The following three events constitute failure: (1) inability to pay debts at day come due; (2) entrance into a bankruptcy proceeding; and (3) an explicit agreement with creditors to reduce debts. He assessed the probability of business failure and paired samples of 115 failed firms from 1954 to 1968 and non-failed firms matching

characteristics; industry, sales, employees, and fiscal year. He used linear multiple discriminant analysis of 12 variables (ratio) underlying the cash flow framework with emphasis upon liquidity, profitability, and variability. One year before failure model was 93-95 percent accurate, 80 percent two year before, and 70 percent thereafter up to five years before.

Deakin (1977) extended his 1972 analysis with two purposes: (1) to provide an indication of the frequency and nature of misclassification of non-failing companies; and (2) to compare auditors' opinions with the model's predictive ability. He defined "failure" as bankruptcy, liquidation, or reorganization. Deakin's failed group consisted of 63 firms: the 32 firms from his 1972 study and 31 firms failed in 1970 and 1971. The non-failed group consisted of 80 firms randomly selected and matched only of the 143 firms, the five-ratio sets which derived by Libby were Net income / Total assets, Current assets / Total assets, Cash / Total assets, Current assets / Current liabilities, and Sales / Current assets.

He used linear and quadratic MDA to classify failed and non-failed with the following decision rule for his validation test: (1) classified as failing if both the linear and quadratic functions classified as failing; (2) classified as non-failing if both the linear and quadratic function classifieds non-failing; and (3) investigate further if the functions produce conflicting results. He insisted that with this eclectic rule tend to minimize the overall misclassification rate, if the "investigate further" group was excluded. Altman, Haldeman, Narayanan (1977) produced new model called ZETA model. They expected that this new model will improve the "Old" Z-score model at least five reasons as relevant to: (1) large size of firms; (2) current temporal nature of

the data; (3) retailing companies not only manufacturing companies; (4) the data and footnotes to financial statements; and (5) test and asses several of the recent advances. ZETA model for bankruptcy classification appears to be quite accurate for up to five years prior to failure, with successful classification of well over 90 percent of our samples one-year prior and 70 percent accuracy up to five years. Two sample of firms consisted of 53 bankrupt firms and a matched sample of 58 non-bankrupt entities. The latter were matched to the failed group by industry and year of the data. The 27 variables (ratio) were used in this study. To classify firm bankruptcy, the MDA was employed. Both linear and quadratic structures were analyzed. Seven variables were selected to include in the model, which can classify the test sample well. The seven variables (ratio) were Return on asset, Stability of earning, Debt service, Cumulative profitability, Liquidity, Capitalization (measure by common equity/total capital), and Size (measure by firm's total tangible assets).

Chung et al. (2009) created an insolvency predictive model using MDA and ANN. The results indicate that failed companies have significantly different financial ratios when compared to those of non-failed companies. It is less profitable and less liquid with higher leverage ratios and lower quality assets at failed companies.

Thailand

Nittayagasetwat (1994) developed an ANN model for bankruptcy prediction. He also used untransformed financial accounts as predictors instead of financial ratios as other's studies. The bankrupt firm and non-bankrupt firms are the firms that filed for bankruptcy during the years 1991-1993. The non-bankrupt group is matched approximately 9-to-1 to the bankrupt group. The learning sample consisted of 97

bankrupt firms and 884 non-bankrupt firm in 1991, and 76 bankrupt firms and 694 non-bankrupt firms in 1992. The holdout samples of bankrupt and non-bankrupt firms in 1993 are 60 and 607 firms respectively. Thirteen untransformed financial accounts are Cash, Inventories, Current assets, Total assets, Current liabilities, Total liabilities, Net sales, Interest expenses, Income before taxes, Net income, Cash flow, Retained earnings, and Shareholder equity.

He also used 19 financial ratios as predictors in his study to compare with the untransformed model. The ratios used in Dorsey, Edmister and Johnson (1993) were computed using the untransformed accounts described above. The 19 ratios were Cash / Total assets, Cash / Net sales, Cash flow / Total liabilities, Current assets / Current liabilities, Current assets / Total assets, Current assets / Net sales, EBIT / Total assets, Log interest expenses, Log (Total assets), Shareholder equity / (total assets-current liabilities), Net income / Total assets, Quick assets / Current liabilities, Quick assets / Total assets, Quick assets / Net sales, Retained earnings / Total assets, Total liabilities / Total assets, Net sales / Total assets, Working capital / Total assets, and Working capital / Net sales.

The results of this study indicated that income before taxes and cash flow were significant untransformed variables, while earnings before interest and tax to total assets, log interest expenses, and net income to total assets were significant financial ratios.

Khunthong (1997) identified red flags and used warning signals for financial failure. The data was collected from SET and divided into two major sectors: non-financial and financial samples. Empirical results show that there are four standard ratio

categories statistically significant predictors for business financial failure that means financial leverage, profitability, activity, and liquidity. Experimental forecasting results show that there are more business firms, both non-financial and financial firms, which might eventually have financial failure from 1998 to 2000.

Suntraruk (2009) study to develop the reliable model in predicting the financial distress of nonfinancial firms listed on the Stock Exchange of Thailand (SET). The stepwise logistic regression analysis is employed to a data set of 45 matched pairs of financially distressed and healthy firms over the period of January 2000 -March 2009. The results shown that model includes four financial ratios and three corporate governance variables. The final model provides the impressive result in which it demonstrates excellent classification accuracies in one-year prior to the financial distress with the overall classification rate of 95.6% . The finding shows that there is no significant impact of macroeconomic variables on the future financial distress.

According to the literature review mentioned above, there are the researches on the use of financial ratios to measure financial failure. The application is then developed by using CG with financial ratios to determine the variables that influence the financial failure and predict accurately.

As per the literature review above, the researcher has concluded the research on a number of variables, including the selection of variables based on the research process and results of research as detailed in Table 2.3

Table 2.3 Summary of Variables, Prediction Accuracy, Methodology, and Variable Selection Procedures

Authors	Year	No. of firms		No.of Variable (Ratios)	Predictive Variables	Prediction Accuracy (%)	Methodology	Variable Selection Procedures
		F [1]	NF[2]					
Jinda Khunthong	1997	18	202	16	CF/CL,CF/TL,QA/CL,CA/CL,CA/TA,	90	MDA	Altman's Theory
		25	55		WC/TA,NS/TA,OI/TA,OI/NS,NI/TA	94.3	Logit	CAMEL concept
					NI/SE,TL/TA,SE/TK,RE/TA,MS/TL	95.4	Probit	
					LnTA,LOSS 2			
Pornwan	2003	36	36	11	CA/CL,WC/TA,TS/TA,EBIT/TA	70.8	MDA	
					TL/TA,TL/E,RE/TA,EBIT/TS			
					ROA,ROE,EAT/TS			
Supaporn	2004	14	24	18	CURRENT,NWC,OCFTCL,ROA,	95.95	MDA	Stepwise Method
					EBIT, NITA,RETA,QEI,TAT*, LA,			
					OCFTL,CFA, MDPV*,DCR*,DR*,	97.69	LRA	
					LnTA,TLOSS,AUDIT			
Sittichai and Kennedy	2005	12	12	5	WC/TA, RE/TA, EBIT/TA,NIL/AS, S/TA	77.8	MDA	Altman's Theory
Monwiga	2009	17	300	5	WC/TA, RE/TA, EBIT/TA,MS/TD, S/TA		MDA	Altman's Theory

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Table 2.3 (Continued)

Authors	Year	No. of firms		No.of Variable (Ratios)	Predictive Variables	Prediction Accuracy (%)	Methodology	Variable Selection Procedures
		F [1]	NF[2]					
Beaver	1966	79	79	30	CF/TD,NI/TA,TL/TA WC/TA,CA/CL	87	Univariate	Popularity and Subjective Judgment
E. Altman	1968	33	33	22	WC/TA,RE/TA,EBIT/TA MS/TD,SALES/TA	95	MDA	Popularity and Subjective Judgment
E.Denkin	1972	32	32	14	CS/TD	97	MDA	Beaver's (1966) ratios
M.Blum	1974	115	115	12	Cash flow (liquidity,profitability, Variability)	93-95	MDA	Cash Flow Framework
Nittaya gasetwat	1994	173	1578	13 untransform 19 ratios	IBT and Cash flow EBIT/TA, log interest, NI/TA	Over 80%	ANN	Dorsey, Edmister&Johnson's Ratios (1993)

CHAPTER 3

RESEARCH METHODOLOGY

This chapter begins with the discussion of the data used in this study are obtained from annual reports, financial statements, Annual Registration Statement (Form 56-1) available at SET's website, and reports from newspapers, journals and academic papers. However, the data is obtained from the financial statements that have been made public and submitted to Department of Business Development, Ministry of Commerce. Hypothesis testing is to assess the relationships in a pattern of financial ratios of failure and non-failure companies. Thus, the following steps have been undertaken; theoretical framework, research design, and data processing and analysis.

Theoretical Framework

Agency theory is focused on shareholder rights and the separation of ownership from control. Stewardship theory recognizes the importance of structures that empower the steward and offers maximum autonomy built on trust (Donaldson & Davis, 1991). However, Stakeholder theory further extends the purpose of the corporation from maximizing shareholders wealth, to delivering wider outputs to a range of stakeholders and emphasizes corporate efficiency in a social context (Letza, Sun & Kirkbride, 2004). Therefore, using three theories will be more comprehensive as they involve all the elements of CG.

Melick and Thomas (1992) took agency theory and stakeholder theory as points of departure to proposes a paradigm that helps explain the following: (1) certain aspects of a firm's strategic behavior; (2) the structure of management stakeholder contracts; (3) the form taken by the institutional structures that monitor and enforce contracts between managers and other stakeholders; and (4) the evolutionary process that shapes both management-stakeholder contracts and the institutional structures that police those contracts.

Agency theory explains how agency problems depend on the ownership structure; however, firms with dispersed ownership face agency problems between management and dispersed shareholders, as described by Berle and Means (1932).

CG is important and receives attention from the public, regulatory agencies and company's management. The board of directors shall make good business management systems, quality management, transparency and disclosure and a performance standard. Thus, CG, thereby promotes efficiency and competitive advantages, adds value to businesses and satisfies the stakeholders.

Financial ratios are widely used as financial analysis tools. Financial ratios can reveal the behavior in the past of management on business operations, which is a symptomatic problem, or can predict problems that are about to happen in the future.

Financial statements show the financial position and operation results of the businesses which result from the planning, control and decision making of the management. If managers follow CG, that will reflect in good performance.

For this research, the study of the corporate governance variable and financial ratios that are associated with the financial failure of the firms listed on SET is pursued. The CG and financial ratios were used in many studies of prior researches as shown in table 3.1

Table 3.1 Number of Variables and Popularity in the Studies

No	Dependent Variables	Symbol	Included in Prior Studies
1	Financial failure	FIN_F	Khunthong (1997), Jaikengkit (2004),Piruna & Kingkarn (2009)
	Independent variables		
	Corporate governance variables (CG)		
1	Control rights	CON_R	Srichanphet (2009)
2	Foreign	FOR	Piruna & Kingkarn (2009), Md.Habib-Uz-Zaman Khan (2010), Li (2005)
3	Education	EDU	Catherine & Dan (1994)
4	Auditor's opinion	AUD_O	Jaikengkit (2004)
5	Ownership structure	OWN_S	Minow and Bingham (1995)
6	Board independence	BOA_I	Pfeffer (1972b), Daily and Dalton (1994),Hermalin and Weisbach (1988)
7	Board size	BOA_S	Shaw (1981), Chaganti, Mahajan, and Sharma(1985)
	Financial ratio variables		
8	Retained earnings to total assets	RETA	Altman (1968), Khunthong (1997), Chuerng-iam (2004), Sittichai & Kennedy (2005), Monwiga (2009)
9	Return on assets	ROA	Altman, Haldman & Naraynan, Thomson (2006), Crisostomo (2009), Piruna & Kingkarn (2009)
10	Return on equity	ROE	Altman, Haldman & Naraynan (1977), Thomson (2006), Crisostomo (2009)
11	Total assets	LNTA	Khunthong (1997), Parker (2002)

Table 3.1 (Continued)

No	Dependent Variables	Symbol	Included in Prior Studies
12	Working capital to total assets	WCTA	Kuruppu, Laswad & Oyelere (2005), Bandyopadhyay (2006), Ying & Michale (2010)
13	Current ratio	CACL	Dekin(1977), Law(1982), Nittayagasetwat(1994),
14	Capital structure	CAPSTR	Daily and Dalton (1994), Suntraruk (2009)
15	Loss continued for two year or more	LOSS 2	Chuerng-iam (2004) ,Khunthong (1997)

From the literature review above, the conceptual framework for this study shows on figure 3.1

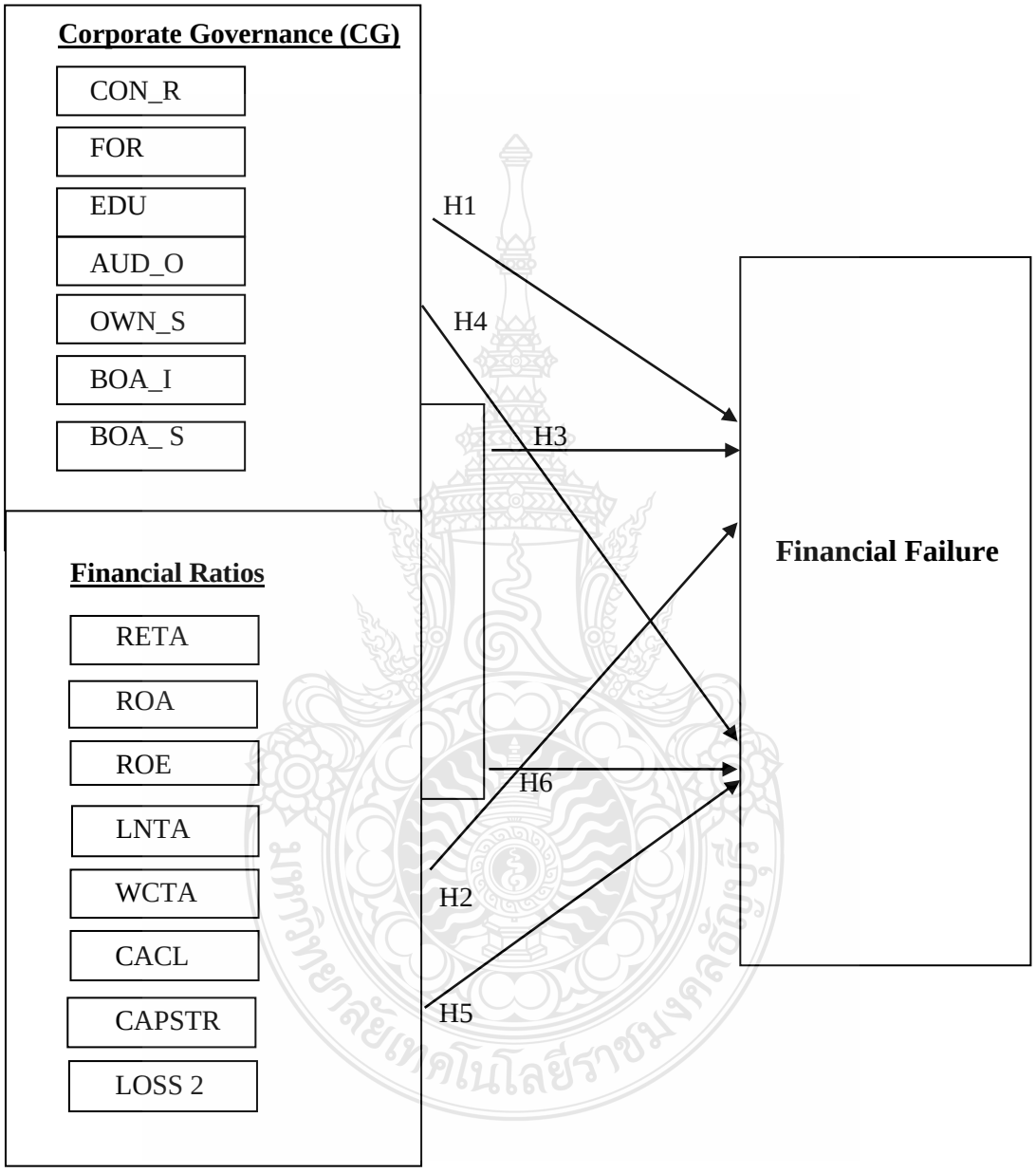

Figure 3.1 Conceptual Framework

A hypothesis is a formal statement that presents the expected relationship between an independent and dependent variable. (Creswell, 1994) and a hypotheses can be defined as a tentative explanation of the research problem, a possible outcome of the research, or an educated guess about the research outcome.(Sarantakos, 1993:1991).

The first research question link to H1:, H2: and H3: for test about the influence on financial failure of the companies listed on SET. And the final research question link to H4:, H5: ,and H6: for test the ability to predict the financial failure. The hypotheses divided into six sections:

- H1: CG has the relation on financial failure of the companies listed on SET.
- H2: Financial ratios have influence on financial failure of the companies listed on SET.
- H3: CG and financial ratios have influence on financial failure of the companies listed on SET.
- H4: CG has the ability to predict the financial failure.
- H5: Financial ratios have the ability to predict the financial failure.
- H6: CG and financial ratios have the ability to predict the financial failure.

Research Design

Sample and Data Sources

The sample includes all listed companies on SET during period 2006-2009. This study encompasses forecasting one-year, two-year, and three-year prior to financial failure of listed companies on SET. Samples are non-financial firms in the

years 2006, 2007 and 2008 are used as three-year, two-year, and one-year forecasting prior to financial failure in 2009. The samples have been collected according to the following criteria:

1. The firms must have complete data for all explanatory variables,

2. The firms must have fiscal year ending December 31,

So the samples of companies in this study include:

1. Non-financial failure groups from 2006-2008

1.1 Year 2006 = 371 companies

1.2 Year 2007 = 382 companies

1.3 Year 2008 = 388 companies

The non-financial failure groups revoked by the Stock Exchange in each sectors during the Year 2006-2008 are shown in table 3.2

Table 3.2 Sectors and Numbers of Non-Failure Firms in Samples 2006-2008

Sectors	2006	2007	2008
Agribusiness	19	19	18
Automotive	19	18	17
Commerce	13	13	13
Construction Materials	28	30	32
Electronic Components	11	11	10
Energy & Utilities	20	22	23
Fashion	24	25	26
Food and Beverage	23	24	23
Health Care Service	11	11	11
Home & Office Product	10	10	10
Information & Communication Technology	24	24	23
Medium Sized Enterprise	38	41	45
Media & Publishing	18	19	20
Mining	2	2	2
Packaging	12	12	13

Table 3.2 (Continued)

Sectors	2006	2007	2008
Paper & Printing Materials	3	3	3
Personal Products & Pharmaceuticals	6	6	6
Petrochemicals & Chemicals	12	12	12
Property Development	50	50	51
Professional Services	2	3	3
Tourism & Leisure	12	13	13
Transportation & Logistics	14	14	14
Total	**371**	**382**	**388**

2. Financial failure groups from 2006-2008

2.1 Year 2006 = 12 companies

2.2 Year 2007 = 10 companies

2.3 Year 2008 = 9 companies

The financial failure groups revoked by the Stock Exchange in each sectors during the year 2006-2008 are shown in table 3.3

Table 3.3 Sectors and Numbers of Failure Firms in Samples 2006-2008

Sectors	2006	2007	2008
Agribusiness	1	1	1
Construction Materials	1	1	0
Electronic Components	1	1	1
Energy & Utilities	1	1	0
Fashion	1	1	1
Food and Beverage	2	1	1
Health Care Services	1	1	1
Media & Publishing	1	0	0
Property Development	1	1	2
Textiles, Clothing & Footware	2	2	2
Total	**12**	**10**	**9**

In this study, a firm identified as compulsory delisting encompasses three conditions of SET. The reasons for the revocation of the Stock Exchange have been analyzed. The companies must follow the following conditions.

Conditions (1): shareholder's equity becomes negative, there has been a significant decrease in assets, or the firm has a two-year rehabilitation period to settle its financial and operational problem and will post Non-compliance (NC) and Suspension (SP) signs on the company's securities until the firm resolves the grounds for delisting and returns to its normal sector. There are 8 companies in 2006, 8 companies in 2007 and 8 companies in 2008.

Conditions (2): False disclosure, late submission of a financial statement, and failure to appoint audit committees with the required period, in which case SET may consider delisting. In each year, there is no company in this condition.

Conditions (3): When the company is liquidated to dissolve the business, when the court places the company under receivership or legally order it to close the business, or when the company fails to rehabilitate, then the court places it under receivership or bankruptcy is declared. This condition relates to Condition (1): the lack of liquidity. Negative equity that produces an unsuccessful debt restructuring and rehabilitation can lead to the order to close down, including the revocation from the Stock Exchange. The hybrid condition is called Conditions (3 +1).

Conditions (3+1): There are 4 companies in 2006, 2 companies in 2007 and 1 company in 2008.

Table 3.4 Summary for Failure Firms in Each Conditions in Samples of Each Year

Conditions	2006 Companies(%)	2007 Companies(%)	2008 Companies(%)
Conditions 1	8(66.66)	8(80.00)	8(88.88)
Conditions 2	-	-	-
Conditions 3	-	-	-
Conditions 1+3	4(33.34)	2(20.00)	1(11.12)
Total	12(100)	10(100)	9(100)

From table 3.4, the conditions 1 has the highest percentage and condition 1+3 has the lowest, and condition 2 and condition 3 have none. When business face to some conditions the firm resolves the grounds for delisting and returns to its normal sector.

Variables Measurement and Expected Signs

This study consisted of dependent variables and independent variables. The variables used in the study and how to measure each variables with Expected Signs are described.

Dependent Variable

Financial failure (FIN_F)

In this study compulsory delisting is used, that is, when a firm fails to meet the criteria required to remain a listed company, as determined by SET, the delisting of the firm's securities will then be ordered by the Stock Exchange. If company meets financial failure, it means FIN_F =1, otherwise = 0.

Independent Variables

Two types of independent variables consisting of CG and financial ratios are as follow:

1. **Corporate governance variable:**

There are seven CG variables in this study

1.1 Control rights (CON_R)

Control rights signify the rights of board of director who directly or indirectly owns more than 25 percent of a company's votes. However, a 25 percent cutoff is more appropriate for this variable. This variable is a dummy and has 3 levels equal to percentage of votes held by largest percentage:

1 = more than 25%

2 = more than 10% between 25%

3 = less than or equal to 10%

This variable is used to measure the relevance of the operation result, whether it affects the financial problems of the business or not. So the expected signs should be negative.

1.2 Foreign (FOR)

Foreign companies with good CG would entice investors to invest. A study by Li (2005) found that investors will avoid investing in companies with low oversight and change the investment to be direct investment for their better right protection. According to Principal-Agent Theory, encouraging the company and its management to realize the importance of all interested parties reduces conflicts that may arise among stakeholders. This variable is dummy variable equal to 0 if the largest proportion of

board of director is foreign investors, and 1otherwise. Therefore, the expected signs should be negative.

1.3 Education (EDU)

Education measures the level of executives' education, using bachelor's degree and higher as the criteria, according to the assumption that good education can lead to better management. This is variable used by Catherine & Dan (1994). The variable is dummy variable equal to 1 if the largest proportion of board of director has education level higher than bachelor degree and 0 otherwise. This variable is correlated with the occurrence of financial problems and important to this study. This variant has been studied before which is that of Suntraruk (2009). Therefore, the expected signs should be negative.

1.4 Auditor's opinion (AUD_O)

Auditor's opinion whether an auditor would express his opinion with reservation or not depends on the performance and transparency of the information. Unclear or reserved opinion may be the cause of the financial failure and correlated with the occurrence of financial problems and important to this study. This is variable used by Jaikengkit (2004). This is dummy variable equal to 1 if satisfactory opinion and 0 otherwise. Therefore, the expected signs should be negative.

1.5 Ownership structure (OWN_S)

Ownership structure considers the stakeholders in the business. President, the directors and senior management of the company should have contributed to the financial risks of the business, as other shareholders. The high proportion of shares held has more authority in decision making. This is variable used by Minow and Bingham

(1995). This variable is measured by the proportion of shares held by top 10 shareholders as a percentage of the total issued and paid-up shares. So the expected signs should be negative.

1.6 Board of independent directors (BOA_I)

Board of independent directors according to agency theory, board of directors has the authority to supervise and evaluate the performance of management. Furthermore, according to the principles of the Corporate Governance, Section 2, deals with the equal and fair treatment of the shareholders. Proportion of independent directors is responsible for the operation. This is variable used by Pfeffer (1972b), Daily and Dalton (1994), Hermalin and Weisbach (1988). This variable is measure by percentage of independent directors on the company's board of directors. So the expected signs should be negative.

1.7 Board size (BOA_S)

Board size is used to measure the relevance of the operation result and the size of the company's board of directors, small or large, whether it affects the financial problems of the business or not. This is variable used by Shaw (1981), Chaganti, Mahajan, and Sharma (1985). This variable is measured by counting the number of directors. So the expected signs should be negative.

2. Financial ratios variables

There are eight financial ratios variable in this study

Ratios with zero number were eliminated, except the dummy. Certain financial ratios cannot be used as independent variables including return on assets. It is

calculated by dividing the net profit attributable to shareholders. Some companies suffered losses (net negative) and shareholders' equity is negative, so the nominator and the denomination show minus signs. When the rate of return on assets is positive, which is equal to net profit (net positive) and shareholders' equity is positive, the ratio of these two companies should not have the same meaning. Therefore, early warning signs cannot be tested because that could cause analysis errors.

2.1 Retained earnings to total assets (RETA)

Retained earnings to total assets reports the total of accumulation of surplus earnings and/or losses of a firm over its entire life. This means the higher the value of this ratio, the lower the probability of having financial failure. This ratio is a predictive ability ratio in Altman's model. The use of accounting data of listed companies to predict financial failure by the model found that this ratio is a variable that affects the possibility that the company will not face financial problems. So the expected signs should be negative.

2.2 Return on assets (ROA)

Return on assets is a measurement of earnings before interest and taxes to total assets. A higher value of this variable implies a lower probability of becoming financial failure. Therefore, the expected signs should be negative.

2.3 Return on equity (ROE)

Return on equity is a measurement of net income to shareholder's equity. A higher value of this variable implies a lower probability of becoming financial failure. Therefore, the expected signs should be negative.

2.4 Total assets (LNTA)

Total assets operation companies with more total assets will have less financial trouble than those with less total assets, Ohlson (1980), and Nittayagasetwat (1994). a higher value of this variable implies a lower probability of becoming financial failure. Therefore, the expected signs should be negative.

2.5 Working capital to total assets (WCTA)

Working capital to total assets is a measure of the net liquid assets in relation to the total capitalization. A higher value of this variable implies a lower probability of becoming financial failure. Therefore, the expected signs should be negative.

2.6 Current ratio (CACL)

Current ratio is a measure of current assets to current liabilities shows the ability to pay the firm's obligation due. This ratio include inventory in computation. a higher value of this variable implies a lower probability of becoming financial failure. Therefore, the expected signs should be negative.

2.7 Capital structure (CAPSTR)

Capital structure is a measure of total liabilities to shareholder's equity this ratio used for risk management in lending. It puts the focus on the proportion of loans to suit the size of the investment project (Project Investment). This variant has been studied before which is that of Suntraruk (2009). Therefore, the expected signs should be positive.

2.8 Loss continued for two year or more (LOSS 2)

Loss continued for two year or more is a measurement of loss continued for two year or more Chuerng-iam (2004). A higher value of this variable implies a lower

probability of becoming financial failure. Therefore, the expected signs should be positive.

Table 3.4 summarizes variable measurement and the expected signs of the correlation coefficients. Two of fifteen variables (Capital structure and Loss 2) are expected to have positive associations with the probability of financial failure. The other thirteen variables are expected to have negative relations.

Table 3.5 Explanatory Variables Measurement and Expected Signs for Each Set of Samples

Variables	Measure by	Symbol	Expected Sign
Dependent Variables			
Financial failure	Dummy variable (1, 0) 1 for financial failure and 0 otherwise	FIN_F	
Independent Variable			
Control right	Dummy equal to percentage of votes held by largest proportion of board of director: 1 = more than 25% 2 = more than 10% between 25% 3 = less than or equal to 10%	CON_R	-
Foreign	Dummy equal to 0 if the largest proportion of board of director is foreign investors, and 1otherwise	FOR	-
Education	Dummy equal to 1 if the largest proportion of board of director has education level higher than bachelor degree and 0 otherwise	EDU	-

Table 3.5 (Continued)

Variables	Measure by	Symbol	Expected Sign
Auditor's opinion	Dummy equal to 1 if satisfactory opinion and 0 otherwise	AUD_O	-
Ownership structure	Proportion of shares held by top 10 shareholders as a percentage of the total issued and paid-up shares	OWN_S	-
Board independent	Percentage of independent directors on the company's board of directors	BOA_I	-
Board size	Counting the number of directors.	BOA_S	-
Retained earnings to total assets	Retained earnings / Total assets	RETA	-
Return on assets	EBIT/Total assets	ROA	-
Return on equity	Net income/ Shareholder's equity	ROE	-
Total assets	Current assets add Non- current assets	LNTA	-
Working capital to total assets	Working capital /Total assets	WCTA	-
Current ratio	Current assets / Current liabilities	CACL	-
Capital structure	Total liabilities / Shareholder's equity	CAPSTR	+
Loss continued for two year or more	Loss continued for two years or more	LOSS 2	+

Data Processing and Analysis

The data used in this study were obtained from No. 56-1 proxy statements available at SET's website, firms' annual reports, and reports from newspapers, journals and academic papers. The data was processed and analyzed as follow steps.

1. Multicollinearity in the logistic regression solution is detected by examining the standard errors for the β coefficients such as multicollinearity among the independent variables, zero cells for a dummy-coded independent variable because all of the subjects have the same value for the variable, and complete separation whereby the two groups in the dependent event variable can be perfectly separated by scores on one of the independent variables, Hosmer and Lemeshow (2000). Analyses that indicate numerical problems should not be interpreted.

2. Descriptive statistics are used to describe the general nature of the independent variables which are divided into 2 groups: non-failure and failure to analyze data.

3. Influencing CG and financial ratios and predictive ability using Logistic regression analysis, hypotheses testing.

4. Other analyses are employed to support the quantitative data analysis above. This analysis consists of education, experience of board directors, and also auditor's opinion on financial statements.

Testing Multicollinearity

In selecting the independent variables to the regression equation, the analyst must consider any variables whether in a positive or negative relationship.

In the analysis, the variable selection is determined by enter. All independent variables that would be studied are entered in the first-round analysis. Then the significant variables from the first-round analysis are selected to analyze again for the modeling of these variables. The analysis is without constant in the equation. The implication is that the raw scores for each variable are standardized; then the standard error is considered and determined at less than 2.00 to prevent multicollinearity problems, Hosmer and Lemeshow (2000).

Descriptive Statistics

Descriptive statistics that are used to describe the general nature of the independent variables used for predicting the failure of companies listed on SET include minimum, maximum, mean, percentage, standard deviation (S.D) and independent sample t-test of non-failure and failure. Independent sample t- test determines the significance of each variable and analyzes the average number of variables in the non-failure and failure group to carefully analyze the differences of the variables in each year.

Influencing CG and Financial Ratios Analysis and Predictive Ability Analysis

This study analysis uses logistic regression technique. Logistic Regression Analysis (LRA) is a statistical technique of using of variables or predictor variables at least one predictor or explaining the variability of the dependent variable (Kanchanawasi, 2005). The aims are to study the association of independent variables on the probability of events (dependent variable) and to predict the probability of the event to show the relationship between independent variables and the qualitative dependent variables (Wanichbuncha, 2003).

This study analysis uses logistic regression technique. The dependent variable is a variable in quality with the only two values (Dichotomous Variable) called Binary Logistic where the dependent variables were only 2, the relationship between X and Y are not. In the form of linear as major general equation, the equation is called the Logistic Response Function (LRF) (Wanichbancha, 2002).

$$E(Y) = \frac{e^{\beta 0+\beta 1x1 +\beta 2x2+\ldots\ldots,+ \beta ixi}}{1+ e^{\beta 0 + \beta 1x1 +\beta 2x2\ldots..+\beta ixi}}$$

E(Y) = P(even) the probability of occurrence ; $0 \leq E(Y) \leq 1$

X = dependent variable

$ß_0$ = coefficients obtained from estimating equation

$$P(even) = \frac{e^{\beta 0+\beta 1x1 +\beta 2x2+\ldots\ldots+ \beta ixi}}{1+ e^{\beta 0 + \beta 1x1 +\beta 2x2\ldots..+\beta ixi}}$$

$$= \frac{1}{1+ e^{\beta 0 + \beta 1x1 +\beta 2x2\ldots..+\beta ixi}}$$

The LRF above forms the relationship of X and Y. They are not in a linear and must be adjusted in relation to the linear. The first step is to convert the probability of occurrence as the Odds is the ratio between the probability and chance events.

Table 3.6 Summary of the Requirement of Logistic Regression

Item		Recommended value
1.Goodness of Fit		
1.1	Omnibus Tests of Model Coeffcients	
	Step	Sig <0.05
	Block	Sig <0.05
	Model	Sig <0.05
1.2	Model Summary	
	Negelkerke R Square (Pseudo)	High R Square is better
1.3	Hosmer and Lemeshow Test	Sig ≥ 0.05
1.4	Classification Table	Overall Percentage > 0.5
2. Comparative 2 Model		
1	Model Summary	Compare 2LL
or 2	Model Summary	Negelkerke R Square (Pseudo)

Source: Sawat Wanarat (2010). Material Study of Advance Statistics for Research

Table 3.5 summarizes the model as an appropriate model. On the basis of the Wald Statistic, it was statistically significant (sig. <0.05), the parameters in the equation were statistically significant (sig. < 0.05). Furthermore, the Hosmer and Lemeshow Test of 2LL contained variables that were less than 2LL when the model was a constant. This means that the equation is appropriate. When comparing models with the Negelkerke R Square (Pseudo) as high as possible, is suitable to be used to predict the

financial failure of companies listed on the SET. Logistic regression analysis is used to analysis data as follows:

1. Influencing CG and financial ratios analysis

There are equations for analysis of CG and financial ratios after testing multicollinearity. The analysis utilized three financial failures, models 1 CG, model 2 Financial ratios and model 3 CG and Financial ratios. Models 1 CG is contained by corporate governance variables and model 2 Financial ratios is contained by financial ratios. Model 3 CG and Financial ratios are contained by corporate governance variables and financial ratios. The independent variables and the dependent variable can be analyzed the logistic regression to predict financial failure of the three sets of data. The predictive equation can be written in general equation form as follows.

Model 1 CG

From the analysis of variables CG by using the data in the year 2006, 2007, 2008 and 2006-2008 a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

$$FIN\_F = \beta_1 CON\_R + \beta_2 FOR + \beta_3 EDU + \beta_4 AUD\_O + \beta_5 OWN\_S + B_6 BOA\_I + \beta_7 BOA\_S$$

Model 2 Financial ratios

From the analysis of financial ratio variables by using the data in the year 2006, 2007, 2008 and 2006-2008 a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

$$FIN\_F = \beta_1 RETA + \beta_2 ROA + \beta_3 ROE + \beta_4 TA + \beta_5 WCTA + B_6 CACL + \beta_7 CAPSTR + \beta_8 LOSS\ 2$$

Model 3 CG and Financial ratios

From the analysis by using the data corporate governance and financial ratios in the year 2006, 2007, 2008 and 2006-2008 a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

$$FIN\_F = \beta_1 CON\_R + \beta_2 FOR + \beta_3 EDU + \beta_4 AUD\_O + \beta_5 OWN\_S + \beta_6 BOA\_I + \beta_7 BOA\_S + \beta_8 RETA + \beta_9 ROA + \beta_{10} ROE + \beta_{11} TA + \beta_{12} WCTA + \beta_{13} CACL + \beta_{14} CAPSTR + \beta_{15} LOSS\ 2$$

The analysis of x yields p-value. If the value is less than 0.05, it is considered significant to financial failure.

2. Predictive ability analysis

Predictive ability analysis is divided into three models , the equations are tested on their ability to predict by dividing them into the Model 1 CG, Model 2 Financial ratios, Model 3 CG and Financial ratios.

In this prediction, each Model is predicted and, in each model, it is predicted as follows: three - year prediction (2006), Two - year prediction (2007), One - year prediction (2008) and Aggregated prediction (2006. -2008). The results of the prediction indicate the probability of financial failure. By analyzing the assigned cutoff point score, Type I error and Type II of each year are as detailed below.

2.1 Cutoff point score

The cutoff score is the classification criterion to determine whether a sample firm should be classified as successful in financial failure. This study used 0.50 as a cutoff point. If the predicted probability is greater than 0.50, then the firm is

classified as the non-failure, otherwise the firm is classified as the failure (Hsieh, 1993, quoted in Balcaen & Ooghe, 2005).

2.2 Type I Error and Type II Error

The ratio of the predictions are overall correct, the number of ratios to total number of samples to predict the correct ratio

1) Type I Error is prediction for financial failure firms that business continued to operate. Regarding the companies with financial problems that have been predicted to have not to have financial problems or the problematic ones that deny the problem, Type I Error in the prediction was tracked for further qualitative analysis. Importantly, key executives or investors should observe the management or investment the companies with the alarm signal from failure prediction to make the best financial decisions.

2) Type II Error is prediction for non-failure firms that have financial failure firms from the companies that have no financial problems, but are experiencing financial difficulties according to their financial results

After predictive result will follows confirms on type I error and type II error for check is predict correct or not .

Hypotheses testing

The hypotheses divided into six sections:

- H1: CG has the relation on financial failure of the companies listed on SET.
- H2: Financial ratios have influence on financial failure of the companies listed on SET.

- H3: CG and financial ratios have influence on financial failure of the companies listed on SET.

- H4: CG has the ability to predict the financial failure.

- H5: Financial ratios have the ability to predict the financial failure.

- H6: CG and Financial ratios have the ability to predict the financial failure.

- The first research question links to H1: ,H2:and H3: for test about the influence on financial failure of the companies listed on SET. The final research question links to H4:, H5: ,and H6: to test the ability to predict the financial failure.

Other Analysis

This study investigated from the quantitative study. The data or variables selected for this study consists of three variables which were studied by Catherine & Dan (1994), Jaikengkit (2004). This information can be used to support the quantitative data to make predictions. The details are as follows.

1. Education : according to the rules of the Stock Exchange concerning the board of directors and audit committee of the company, the audit committee must consist of at least three members, at least one person with knowledge of accounting and finance and one with knowledge of the law, which will help the company take care of the issues better.

2. Experience: the lack of knowledge and experience in the business of executives or project owners is one factor that is the most common cause of business with financial failure problems. The lack of direct experience, the lack of the

knowledge and management skills, poor competitive strategy are the most important qualities that will lead the business to the sustainable success. Most entrepreneurs in Thailand lack of the capacity in the field considerably and often end up with failures that should never occur.

3. Auditor's opinion: includes an unusually delayed auditing, mentioning about significant uncertainties, or having to explain to the change in auditors. These warning signs indicate that managers and auditors have commented on the controversy regarding what should be the accounting treatment that would be generally appropriate. This conflict is often associated with high-risk transactions in accordance with Accounting Standard code 705 for changes in comment on the report of the licensed auditor.

Each step of the research results mentioned above and the result summary are presented in Chapter 4.

CHAPTER 4

RESEARCH RESULTS

This chapter presents the results of the CG and financial ratios to predict financial failure of the companies listed on SET. Four sets of data are used in including the Year 2006, Year 2007, Year 2008, and Years 2006 to 2008 and analyzed using logistic regression. The results consist of six parts including testing multicollinearity, descriptive statistics, influencing of CG and financial ratios analysis, predictive ability, hypotheses results and other analysis.

Testing Multicollinearity

None of the independent variables in this analysis had a standard error larger than 2.0. The study results of multicollinearity of 15 variables for each year 2006-2008 and aggregated data are shown in table 4.1

Table 4.1 Explanatory Coefficients (β) and Standard Error (S.E.) for Test Multicollinearity

Variable	2006		2007		2008		2006-2008	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
CG variable								
CON_R more than 25%(1)	.256	2.020	1.056	2.450	.377	2.448	.411	1.004
CON_R more than10% between 25%(1)	-.253	2.017	1.164	1.978	-.106	1.958	-.095	.908
Foreign	-.402	4.210	-.281	4.319	.201	4.361	-.617	2.318
Education	.916	1.560	-.397	1.469	.572	1.775	.347	.725
Auditor's opinion	5.426	1.676	3.614	1.733	4.170	1.713	4.861	.822

Table 4.1 (Continued)

Variable	2006		2007		2008		2006-2008	
	B	**S.E.**	**B**	**S.E.**	**B**	**S.E.**	**B**	**S.E.**
Ownership structure	.027	.059	.025	.051	.036	.056	.022	.022
Board independence	.033	.127	-.065	.118	-.029	.108	-.047	.048
Board size	.025	.382	-.003	.429	.127	.340	.018	.159
Financial ratios								
Retained earnings to total assets	-.028	.016	-.023	.015	-.046	.021	-.033	.007
Return on assets	-.048	.043	-.021	.088	.018	.071	-.004	.014
Return on equity	.010	.020	-.002	.022	.002	.022	.005	.007
Total assets	.000	.000	.000	.000	.000	.000	.000	.000
Working capital to total assets	.019	.017	.017	.017	.018	.030	.018	.011
Current ratio	-.231	.538	-.097	.334	-.086	.144	-.074	.178
Capital structure	.117	.143	-.831	.662	.040	.275	.056	.060
	-2.020	2.896	-.195	1.752	-2.212	2.860	-.712	.908
Loss 2								

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

The variables control rights will be cut off from the equation are analyzed to multicollinearity testing because of standard error larger than 2.0 (see in appendix C) Therefore, year 2007 and 2008 showed that two variables are foreign and loss continued for two year or more second step the variable foreign the final step in year 2006 and 2007 showed that loss continued for two year or more with standard error (S.E.) larger than 2. None of the independent variables in this analysis had a standard error larger than 2.0. Table 4.2 shows the remaining 12 variables are used in this study.

Table 4.2 Explanatory Coefficients (β) and Standard Error (S.E.) for Test Multicollinearity

Variable	2006		2007		2008		2006-2008	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Education	.871	1.446	-.228	1.385	.540	1.537	.361	.698
Auditor's opinion	5.063	1.545	3.357	1.651	3.982	1.463	4.795	.809
Ownership Structure	.012	.045	.017	.045	.036	.050	.021	.020
Board Independence	-.001	.115	-.055	.107	-.024	.099	-.049	.047
Board Size	-.040	.326	.015	.356	.193	.287	.023	.154
Retained earnings to total assets	-.026	.011	-.024	.014	-.044	.017	-.031	.006
Return on assets	-.031	.032	-.003	.076	.037	.060	-.001	.014
Return on equity	.007	.019	-.007	.017	.000	.017	.004	.006
Total assets	.000	.000	.000	.000	.000	.000	.000	.000
Working capital to total assets	.020	.014	.020	.015	.018	.025	.019	.010
Current ratio	-.172	.453	-.075	.310	-.076	.133	-.072	.179
Capital structure	.123	.142	-.823	.625	-.016	.247	.058	.059

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

Descriptive Statistics

The preliminary data analysis describes the basic characteristics of the data to be analyzed to establish models by grouping the data in modeling. Descriptive statistics are the comparative analysis of the variables used in the study. The analysis is divided into two groups: one group of non-financial failure and financial failure group. Then it is compared by the average mean, std, min and max of each variable. The variable is classified to be a linear dummy variables or quantitative ratio. The unit of a variable or the number that occur is expressed only as a percentage, as much a number, and as negative or positive value. The results can be used to check the raw data we collected to verify the accuracy of the average maximum and minimum including analysis of the

events that occurred in that year. So with the numbers collected. The benefit to the research, include information or numbers to be processed correctly and accurately.

This section will present the data for each year and it is divided into CG and financial ratios.

Year 2006 variables

Dependent variables consist of quantitative and qualitative data of both CG and financial ratios. Table 4.3 - 4.4 show the descriptive statistics dependent variables.

Comparing a group of companies that non-financial failure and financial failure group found that the difference is statistically significant in the variables of CG and financial ratio The majority of some variables in non-failure group have higher mean than those of failure group and no statistically significant difference.

Table 4.3 shows that in non-failure group have lower mean than those of failure group and no statistically significant difference. It can be concluded that in 2006 the variable that were significantly different from other variables were board size, retained earnings to total assets , return on assets and total assets between non-failure group and failure group companies. This means that it is probability to be associated with the financial failure of the listed companies. That can be accurate predictive variables. These variables are measured by the proportion of shares. It is a measurement of the executive's management power and the proportion of ownership that are related to financial failure. It is used to formulate further predictive model. The profile is shown in Table 4.3

Table 4.3 Corporate Governance and Financial Ratios Variable of Non-Failure and Failure Group Year 2006

Variable	Statistics						
	Non-failure			Failure			P-value
	Mean	Std	Min/Max	Mean	Std	Min/Max	
CG variable							
Ownership structure	73.84	16.94	13.25/99.90	76.34	17.02	44.66/92.15	0.6152
Board independence	33.44	9.67	13.33/71.43	27.97	10.47	12.50/50.00	0.0548
Board size	10.83	2.95	6.00/25.00	8.08	3.48	4.00/15.00	0.0018**
Financial ratios							
Retained earnings to total assets	11.45	29.67	202.98/80.93	-223.96	191.84	-561.64/-51.08	0.0014**
Return on assets	8.35	11.58	-105.75/35.10	-11.44	24.69	-77.23/9.30	0.0181*
Return on equity	8.29	28.66	-364.73/74.07	-10.53	80.45	-192.24/116.99	0.4356
Total assets	21.54	1.81	13.20/27.30	20.44	2.28	14.65/23.30	0.0403*
Working capital to total assets	17.77	24.83	-134.39/87.41	-92.60	175.05	-466.66/34.78	0.0515
Current ratio	2.31	2.31	0.04/16.07	1.19	1.88	0.01/6.64	0.0982
Capital structure	1.04	1.28	-5.71/15.56	3.05	11.95	-8.05/35.53	0.5718

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

Moreover, in this study, dummy variables are also studied. According to the comparative analysis of Non-failure and Failure group, it is found that in auditor's opinion in non-failure group have higher mean than those of failure group and no statistically significant difference. This is because the opinion of the auditor in the failure group is mostly with conditions. The profile is shown in Table 4.4

Table 4.4 Corporate Governance Variable of Non-Failure and Failure Group Year 2006

Variable	Non-failure	Failure
CG variable		
Education		
Otherwise	158 (42.59)	8 (66.67)
High than Bachelor degree	213 (57.41)	4 (33.33)
Total	**371 (100)**	**12 (100)**
Auditor's opinion		
Qualified Opinion	9 (2.43)	12 (100)
Unqualified Opinion	362 (97.57)	0 (0.00)
Total	**371 (100)**	**12 (100)**

Note: number of companies in non-failure and failure group (%)

Year 2007 variables

Independent variables consist of quantitative and qualitative data of both CG and financial ratios. Table 4.5-4.6 show the descriptive statistics independent variable comparing a group of companies that financial failure and non-financial failure found that the difference is statistically significant in the variables of CG and financial ratios. The majority of variables in non-failure group has higher means than those of failure group that can be an accurate predictive variable. The other variables in failed and non-failure groups have no statistically significant difference. It can be concluded that in 2007 the variable that was significantly different from the mean was retained earnings to total assets, return on assets and capital structure that the difference is statistically significant between non-failure group and failure group. This means that it is probability to be associated with the financial failure of the listed companies. That can be accurate predictive variables. It is used to formulate further predictive model. The profile is shown in Table 4.5

Table 4.5 Corporate Governance and Financial Ratios Variable of Non-Failure and Failure Group Year 2007

Variable	Statistics						
	Non-failure			Failure			P-value
	Mean	Std	Min/Max	Mean	Std	Min/Max	
CG variable							
Ownership structure	74.21	15.92	4.43/99.95	75.95	17.98	50.84/93.65	0.7328
Board independence	34.14	9.72	12.50/71.43	28.49	9.02	12.50/40.00	0.0698
Board size	10.74	2.84	6.00/22.00	9.30	3.23	4.00/14.00	0.1159
Financial ratios							
Retained earnings to total assets	12.75	28.19	-196.34/79.79	-232.32	249.32	-829.86/-40.78	0.0126*
Return on assets	7.61	9.52	-33.85/40.19	-8.47	20.82	-50.14/9.48	0.0373*
Return on equity	6.45	22.08	-173.63/64.01	-4.73	107.43	-285.60/132.58	0.7497
Total assets	21.55	1.84	13.13/27.50	20.47	2.59	14.28/23.30	0.0736
Working capital to total assets	17.16	26.42	-137.42/88.76	-134.73	229.64	-662.56/50.08	0.0660
Current ratio	2.42	3.27	0.07/34.63	1.41	2.37	0.01/6.69	0.3330
Capital structure	1.25	2.73	-2.33/44.26	-2.79	2.73	-8.61/0.58	0.0000***

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

Comparing found that the difference is statistically significant in the CG variables is auditor's opinion variables in failure group have higher means than those of non-failure group. On the auditors' opinion, it is showed that non-failure has the unqualified opinion rather than a group with financial failure. This is because the audit and the auditor's opinion are signals or indicators of the company's financial problems. The opinion of the auditor in the failure group is mostly with conditions. The other variables in non-failure and failure groups have no statistically significant difference. The profile is shown in Table 4.6

Table 4.6 Corporate Governance Variable of Non-Failure and Failure Group Year 2007

Variable	Non-failure	Failure
CG variable		
Education		
Otherwise	163 (42.67)	7 (70)
High than Bachelor degree	219 (57.33)	3 (30)
Total	382 (100)	10 (100)
Auditor's opinion		
Qualified Opinion	11 (2.88)	10 (100)
Unqualified Opinion	371 (97.12)	0 (0.00)
Total	382 (100)	10 (100)

Note: number of companies in non-failure and failure group (%)

Year 2008 variables

Independent variables consist of quantitative and qualitative data of both CG and financial ratios. Table 4.7 -4.8 show the descriptive statistics independent variables.

Comparing a group of companies that non-financial failure and financial failure found that the difference is statistically significant in the variables of CG and financial ratios. The majority of variables in non-failure group have higher means than those of failure group and retained earnings to total assets that the difference is statistically significant between non-failure group and failure group. This means that it is probability to be associated with the financial failure of the listed companies and can be an accurate predictive variable. The other variables in non-failure and failure groups have no statistically significant difference. In this year, the Return on assets and Return on equity is positive, because this year the companies in the failure group had revenues of the commission, gain from debt restructuring, and sales of property, plant and equipment. That makes the mean of these variables positive. In every year, the mean

value is negative due to a loss. It is used to formulate further predictive model that can be an accurate predictive variable. The profile is shown in Table 4.7

Table 4.7 Corporate Governance and Financial Ratios Variable of Non-Failure and Failure Group Year 2008

Variable	Statistics						
	Non-failure			Failure			P-value
	Mean	Std	Min/Max	Mean	Std	Min/Max	
CG variable							
Ownership structure	73.96	15.97	7.38/99.91	73.76	20.83	50.38/99.39	0.0769
Board independence	34.93	9.94	15.38/75.00	28.97	11.32	8.33/50.00	0.6841
Board size	10.73	2.89	6.00/26.00	10.33	3.35	5.00/15.00	0.9718
Financial ratios							
Retained earnings to total assets	12.86	28.56	-170.38/78.34	-249.13	326.05	-993.85/-1.38	0.0425*
Return on assets	6.93	11.40	-54.08/68.47	62.31	136.30	-17.14/389.99	0.2576
Return on equity	6.98	28.14	-152.85/308.37	69.40	233.28	-291.12/453.39	0.4454
Total assets	21.54	1.98	12.72/27.50	19.14	3.50	12.46/22.50	0.0745
Working capital to total assets	16.65	26.25	-69.89/80.83	-7.51	57.73	-104.18/76.73	0.2454
Current ratio	2.83	5.49	0.08/75.00	2.27	2.88	0.20/8.35	0.7610
Capital structure	1.13	1.64	-9.12/16.82	2.04	8.20	-6.28/22.39	0.7468

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

It is found that education in non-failure has higher bachelor degree more than failure groups and auditors' opinion in non-failure has the satisfactory opinion rather than a group with financial problems. This is because the audit and the auditor's opinion is a signal or an indicator of the company's financial problems. The profile is shown in Table 4.8

Table 4.8 Corporate Governance Variable of Non-Failure and Failure Group Year 2008

Variable	Non-failure	Failure
CG variable		
Education		
Otherwise	162 (41.75)	6 (66.67)
High than Bachelor degree	226 (58.25)	3 (33.33)
Total	**388 (100)**	**9 (100)**
Auditor's opinion		
Qualified Opinion	11 (2.84)	9 (100)
Unqualified Opinion	377 (97.16)	0 (0.00)
Total	**388 (100)**	**9 (100)**

Note: number of companies in non-failure and failure group (%)

Year 2009 variables

The variables of this year used for testing the ability of CG and financial ratios in predicting of financial failure. Independent variables consist of quantitative and qualitative data of both CG and financial ratios. Table 4.9 -4.10 show the descriptive statistics independent variables. For year 2009, the quantitative variable information on CG and financial ratios for comparing a group of non-financial and financial failure companies failure companies show that ownership structure and return on equity in non-financial failure group have lower mean than those of failure group and no statistically significant difference. It can be concluded that in 2009 the variable that was significantly different from the mean was retained earnings to total assets and total assets that the difference is statistically significant between non-failure group and failure group. This means that it is probability to be associated with the financial failure of the listed companies. That can be accurate predictive variables. It is used to formulate further predictive model. The profile is shown in Table 4.9

Table 4.9 Corporate Governance and Financial Ratios Variable of Non-Failure and Failure Group Year 2009

Variable	Statistics						P-value
	Non-failure			Failure			
	Mean	Std	Min/Max	Mean	Std	Min/Max	
CG variable							
Ownership structure	72.64	16.81	6.20/99.99	73.72	19.38	48.06/94.92	0.8496
Board independence	36.20	10.20	15.79/80.00	34.13	7.53	20.00/44.44	0.5458
Board size	10.57	2.78	5.00/25.00	10.11	3.33	5.00/15.00	0.6264
Financial ratios							
Retained earnings to total assets	13.38	31.15	-168.86/80.72	-265.25	323.36	-891.02/-24.93	0.0324*
Return on assets	7.00	10.63	-36.88/58.66	-2.08	24.05	--40.37/39.32	0.2910
Return on equity	4.05	60.20	-768.21/365.71	44.38	141.40	-122.50/388.37	0.4177
Total assets	21.57	1.98	13.25/27.70	18.85	3.44	12.20/22.60	0.0448*
Working capital to total assets	17.88	27.23	-88.60/82.33	-3.50	57.43	-103.68/92.76	0.2974
Current ratio	2.95	5.74	0.05/88.89	8.41	20.53	0.18/62.85	0.4490
Capital structure	1.13	3.30	-23.05/42.77	2.24	5.09	-2.36/13.87	0.5342

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

It is also found that the difference is statistically significant in the qualitative variables is control rights, auditor's opinion, ownership structure and board size. The variables in non-failure group have higher means than those of failure group. Only education the variables in failure group have higher means than those of non-failure group. The other variables in non- failure group and failed have no statistically significant difference. The profile is shown in Table 4.10

Table 4.10 Corporate Governance Variable of Non-Failure and Failure Group Year 2009

Variable	Non-failure	Failure
CG variable		
Education		
Otherwise	157 (41.32)	5 (55.56)
High than Bachelor degree	223 (58.68)	4 (44.44)
Total	**380 (100)**	**9 (100)**
Auditor's opinion		
Qualified Opinion	11 (2.89)	9 (100)
Unqualified Opinion	369 (97.11)	0 (0.00)
Total	**380 (100)**	**9 (100)**

Note: number of companies in non-failure and failure group (%)

From table 4.3 - 4.10 summarize of preliminary analysis significance for year 2006-2009. The results show the coefficients of the twelve variables and analyze the average number of variables in the non-failure and failure group to carefully analyze the differences of the variables in each year.

Influencing CG and Financial Ratios Analysis

From the purpose of study is to investigate the CG and financial ratios influencing on the financial failure of the companies listed on SET. There are divided into 3 models as follow

Model 1 CG consists of CG variables including education, auditor's opinion, ownership structure, board independence and board size.

Model 2 Financial ratios consists of financial ratios variable including retained earnings to total assets, return on assets, return on equity, total assets, and working capital to total assets, current ratio, and capital structure.

Model 3 CG and Financial ratios consists of CG and Financial ratios variable including education, auditor's opinion, ownership structure, board independence, board size**,** retained earnings to total assets, return on assets, return on equity, total assets, working capital to total assets , current ratio and capital structure.

The significance levels of the models are .05, .01 and .001, respectively.

The experiments are conducted to indicating on financial failure as a warning signal to users, using twelve variables, table 4.11-4.13 show the significance tests for the twelve variables in logistic regression.

Model 1 CG variables

Model 1 CG consists of CG variables including education, auditor's opinion, ownership structure, board independence and board size.

Table 4.11 showed that influencing CG variables from the analysis of CG variables using the data years 2006, 2007, 2008 and 2006-2008, auditor's opinion in model 1 CG, represent significance levels of .01. Auditor's opinion is positive or increasing with the financial problems because the auditor's opinion must not report on one of the following: 1) the auditor's report with the conditions on deficiencies in the internal control system, incomplete accounting, or failure to comply with generally accepted accounting principles, 2) the auditor does not express an opinion on the

financial statements in case of the limited scope of the act or acts of the company and management 3) the auditor expresses the opinion that the financial statements are incorrect. Year 2006-2008 showed that influencing board size in model 1 CG, represent significance levels of .05. It showed that board size is a significant variable in indicating financial failure problems.

Table 4.11 Expected Signs and Influencing Variable of Each Year(Model 1 CG)

Variables	Expected signs	Year 2006	Year 2007	Year 2008	Year 2006-2008
Education	-	0.40 (0.85)	0.42 (0.75)	0.27 (1.10)	0.13 (0.79)
Auditor's opinion	-	0.00** (5.85)	0.00** (5.86)	0.00** (5.99)	0.00** (5.90)
Ownership structure	-	0.81 (-0.01)	0.41 (0.02)	0.81 (0.01)	0.52 (0.01)
Board independence	-	0.38 (-0.06)	0.29 (-0.06)	0.49 (-0.04)	0.10 (-0.06)
Board size	-	0.14 (-0.30)	0.20 (-0.22)	0.67 (-0.08)	0.05* (-0.20)
Constant		0.82 (-1.01)	0.36 (-3.49)	0.23 (-5.06)	0.14 (-3.31)

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively
( ) B coefficients

The test on the influencing variables of each year (Model 1 CG) can answer the research hypotheses number one.

H1: CG has the relate on financial failure of the companies listed on SET.

According to the hypothesis testing, it is found that CG variables have the relation on financial failure of the companies listed on SET. The data shows that the variable auditor's opinion can be used for predicting the financial failure and the influencing variables for the year 2006, 2007, 2008 and 2006- 2008 and board size can be used for predicting the financial failure and the influencing variables for the year 2006- 2008.

Table 4.11 shows the results of estimated coefficients and significance tests of five explanatory variable used for aggregated prediction education, auditor's opinion , ownership structure, board independence and board size.

Therefore the estimated coefficients will be used predict financial failure for three- year prediction (2006), two- year prediction (2007), one- year prediction (2008) and aggregated prediction (2006-2008) by using data of year 2009 as an experimental sample respectively.

Model 2 Financial ratios variable

Model 2 Financial ratios consists of financial ratios variable including retained earnings to total assets, return on assets, return on equity, total assets, and working capital to total assets, current ratio, and capital structure.

In 2007, the coefficient of capital structure can be used for predicting the financial failure and the influencing variables. When expected signs are positive, this means that the probability of financial problems will be greater if the variable increases. However, the result for this year is negative. That is the probability of financial problems will be decreased. In truth, increased variables produce more financial problems because of the negative or zero shareholders. The regression analysis is calculated from the total liabilities to equity shareholders. It is found that, in 2007, the mean of the failure groups is negative because of the negative or zero shareholders or the pending reorganization or restructuring. In every year, the mean value of the variable in the capital structure failure groups is positive.

Table 4.12 showed that influencing financial ratios variables from the analysis of financial ratio variables using the data years 2006, 2007, 2008 and 2006-2008 that contain retained earnings to total assets, return on asset, return on equity, total assets, working capital to total assets , current ratio and capital structure in model 2 financial ratios. Retained earnings to total assets and capital structure can be used for predicting the financial failure and the influencing variables for the year 2006, 2007, 2008 and 2006- 2008 with significance levels of .01.

Table 4.12 Expected Signs and Influencing Variable of Each Year (Model 2 Financial Ratios)

Variables	Expected signs	Year 2006	Year 2007	Year 2008	Year 2006-2008
Retained earnings to total assets	-	0.00**	0.07	0.00**	0.00**
		(-0.03)	(-0.02)	(-0.05)	(-0.04)
Return on assets	-	0.22	0.67	0.09	0.62
		(-0.03)	(-0.03)	(0.09)	(0.01)
Return on equity	-	0.46	0.32	0.64	0.14
		(0.01)	(-0.02)	(-0.01)	(0.01)
Total assets	-	0.85	0.65	0.93	0.69
		(-0.05)	(-0.02)	(0.03)	(-0.06)
Working capital to total assets	-	0.70	0.19	0.46	0.82
		(-0.01)	(0.02)	(0.01)	(0.00)
Current ratio	-	0.98	0.57	0.34	0.31
		(-0.01)	(-0.13)	(-0.10)	(-0.06)
Capital structure	+	0.07	0.00**	0.85	0.09
		(0.16)	(-1.94)	(-0.04)	(0.07)
Constant		0.43	0.40	0.46	0.24
		(-3.93)	(-8.13)	(-6.37)	(-3.59)

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

( ) B coefficients

The test on the influencing variables of each year (Model 2 Financial ratios) can answer the research hypotheses number two.

H2: Financial ratios have influence on financial failure of the companies listed on SET.

According to the hypothesis testing, it is found that financial ratios variables have the influence on financial failure of the companies listed on SET. The analysis of logistic regression to predict the financial failure of listed companies from the year 2006,2008 and 2006-2008 data shows that the variables retained earnings to total assets and year 2007 data shows that the capital structure (See in table 4.12)

Table 4.12 showed that influencing financial ratios variables from the analysis of financial ratio variables using the data years 2006, 2007, 2008 and 2006-2008 that contain retained earnings to total assets, return on asset, return on equity, total assets, working capital to total assets , current ratio and capital structure in model 2 financial ratios. Retained earnings to total assets can be used for predicting the financial failure and the influencing variables for the year 2006, 2008, and 2006- 2008 and capital structure can be used for predicting the financial failure and the influencing variables for the year with significance levels of .01.

Therefore the estimated coefficients will be used predict financial failure for three- year prediction (2006), two- year prediction (2007), one- year prediction (2008) and aggregated prediction (2006-2008) by using data of year 2009 as an experimental sample respectively.

Model 3 CG and Financial ratios variable

Model 3 CG and Financial ratios consists of CG and Financial ratios variable including education, auditor's opinion, ownership structure, board independence, board size**,** retained earnings to total assets, return on assets, return on equity, total assets, working capital to total assets , current ratio and capital structure.

Table 4.13 showed that Influencing CG and financial ratios variables from the analysis of CG and financial ratios variables using the data years 2006, 2007, 2008 and 2006-2008 contain corporate governance and financial ratios variables: education, auditor's opinion , ownership structure , board independence , board size, retained earnings to total assets, return on assets, return on equity, total assets, working capital to total assets, current ratio and , capital structure in model 3 CG and financial ratios. The data shows that auditor's opinion , retained earnings to total assets and return on assets represent significance levels of .05 and.01 respectively.

Table 4.13 Expected Signs and Influencing Variable of Each Year (Model 3 CG and Financial Ratios)

Variables	Expected signs	Year 2006	Year 2007	Year 2008	Year 2006-2008
Education	-	0.53	0.85	0.72	0.61
		(0.90)	(-0.26)	(0.54)	(0.36)
Auditor's opinion	-	.000**	0.04*	0.01**	0.00**
		(5.03)	(3.36)	(3.97)	(4.78)
Ownership structure	-	0.81	0.70	0.48	0.35
		(0.01)	(0.02)	(0.04)	(0.02)
Board independence	-	0.93	0.63	0.81	0.27
		(-0.01)	(-0.05)	(-0.02)	(-0.05)
Board size	-	0.82	0.94	0.51	0.95
		(-0.08)	(0.03)	(0.19)	(0.01)
Retained earnings to total assets	-	0.02*	0.08	0.01**	0.00**
		(-0.03)	(-0.02)	(-0.04)	(-0.03)
Return on assets	-	0.04*	0.98	0.53	0.89
		(-0.03)	(0.00)	(0.04)	(0.00)
Return on equity	-	0.68	0.74	0.97	0.40
		(0.01)	(-0.01)	(0.00)	(0.01)
Total assets	-	0.72	1.00	0.92	0.50
		(-0.13)	(0.00)	(0.05)	(-0.12)
Working capital to total assets	-	0.15	0.18	0.48	0.08
		(0.02)	(0.02)	(0.02)	(0.02)
Current ratio	-	0.68	0.82	0.58	0.68
		(-0.19)	(-0.07)	(-0.07)	(-0.07)
Capital structure	+	0.39	0.20	0.95	0.27
		(0.13)	(-0.82)	(-0.02)	(0.07)
Constant		0.77	0.68	0.33	0.50
		(-3.84)	(-5.42)	(-11.72)	(-3.97)

Note: *,**,*** represent significance levels of .05,.01 and .001, respectively

( ) B coefficients

The test on the influencing variables of each year (Model 3 CG and financial ratios) can answer the research hypotheses number three.

H3: CG and financial ratios have influence on financial failure of the companies listed on SET.

According to the hypothesis testing, it is found that CG and financial ratios variables have the influence on financial failure of the companies listed on SET.

As detail in table 4.13, year 2006, 2007, 2008 and 2006-2008 data shows Auditor's opinion only, as the variable for predicting the financial failure. For financial ratios in the year 2006, 2008 and 2006-2008, retained earnings to total assets and return on assets have the influencing on financial failure as shown in Table 4.13

Therefore the estimated coefficients of all variables will be used predict financial failure for three- year prediction (2006), two- year prediction (2007), one-year prediction (2008) and aggregated prediction (2006-2008) by using data of year 2009 as an experimental sample respectively.

Predictive Ability

The analysis of influencing variable is used to test the predictive ability by dividing the predictive test into three- year prediction (2006), two- year prediction (2007), one- year prediction (2008) and aggregated prediction (2006-2008).

The estimated coefficients of each variable from table 4.11, 4.12 and 4.13 will be used to developed predictive equation to predict the financial failure information of

the companies listed on the SET. The advanced prediction is made for the data of 2009. It shows that, overall, model 1-3 have the ability to predict the financial failure of the Year 2009 of firms listed on the SET. The predictive equation can be written in general equation form in each model as follow.

Model 1 CG

Three- year prediction (2006) = - 1.01+0.85EDU + 5.85AUD_O – 0.01 OWN_S – 0.06BOA_I - 0.30BOA_ S

Two- year prediction (2007) = - 3.49+0.75EDU + 5.86AUD_O + 0.02OWN_S- 0.06BOA_I - 0.22BOA_ S

One- year prediction (2008) = - 5.06 +1.10EDU + 5.99AUD_ O +0.01OWN_S – 0.04BOA_I - 0.08BOA_ S

Aggregated prediction (2006-2008) = - 3.31+0.79EDU + 5.90AUD_ O + 0.01OWN_S - 0.06BOA_I - 0.20BOA_ S

Model 2 Financial ratios

Three- year prediction (2006) = -3.93- 0.03RETA – 0.03ROA +0.01ROE – 0.05LNTA -0.01WCTA – 0.01CACL +0.16CAPSTR

Two- year prediction (2007) = -8.13 - 0.02RETA - 0.03ROA - 0.02ROE +0.20LNTA + 0.02WCTA – 0.13CACL– 1.94CAPSTR

One- year prediction (2008) = -6.37- 0.05RETA + 0.09ROA - 0.01ROE +0.03LNTA + 0.01WCTA – 0.10CACL - 0.04CAPSTR

Aggregated prediction (2006-2008) = -3.59 - 0.04RETA + 0.01ROA + 0.01ROE – 0.06LNTA + 0WCTA – 0.06CACL +0.07 CAPSTR

Model 3 CG and Financial Ratios

Three- year prediction (2006) = - 3.84+0.90EDU + 5.03AUD_O +0.01OWN_S – 0.01BOA_I - 0.08BOA_ S - 0.03RETA - 0.03ROA + 0.01ROE -0.13LNTA + 0.02WCTA – 0.19CACL + 0.13CAPSTR

Two- year prediction (2007) = - 5.42 -0.26EDU + 3.36AUD_O + 0.02OWN_S – 0.05BOA_I – 0.03BOA_ S – 0.02RETA + 0ROA – 0.01ROE +0LNTA + 0.02WCTA - 0.07CACL – 0.82CAPSTR

One- year prediction (2008) = - 11.72+0.54EDU + 3.97AUD_O + 0.04OWN_S- 0.02BOA_I +0.19BOA_S – 0.04RETA + 0.04ROA +0ROE +0.05LNTA + 0.02WCTA – 0.07CACL – 0.02CAPSTR

Aggregated prediction (2006-2008) = - 3.97+0.36EDU+4.78AUD_O + 0.02OWN_S – 0.05BOA_I + 0.01BOA_S - 0.03RETA + 0ROA + 0.01ROE – 0.12LNTA + 0.02WCTA –0.07CACL+ 0.07CAPSTR

In this section will present prediction percentage, goodness of fit , Type I and Type II results of each model with cutoff point at 0.5 showing as follow.

Prediction percentage

1. Model 1 CG

Table 4.14 shown Prediction percentage of CG of year 2006,2007,2008 and 2006-2008.

From the analysis of variables CG by using the data in the year 2006, a model for predicting the financial failure of the listed companies from all variables can be as follows.

Three- year prediction (2006) = - 1.01+0.85EDU + 5.85AUD_O – 0.01 OWN_S – 0.06BOA_I - 0.30BOA_ S

The model can be used to predict 78.40 percent of financial failure of listed firms. (Nagelkerke R Square = 0.784)

The analysis of CG variables by using the data in the year 2007, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

Two- year prediction (2007) = - 3.49+0.75EDU + 5.86AUD_O + 0.02OWN_S- 0.06BOA_I - 0.22BOA_ S

All variables are statistically significant. Therefore, the model is used for predicting the financial failure of the listed companies. The model can be used to predict 74.30 percent of financial failure of listed firms. (Nagelkerke R Square = 0.743)

From the CG variable analysis by using the data in the year 2008, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

$$\textit{One- year prediction (2008)} = -5.06 + 1.10EDU + 5.99AUD\_O + 0.01OWN\_S - 0.04BOA\_I - 0.08BOA\_S$$

All variables are statistically significant. Therefore, the model is used for predicting the financial failure of the listed companies. The model can be used to predict 72.60 percent of financial failure of listed firms. (Nagelkerke R Square = 0.726)

From the CG variable analysis by using the data in the year 2006 - 2008, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

$$\textit{Aggregated prediction (2006-2008)} = -3.31 + 0.79EDU + 5.90AUD\_O + 0.01OWN\_S - 0.06BOA\_I - 0.20BOA\_S$$

All variables are statistically significant. Therefore, the model is used for predicting the financial failure of the listed companies. The model can be used to predict 74.90 percent of financial failure of listed firms. (Nagelkerke R Square = 0.749).

Table 4.14 Predictions Percentage of the Model 1 CG and a Summary of the Negelkerke R Square (Pseudo)

Survey Status	Prediction Year 2009			Negelkerke R Square (Pseudo)
	Non-failed	Failed	Accuracy (%)	
MODEL 1 CG				
Three -year prediction (2006)				
Non-failed	373	6	98.40	0.784
Failed	5	4	44.40	
Overall			97.20	
Two -year prediction (2007)				
Non-failed	377	2	99.50	0.743
Failed	6	3	33.33	
Overall			97.90	
One- year prediction (2008)				
Non-failed	374	5	98.70	0.726
Failed	4	5	55.60	
Overall			97.70	
Aggregated prediction (2006-2008)				
Non-failed	376	3	99.20	0.749
Failed	6	3	33.30	
Overall			97.70	

The test on the predictive ability of each year (Model 1 CG) can answer the research hypotheses number four.

H4: CG has the ability to predict the financial failure of the companies listed on SET.

According to the hypothesis testing, Table 4.14 shows the results that CG has the ability to predict the financial failure Negelkerke R Square is 78.40.%,74.30 ,72.60 and 74.90% Goodness of Fit ,Omnibus Tests of Model Coefficients Sig <0.05 Hosmer and Lemeshow Test Sig ≥ 0.05 Classification Table Overall Percentage > 0.5 ,the overall prediction accuracy is 97.20 % ,97.90%,97.70% and 97.70%

2. Model 2 Financial Ratios

Table 4.15 shown prediction percentage of financial ratios of year 2006,2007,2008 and 2006-2008

Prediction percentage the predictions of the model 2 Financial ratios have three-year prediction (2006), Two -year prediction (2007), One- year prediction (2008) and Aggregated prediction (2006-2008) are as follows:

From the analysis of Financial ratio variables by using the data in the year 2006, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

Three- year prediction (2006) = ***-3.93- 0.03RETA – 0.03ROA +0.01ROE – 0.05LNTA -0.01WCTA – 0.01CACL +0.16CAPSTR***

The variables that are statistically significant are retained earnings to total assets, total assets, working capital to total assets and current ratio. The model can be used to predict 69.10 percent of financial failure of listed firms (Nagelkerke R Square = 0.691). Retained earnings to total assets, total assets, current ratio have a negative correlation with the likelihood that listed companies will fail financially (B is negative).

From the analysis of financial ratio variables by using the data in the year 2007, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

Two- year prediction (2007) = ***-8.13 - 0.02RETA - 0.03ROA - 0.02ROE +0.20LNTA + 0.02WCTA – 0.13CACL– 1.94CAPSTR***

The variables that are statistically significant is capital structure. The model can be used to predict 88.30 percent of financial failure of listed firms. (Nagelkerke R Square = 0.883)

From the analysis of financial ratio variables by using the data in the year 2008, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

One- year prediction (2008) = -6.37- 0.05RETA + 0.09ROA - 0.01ROE +0.03LNTA + 0.01WCTA – 0.10CACL - 0.04CAPSTR

The variable that is statistically significant is retained earnings to total assets. The model can be used to predict 78.20 percent of financial failure of listed firms. (Nagelkerke R Square = 0.782)

From the analysis of Ratio variables by using the data in the year 2006 - 2008, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

Aggregated prediction (2006-2008) = -3.59 - 0.04RETA + 0.01ROA + 0.01ROE – 0.06LNTA + 0WCTA – 0.06CACL +0.07 CAPSTR

The variables that are statistically significant are retained earnings to total assets.The model can be used to predict 64.9 percent of financial failure of listed firms (Nagelkerke R Square = 0.649).

Table 4.15 Predictions Percentage of the Model 2 Financial Ratios and a Summary of the Negelkerke R Square (Pseudo)

Survey Status	Prediction Year 2009			Negelkerke R Square (Pseudo)
	Non-failed	Failed	Accuracy (%)	
MODEL 2 Financial Ratios				
Three- year prediction (2006)				
Non-failed	378	2	99.50	0.691
Failed	4	5	55.60	
Overall			98.50	
Two- year prediction (2007)				
Non-failed	376	4	98.90	0.883
Failed	6	3	33.30	
Overall			97.40	
One- year prediction (2008)				
Non-failed	377	3	99.20	0.782
Failed	5	4	44.40	
Overall			97.90	
Aggregated prediction (2006-2008)				
Non-failed	380	0	100.00	0.649
Failed	4	5	55.60	
Overall			99.00	

The test on the predictive ability of each year (Model 2 Financial ratios) can answer the research hypotheses number five.

H5: Financial ratios have the ability to predict the financial failure of the companies listed on SET.

According to the hypothesis testing, Table 4.15 shows the results that financial ratios have the ability to predict the financial failure Negelkerke R Square is 98.50%,97.40 %, 97.90% , and 97.90% Goodness of Fit ,Omnibus Tests of Model Coefficients Sig <0.05 Hosmer and Lemeshow Test Sig ≥ 0.05 Classification Table

Overall Percentage > 0.5 ,the overall prediction accuracy is 98.50% ,97.40%, 97.90%, and 99.00% .

3. Model 3 CG and Financial Ratios

Table 4.16 shown prediction percentage of CG and Financial ratios of year 2006,2007,2008 and 2006-2008

Prediction percentage the predictions of the model3 CG and Financial ratios have three-year prediction (2006), Two -year prediction (2007), One- year prediction (2008) and Aggregated prediction (2006-2008). The equation is as follows.

From the analysis by using the data in the year 2006, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

Three- year prediction (2006) = - 3.84+0.90EDU + 5.03AUD_O +0.01OWN_S – 0.01BOA_I - 0.08BOA_ S- 0.03RETA - 0.03ROA +0.01ROE -0.13LNTA + 0.02WCTA – 0.19CACL + 0.13CAPSTR

The variables that are statistically significant are education auditor's opinion , board size and total assets. The model can be used to predict 92.10 percent of financial failure of listed firms. (Nagelkerke R Square = 0.921)

From the analysis by using the data in the year 2007, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

Two- year prediction (2007) = - 5.42 -0.26EDU + 3.36AUD_O + 0.02OWN_S – 0.05BOA_I – 0.03BOA_ S – 0.02RETA + 0ROA – 0.01ROE +0LNTA + 0.02WCTA - 0.07CACL – 0.82CAPSTR

The variables that are statistically significant are education, auditor's opinion, board size and current ratio. The model can be used to predict 92.50 percent of financial failure of listed firms. (Nagelkerke R Square = 0.925)

From the analysis by using the data in the year 2008, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

One- year prediction (2008) = - 11.72+0.54EDU + 3.97AUD_O + 0.04OWN_S- 0.02BOA_I +0.19BOA_S – 0.04RETA + 0.04ROA+ 0ROE +0.05LNTA + 0.02WCTA – 0.07CACL – 0.02CAPSTR

The variables that are statistically significant are auditor's opinion, retained earnings to total assets. The model can be used to predict 94.40 percent of financial failure of listed firms. (Nagelkerke R Square = 0.944) The variables can be explained as follows.

From the logistic regression analysis to formulate predictive models of financial failure of the listed companies using the previous 3 years, including the years 2006 to 2008, a model for predicting the financial failure of the listed companies from all variables can be expressed as follows.

Aggregated prediction (2006-2008) = - 3.97+0.36EDU+4.78AUD_O + 0.02OWN_S – 0.05BOA_I + 0.01BOA_S - 0.03RETA +0ROA+ 0.01ROE – 0.12LNTA + 0.02WCTA –0.07CACL+ 0.07CAPSTR

The variables that are statistically significant to the model are education, auditor's opinion, board independence, board size, retained earnings to total assets, total assets and current ratio. The model using all the variables can be used to predict 89.80 percent of financial failure of listed firms. (Nagelkerke R Square = 0.898) The variables can be explained as follows.

Table 4.16 Predictions Percentage of the Model 3 CG and Financial Ratios and a Summary of the Negelkerke R Square (Pseudo)

Survey Status	Prediction Year 2009			Negelkerke R Square (Pseudo)
	Non-failed	Failed	Accuracy (%)	
MODEL 3 CG and Financial ratios				
Three -year prediction (2006)				
Non-failed	377	2	99.50	0.921
Failed	2	7	77.80	
Overall			99.00	
Two -year prediction (2007)				
Non-failed	376	3	99.20	0.925
Failed	6	3	33.33	
Overall			97.70	
One -year prediction (2008)				
Non-failed	379	0	100.00	0.944
Failed	3	6	66.70	
Overall			99.20	
Aggregated prediction (2006-2008)				
Non-failed	379	0	100.00	0.898
Failed	1	8	88.90	
Overall			99.70	

The test on the predictive ability of each year (Model 3 CG and Financial ratios) can answer the research hypotheses number six.

H6: CG and Financial ratios have the ability to predict the financial failure of the companies listed on SET.

According to the hypothesis testing, Table 4.16 shows the results that CG and financial ratios have the ability to predict the financial failure Negelkerke R Square is 92.10%,92.50%,94.40%and 89.80% Goodness of Fit ,Omnibus Tests of Model Coefficients Sig <0.05 Hosmer and Lemeshow Test Sig ≥ 0.05 Classification Table Overall Percentage > 0.5 ,the overall prediction accuracy is 99.00% ,97.90%,99.20 and 99.70% .

From table 4.16 it is found that the model with the coefficient of the independent variable is consistent with the theory. By selecting the best model of statistical tests, the best one is Model 3 CG and Financial ratios Aggregated prediction (2006-2008). The reliability and the appropriateness of the model are tested. When consider the figures obtained from the Negelkerke R Square (Pseudo) of the develop model, the accuracy is 89.80% with Type I error of 11.10 % and Type II error of 0 %, which is the smallest error compared to the other models. Regarding Type I error, when tracking the data, it shows that one companies in 2006-2008 had financial problems but were predicted as non-failed incurred losses consecutively and could restructure. Their licenses were not revoked by SET. Type II error has no inaccuracy because it predicted with 100% accuracy. The prediction is accurate and precise. This demonstrates the aggregated use of CG and financial ratio and bigger data which are over the years 2006-2008. That produces the correct and accurate forecast with minimum errors in the prediction.

The Goodness of Fit

In addition to considering the Negelkerke R Square (Pseudo) and Type I error and Type II error of the table above, the goodness of fit can be determined by the Omnibus Tests of Model Coefficients with the Sig <0.05. The value was 0.000. Negelkerke R. Square (Pseudo) is Higher R Square and is better Classification Table should Overall Percentage> 0.5.

All the models are appropriate. When the Wald Statistic is considered, it is statistically significant (sig. <0.05). This indicates that the parameters in the equation are statistically significant. When considering 2LL value of the models that consist of independent variables, it is less than 2LL when the models contain only a constant. This means that the equation is appropriate.

Table 4.17 Summary of the Requirement of Logistic Regression Model 1 CG for Each Year

Item		Recommended value	Result (CG)			
1.Goodness of Fit			2006	2007	2008	2006-2008
1.1	Omnibus Tests of Model Coefficients					
	Step	Sig <0.05	0.000	0.000	0.000	0.000
	Block	Sig <0.05	0.000	0.000	0.000	0.000
	Model	Sig <0.05	0.000	0.000	0.000	0.000
1.2	Model Summary					
	Negelkerke R Square (Pseudo)	Higher R Square is better	0.784	0.743	0.726	0.749
1.3	Hosmer and Lemeshow Test	Sig ≥ 0.05	1.000	1.000	0.999	0.979
1.4	Classification Table	Overall Percentage > 0.5	97.20	97.90	97.70	97.70
2. Comparative 2 Model						
1	Model Summary	Compare 2LL	25.748 <2LL	26.147 <2LL	25.475 <2LL	78.686 <2LL
or 2	Model Summary	Negelkerke R Square (Pseudo)	0.191	0.157	0.141	0.162

Source: Sawat Wanarat (2010). Material Study of Advance Statistics for Research

Table 4.17 summarizes the model as an appropriate model. On the basis of the Wald Statistic, it was statistically significant (sig. <0.05), the parameters in the equation were statistically significant (sig. < 0.05). Furthermore, summary of the requirement of logistic regression mode1 CG for each year ,the Hosmer and Lemeshow should Sig ≥ 0.05 but this model 1 CG sig. < 0.05 ,Test of 2LL contained variables that were less than 2LL when the model was a constant. This means that the equation is appropriate. When comparing models with the Negelkerke R Square (Pseudo) as high as possible, Three –year prediction (2006) Negelkerke R Square (Pseudo) is 0.784 and Overall Percentage > 0.5 is 97.2 % suitable to be used to predict the financial failure of companies listed on the SET.

Table 4.18 Summary of the Requirement of Logistic Regression Model 2 Financial Ratios for Each Year

Item		Recommended value	Result (Financial Ratios)			
1.Goodness of Fit			2006	2007	2008	2006-2008
1.1	Omnibus Tests of Model Coefficients					
	Step	Sig <0.05	0.000	0.000	0.000	0.000
	Block	Sig <0.05	0.000	0.000	0.000	0.000
	Model	Sig <0.05	0.000	0.000	0.000	0.000
1.2	Model Summary					
	Negelkerke R Square (Pseudo)	Higher R Square is better	0.691	0.883	0.782	0.649
1.3	Hosmer and Lemeshow Test	Sig ≥ 0.05	0.986	0.998	0.996	0.626
1.4	Classification Table	Overall Percentage > 0.5	98.50	97.40	97.90	99.00
2. Comparative 2 Model						
1	Model Summary	Compare 2LL	36.294 <2LL	12.095 <2LL	20.403 <2LL	108.735 <2LL
or 2	Model Summary	Negelkerke R Square (Pseudo)	0.168	0.187	0.152	0.141

Source: Sawat Wanarat (2010). Material Study of Advance Statistics for Research

Table 4.18 show the summary of the requirement of logistic regression model2 Financial ratios for each year, the Hosmer and Lemeshow should Sig ≥ 0.05 but Model 2 Financial ratios sig. < 0.05, Test of 2LL contained variables that were less than 2LL when the model was a constant. This means that the equation is appropriate. When comparing models with the Negelkerke R Square (Pseudo) as the least possible, Aggregated prediction (2006-2008) Negelkerke R Square (Pseudo) is 0.649 and Overall Percentage > 0.5 is 99.00% as the most suitable to be used to predict the financial failure of companies listed on the SET.

Table 4.19 Summary of the Requirement of Logistic Regression Model 3 CG and Financial Ratios for Each Year

Item		**Recommended value**	**Result (CG and Financial ratios)**			
1.Goodness of Fit			2006	2007	2008	2006-2008
1.1	Omnibus Tests of Model Coefficients					
	Step	Sig <0.05	0.000	0.000	0.000	0.000
	Block	Sig <0.05	0.000	0.000	0.000	0.000
	Model	Sig <0.05	0.000	0.000	0.000	0.000
1.2	Model Summary					
	Negelkerke R Square (Pseudo)	Higher R Square is better	0.921	0.925	0.944	0.898
1.3	Hosmer and Lemeshow Test	Sig ≥ 0.05	1.000	1.000	1.000	0.994
1.4	Classification Table	Overall Percentage > 0.5	99.00	97.90	99.20	99.70
2. Comparative 2 Model						
1	Model Summary	Compare 2LL	9.603 <2LL	7.795 <2LL	5.327 <2LL	32.603 <2LL
or 2	Model Summary	Negelkerke R Square (Pseudo)	0.224	0.196	0.184	0.195

Source: Sawat Wanarat (2010). Material Study of Advance Statistics for Research

Table 4.19 show the summary of the requirement of logistic regression model3 CG and Financial ratios for each year, the Hosmer and Lemeshow should Sig ≥ 0.05

but model 3 CG and Financial ratios sig. < 0.05, Test of 2LL contained variables that were less than 2LL when the model was a constant. This means that the equation is appropriate. When comparing models with the Negelkerke R Square (Pseudo) as high as possible, Aggregated prediction (2006-2008) Negelkerke R Square (Pseudo) is 0.898 and Overall Percentage > 0.5 is 99.70 % suitable to be used to predict the financial failure of companies listed on the SET.

Comparing all models, when Negelkerke R Square (Pseudo) is considered, it shows that all the models yield high values. However, Model 3 CG and Financial ratios Three year prior, Two year prior, One year prior and Aggregated year yield the three highest values. A model One year prior (2008) yields highest Negelkerke R Square (Pseudo) is 94.4%.

According to Negelkerke R Square (Pseudo), Model 3 CG and Financial ratios Aggregated prediction (2006-2008) should be the most appropriate model. However, when considering the accuracy of the advanced forecasts for the year 2009, it is found that is the least accurate one and had the ability to predict the failed companies at 88.90 percent, which is considered to be relatively low (high level of Type I error). Therefore, Model 3 CG and Financial ratios Two-year prediction (2007) is not suitable for predicting the financial failure of the listed companies. Two models remain to be considered: Model 3 CG and Financial ratios Three-year prediction (2006) and One-year prediction (2008)

The Model 3 CG and Financial ratios Aggregated prediction (2006-2008) equally has the ability to accurately predict in advance on the data Year 2009 at 99.70 percent.

Type I Error and Type II Error

According to the prediction, it is found that there are Type I Error and Type II Error in each year.

1. Type I Error is the prediction for financially failed firms but they continue to operate. In the group that failed financially but was predicted that it would not have a financial failure, it was found, after examining, that there were similar number of companies and percentage in each year. From monitoring the operations of the company, it was found that they were the group that fitted the conditions for debt restructuring or could repay the debt as scheduled. They also could lack the liquidity but had rehabilitation plans, changed the management strategy, or complied with the conditions laid down by the Stock Exchange.

2. Type II Error is prediction for non-failure firms that have financial failure. This is the group that does not have financial problems, but it is predicted that there would be financial troubles. The investigation on the criterion revealed that there were financial problems and delays with the financial statements submission. In model 1 CG, there were more number of companies and percentage than model 2 financial ratios and model 3 CG and financial ratios. It reflected that the CG variable had the ability to predict the companies with no financial problems and to note the abnormality. The qualitative analysis revealed that these companies fitted the conditions and could not operate under the terms the Stock Exchange had placed. That was because of the uncertainty in the continual operation of the companies, the lack of liquidity, current assets over current liabilities, the deficit, the prosecutions and the inability to verify to the satisfaction of outstanding liabilities for the rehabilitation plans, depending on the

conditions and terms of the new plans. Type I Error and Type II Error of the three models can be summarizes in the table 4.20

Table 4.20 Analysis of Type I Error and Type II Error for Each Year

	2006 / Companies (%)	**2007/ Companies (%)**	**2008/ Companies (%)**	**2006-2008/ Companies (%)**
MODEL 1 CG				
Type I Error	6(1.60)	2(0.50)	5(1.30)	3(0.80)
Type II Error	5(55.60)	6(66.67)	4(43.40)	6(66.67)
MODEL 2 Financial Ratios				
Type I Error	2(0.50)	4(1.10)	3(0.80)	0(0.00)
Type II Error	4(44.40)	6(66.67)	5(55.60)	4(44.40)
MODEL 3 CG & Financial Ratios				
Type I Error	2(0.50)	3(0.80)	0(0.00)	0(0.00)
Type II Error	2(22.20)	6(66.67)	3(33.33)	1(11.11)

Analysis table of the Type I Error and Type II Error for each year found that each model is different. From Model 1 CG, the using of CG variables alone produces the prediction with relatively high Type I Error and Type II Error, as well as that of Model 2 Financial ratios. However, for Model 3 CG and financial ratios that uses the two types of variables in the prediction, there is less Type I Error and Type II Error in the prediction. In testing models used in prediction, this model, therefore, is the appropriate model. From the prediction result, the prediction error is tracked.

As the first model in 2006 showed that Type I Error refers to the companies that had financial failure but were predicted as no financial failure of the five companies met condition (1) shareholder's equity becomes negative, there has been a

significant decrease in assets, or the firm has a two-year rehabilitation period to settle its financial and operational problem and will post Non-compliance (NC) and Suspension (SP) signs on the company's securities until the firm resolves the grounds for delisting and returns to its normal sector. They can restructuring and could comply with the terms of the financial institutions.

Type II Error is comprised of six companies. Two companies met the condition (2) which is late submission of the statements and the auditor's opinion. The other companies met the condition (1) for financial failure which is the lack of liquidity with current liabilities over current assets.

Compared to Model 3 CG and Financial ratios Aggregated prediction (2006-2008), Type I Error is 0 because of correct prediction 100.00 percent. That is due to a large amount of data and using the two types of variables, both the CG and financial ratios from the 2006-2008 period, makes the prediction accurate with no error. Type II Error is comprised of one companies met the condition (1) for financial failure which is the lack of liquidity with current liabilities over current assets but could be managed to minimize the losses and generate liquidity to pay current liabilities.

After the analysis of Type I Error and Type II Error, each company was extensively studied on executive experience in the business, including the auditor's comments according to the auditing standard code 705 on comments on changes in the report of the licensed auditor.

Hypotheses Results

The purpose of question 1 was to focus on the exploring influencing variables of CG. The logistic regression analysis was applied to three models; Model 1 CG Model 2 Financial ratios and Model 3 CG and Financial ratios found that significant indicators of financial failure of the companies listed on SET. The evidence for this can be seen in table 4.11, 4.12 and 4.13.

Model 3 CG predictions have high accuracy. At the same time, there have been evaluation and observation partly from the warning system that may affect the financial failure Pearliman (1978). These include an unusually delayed auditing, mentioning about significant uncertainties, or having to explain to the change in auditors. These warning signs indicate that managers and auditors have commented on the controversy regarding what should be the accounting treatment that would be generally appropriate. This conflict is often associated with high-risk transactions in accordance with Accounting Standard code 705 for changes in comment on the report of the licensed auditor.

Other Analysis

The Stock Exchange has established regulations governing the executives' education. They should have degrees in the field of accounting, finance and law. Additionally, the working experience in the field is considered to be of paramount importance in order to bring the company to a goal when a problem occurs, such as the

possibility of financial failure. How management strategies are implemented and the operational performances demonstrate financial status. The results must be transparency and accountability. These financial statements must be accompanied with Auditor's comments with Accounting Standard code 705 for changes in comment on the report of the licensed auditor. When each issue is so important, each aspect of management is studied as detailed below.

Education

In terms of education, it is found that the failure is not in accordance with the Exchange Act; that is having the board members with degrees in accounting and law. This is in opposite to the companies in the non- failure group. It was found that more management graduated and qualified as required by the Exchange than that in the failure group and less likely to experience financial failure.

According to the summary on the detailed study of the management in each business if their education meets the regulations set by the SET, it can be divided into two groups: Failure group and Non-failure group.

In non-failure group, the study finds that the administration with Legal degree is at 8.95 %, followed by Accounting degree at 17.65 % ,Finance degree at 5.28 % and other 68.10% . In the failure group's education, it shows that the administration with Legal degree is at 1.07 %, followed by Accounting degree at 15.05 % and Finance degree at 2.15 %. as detailed in table 4.21

Table 4.21 Summary of Education Background in Legal Studies, Accounting and Finance of Failure Groups and Non-Failure Groups in 2006-2008

	N	2006 n(%)	2007 n(%)	2008 n(%)
Non-failure groups	4,164			
Legal		373(8.95)	373(8.95)	373(8.95)
Accounting		735(17.65)	735(17.65)	735(17.65)
Finance		220(5.28)	220(5.28)	220(5.28)
Other		2,836(68.10)	2,836(68.10)	2,836(68.10)
Failure groups	93			
Legal		9(1.07)	9(1.07)	9(1.07)
Accounting		14(15.05)	14(15.05)	14(15.05)
Finance		2(2.15)	2(2.15)	2(2.15)
Other		68(81.73)	68(81.73)	68(81.73)

Later, for example, the first model in 2006 Type I error analysis on the management's education was conducted. It is found that 5 companies with financial failure, but predicted as no financial failure in 2006 had the biggest portion of executives with accounting degree, followed by law degree and finance degree. It can be seen that education is important in managing the allocated resources to meet the goals that have been laid down. The researcher conducted in-depth analysis of each company. It is found that the management of the companies that had been predicted as Type I error could adjust the strategies and return to the normal category SET. On the other hand, the 6 companies with Type II error, those with no financial failure but predicted with financial failure, have the highest rate of executives with accounting degree, followed by legal degree and finance degree. Some companies have on executives with the degrees on finance or law such as in the real estate development group. The problem is that there are long-term loans or the debt restructuring cannot repay on agreed term or legal disputes. An executive with expertise in the fields will be

able to very well take the company to escape from financial problems. In deciding on the management, the board should look at the key issues in this issue as well.

Experience

In terms of experience, according to the ratio shown in Table 4.23, it was found that there was the ratio of the executives in non-failure group with work experience in related business, with tenure and the expertise in the management areas. The companies could enhance the stability and avoid financial failure.

According to the summary on the detailed study of the management in each business if they have direct experience and the working years are into 0-1 years, 2-3 years,4-5,6-10, and more than 11 years, it can be divided into two groups: failure group and non-failure group. the study finds that non-failure group have direct working experience at 40.68% more than failure group at 21.50%.

In non-failure group, the study finds that the administration with more than 10 years at 39.55 % followed by 0 – 1 year working experience is at 17.60 and 5 – 10 years at 16.90 % .In the Failure group, it shows that the administration with more than 10 years at 61.29 % followed by with 3-5 years of working experience is at 17.20%, followed by 5-10 years at 12.90 % as detailed in table 4.22

Table 4.22 Summary of Years of Administrative Experience of Non-Failure Groups and Failure Groups in 2006-2008

Experience of boards	N	2006 n(%)	2007 n(%)	2008 n(%)
Non-failure groups				
Direct experience		1,694(40.68)	1,694(40.68)	1,694(40.68)
Other experience		2,470(59.32)	2,470(59.32)	2,470(59.32)
Total	4,164	4,164(100)	4,164(100)	4,164(100)
0-1 year		733(17.60)	733(17.60)	733(17.60)
1-3 year		447(10.73)	447(10.73)	447(10.73)
3-5 year		630(15.12)	630(15.12)	630(15.12)
5-10 year		707(16.90)	707(16.90)	707(16.90)
More than 10 year		1,647(39.55)	1,647(39.55)	1,647(39.55)
Total	4,164	4,164(100)	4,164(100)	4,164(100)
Failure groups				
Direct experience		20(21.50)	20(21.50)	20(21.50)
Other experience		63(67.75)	63(67.75)	63(67.75)
Total	93	93(100)	93(100)	93(100)
0-1 year		2(2.15)	2(2.15)	2(2.15)
1-3 year		6(6.45)	6(6.45)	6(6.45)
3-5 year		16(17.20)	16(17.20)	16(17.20)
5-10 year		12(12.90)	12(12.90)	12(12.90)
More than 10 year		57(61.29)	57(61.29)	57(61.29)
Total	93	93(100)	93(100)	93(100)

According to Type I error analysis on the management's experience, For example the first model in 2006. It is found that 5 companies with financial failure, but predicted as no financial failure in 2006 had the biggest portion of executives with more than 5 years of direct working experience. There were only new executives with the experience with less than 1 year when compared to the overall ratio. Experienced management is important in the strategy analysis when a company is in financial failure. For Type II error of the management's experience, it is found that 6 companies with no

financial failure but predicted with financial failure in 2006 had most executives with direct experience in the business with expertise but with 0-1 year working experience. When the company's executive management is novice and has no expertise, the company can have a liquidity problem. This is an issue an investor should take note. When faced with financial failure, they may not be able to solve the problem well enough. The company may have financial failure. With in-depth analysis on financial reports and notes, it is found that most of the problems are long-term debt and late restructuring due to lack of liquidity.

Regarding management experience and years of tenure, it can be seen that, at the companies with financial problems, executives who come to work in the 0-1 year had the rate which is higher than the 2-3 year-old executives. The rate was reduced. In the business, the issue of unprofessionalism of the board currently arises from the inefficient recruitment process which will result in a committee whose experience that does not align with the organizations' need. Therefore, they cannot add value to the organizations or good governance and will lead to organizational problems that will occur when organizations can achieve acceptable performance. This may cause financial crisis. It can be seen that the rate in year 4-5 increases and in the next year further reduced. The work cannot continue with uncertainty turnover when compared to companies that do not have financial failure. It is found that the ratio of experienced management in the first year and fell in the next year. In subsequent years, the ratios increased because the board of directors or experienced management could fix the problem and avoid financial failure.

Auditor's opinions

In terms of auditor's opinions, in the failure group, it was found that the auditor's judgment about the nature of the incident that resulted in a change of comment is a conditional change. The reason is that the financial statements showed the data that was contrary to the material facts and the companies could not find enough evidence to appropriately support. This was opposed to the financial statements of non-failure group. Most of the statements were expressed an unconditional opinion.

According to the detailed summary on the auditor's opinions in each business, it can be divided into two groups: failure group and non-failure group.

In the failure group, it shows that they are all unsatisfactory opinions. In the case of non-failure group, it is found that, in 2006, the satisfactory opinion was 97.57% and qualified opinion was 2.43 %. In 2007 and in 2008, the unqualified opinion increased respectively. The increase in no-condition opinions reflected the complexity of the transactions and the business' financial problems increased as detailed in Table 4.23

Table 4.23 Summary of Years of Auditor's opinions Failure Groups and Non-Failure Groups in 2006-2008

	2006 n(%)	**2007 n(%)**	**2008 n(%)**
Non-failure groups			
Unqualified Opinion	362(97.57)	371(97.12)	377(97.16)
Qualified Opinion	9(2.43)	11(2.88)	11(2.84)
Total	371(100)	382(100)	388(100)
Failure groups			
Unqualified Opinion	-	-	-
Qualified Opinion	12(100)	10(100)	9(100)
Total	12(100)	10(100)	9(100)

According to the analysis of Type I error in the Auditor's opinions, it showed that 5 companies that had financial problems but predicted as no financial problems in 2006 had been reported with conditions by the auditors. They had financial problems but predicted as no problems because the management employed strategies in the operations. They could bring the company back into the normal category and pay the debt incurred. This should be noted in the joint venture due to financial problems if no restructuring or a note that the auditors cannot find and proof. For Type II error in auditor's opinions, it shows that 6 of three hundred seventy nine companies that had no financial problems but were predicted with financial problems in 2006 were reports with conditions. Due to liquidity problems and the ability to repay the debt, the auditor could not unconditionally certify the financial statements. It should be noted that the management and investors should read and understand financial statements with the auditor’s opinions for the investment purposes and prevention of financial failure in the future.

Following the financial failure of the current year, it is found that six companies that are Type I error, having financial problems but predicted as no problems, are operational and two companies have been delisted from the stock exchange. Two companies that are Type II error, no financial problems but predicted with financial problems, were ordered to withdraw from SET. Six companies have a possibility of financial failure due to the consecutive losses, loss on foreign exchange, having more liability than assets, or being under the rehabilitation. The remaining nine companies do have any problems. It can be seen that the prediction is accurate, also the use of information to analyze to support ensure those who study and apply the models.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

This chapter contains conclusions, discussions of findings, limitations of the study, and recommendations.

In the study, the research methodology is conducted by a quantitative analysis with the aims to (1) investigate whether corporate governance (CG) and financial ratios influence financial failure of companies listed on the SET and (2) evaluate the predictability of (CG) and financial ratios on the financial failure of firms listed on SET. Data collection represents financial statements of Thai listed companies during the years 2006-2009. The study analyzes the data both from each year of the selected financial ratios and from the average of the three fiscal years as independent variables. Logistic regression analysis is used to analyze the data.

The current study addresses the following research questions:

1. Are CG and financial ratios statistically significant to predict financial failure of the companies listed on SET?

2. Are financial failure prediction models that integrated accounting information and CG successfully considered as pre-warning tool of financial failure?

The research questions for the current study were utilized to develop the following six hypotheses:

H1: CG has the relationship with financial failure of the companies listed on SET.

H2: Financial ratios influence on the financial failure of the companies listed on SET.

H3: CG and financial ratios influence on the financial failure of the companies listed on SET.

H4: CG has an ability to predict financial failure.

H5: Financial ratios have an ability to predict the financial failure.

H6: CG and financial ratios have an ability to predict the financial failure.

Several researches have developed of financial failure models using financial ratios as explanatory variables (e.g., Altman, 1968; Ohson, 1980; and Nittayagasetwat, 1994). Several researchers have also cited corporate governance as one of the key factors leading to the Asian Financial Crisis in 1997 (Alba et al.,(1998). However, little attempt to link corporate governance to financial failure is somewhat rare. Therefore, this study intends to fill this gap in the literature. This study aims to fulfill the gap by investigating the issue and by testing whether corporate governance relates to the probability of financial failure of firms listed on SET.

The results of this study point out three patterns of failure prediction models and are the products of five corporate governance and seven financial ratios. The five corporate governance variables represent of the proxies for education, auditor's opinion, ownership structure, board independent and board size, while seven financial ratios variables represent proxies for retained earnings to total assets, return on assets, return on equity, total assets, working capital to total assets, current assets to current liabilities and capital structure.

The analysis successfully finds significant conclusion of three financial failure models including Model 1 CG, Model 2 Financial Ratios and Model 3 CG and Financial Ratios. Model 1 CG include corporate governance variables, while Model 2 comprises

financial ratios. In addition, Model 3 includes CG and financial ratios variables. Each model tests whether corporate governance have probability power of financial failure and possesses significant indicators for predicting financial failure of firms listed on SET.

Conclusions

The principles of corporate governance are considered fundamental for successful management (OECD, 2004). This study finds that the variables of corporate governance and financial ratios are significant indicators in the evaluation and prediction of the financial failure of firms listed on SET for all models (Model 1 CG, Model 2 Financial Ratios, and Model 3 CG and Financial Ratios). The findings provided support the hypotheses of this study. The details of the analysis are as follows.

Model 1 CG, the analysis shows that the variable of auditor's opinion could be used to predict the financial failure in the year 2006, 2007, 2008 and 2006- 2008 and board size could be used for predicting the financial failure and the influencing variables in the year 2006- 2008.

Model 2 Financial Ratios, the analysis shows that the variable of retained earnings to total assets could be used to predict the financial failure in the year 2006, 2008 and 2006- 2008, while capital structure could be used to predict the financial failure in the year 2007.

Model 3 CG and Financial Ratios , the analysis shows that CG variables (auditor's opinion) could be used to predict the financial failure in the year 2006, 2007,

2008 and 2006- 2008, while financial ratios (retained earnings to total assets and return on assets) could be used to predict the financial failure in the year 2006, 2008 and 2006-2008. However, return on assets has an influence on financial failure in the year 2007 only.

The statistical data of the analysis shows that Model 1 CG has the ability to predict the financial failure at Nagelkerke R Square, 78.40%, 74.30%, 72.60 and 74.90%. Goodness of Fit and Omnibus Tests of Model Coefficients Sig <0.05 Hosmer and Lemeshow Test Sig ≥ 0.05 Classification Table Overall Percentage > 0.5. The overall prediction accuracy is 97.20%, 97.90 %, 97.70% and 97.70%.

Model 2 Financial Ratios had the ability to predict the financial failure at Nagelkerke R Square was 98.50%, 97.40 %, 97.90 %, and 97.90%, Goodness of Fit,Omnibus Tests of Model Coefficients Sig <0.05 Hosmer and Lemeshow Test Sig ≥ 0.05 Classification Table Overall Percentage > 0.5. The overall prediction accuracy is 98.50%, 97.40%, 97.90% and 99.00%.

Model 3 CG and Financial Ratios had the ability to predict the financial failure at Nagelkerke R Square is 92.10%, 92.50%, 94.40% and 89.80%, Goodness of Fit,Omnibus Tests of Model Coefficients Sig <0.05 Hosmer and Lemeshow Test Sig ≥ 0.05 Classification Table Overall Percentage > 0.5. The overall prediction accuracy is 99.00%, 97.90%, 99.20% and 99.70%.

Type I Error and Type II Error for each year have been found. From Model 1 CG, the use of CG variables alone produces the prediction with relatively high Type I Error and Type II Error, as well as that of Model 2 Financial Ratios. However, in the Model 3 CG and Financial Ratios model, Type I Error and Type II

Error is less that previous errors in the prediction. In other words, Model 3 shows the most significant models of this present study. The results provided support the hypothesis of this present study.

Discussion of the Finding

Influencing variables

All hypotheses are tested by three logistic models: Model 1 CG (a model including only corporate governance), Model 2 Financial Ratios (a model including only financial ratios) and Model 3 CG and Financial Ratios (a model including both corporate governance and financial ratios). The results of the hypotheses testing for corporate governance and financial ratios partially support the existing literature that CG and financial ratios have an influence on financial failure.

Influencing CG variables

Corporate governance is the system utilized in the direction and control of corporations. However, good organization management should be the goal of executives of organizations aware and responsible to create in the organizations. Generally, most people tend to focus on the link between corporate governance and the board in the area of board structure, considering it only in terms of board size and board independence as the main factors in the creation of good management. However, to consider only this is insufficient in creation of equitable governance in organizations. Although there are independent boards in the organizations, the board structure is not a

guarantee of survival of an organization if the directors are not aware of what they are obliged to do or how best to fulfill their obligations. Strategy and planning must be taken into account. It is a well known fact that poor strategic planning can adversely affect an organization. The board must take into consideration is management in the formulation of corporate strategy. The participation of management is essential as they are responsible for the reviewing, understanding, and approving of strategy. To participate effectively, the board needs to analyze relevant and accurate information supplied by management. This information can be from both internal and external sources. If the internal information that the board uses comes from organizations that are controlled and supervised well, the information will be accurate, relevant, and reliable. A sound control and supervision process can be created by a strong and reliable internal audit process. This is because the objective of auditing is to assess the accuracy and reliability of corporate finance information and operational information.

Auditor's opinion There are five types of the auditor's opinion: (1) unqualified opinion (2) unqualified opinion with emphasis matters (3) unqualified opinion (4) disclaimer of opinion, and (5) adverse opinion. In this study, it is found that the companies which were predicted to have financial problems had the auditor's opinion with "modified opinion "(i.e. (2) – (5)). This is to say that the opinion of the auditor on the financial statements differs from that of the company executives who made those statements. For example, the records do not follow generally accepted accounting principles (GAAP) or the financial statements are restricted to such a degree that until the auditors were unable to function fully in the auditing process. Such cases involve little or no cooperation from the company under audit, lack of receipt of the

subsidiary's financial statements, or those of associates, and other types of events that causes the auditor to be unable to fully verify an item that is significant to the financial statements. This is a warning signal to management and investors to be cautious in investing. In this study it was found that this variable .is included in the model. The significant negative coefficient of the auditor's opinion should be reported. This provided support to prior research (DeFond & Jiambalvo, 1991; McMullen & Raghunandan, 1996; Collier & Gregory, 1999; Beasley & Salterio, 2001 & Karamanon &Vafeas, 2005). This is consistent with the research of Jaikengkit (2004) and Suda (2005). Accurate predictions need to be based on accurate facts, and financial information must be derived from the financial statements of the company prepared in accordance with IFRS and must have been certified by the auditors. Auditor's reports with observations on its ability to continue the operation or very long auditor's reports are warning signals.

Board size: the results found that organizations with smaller boards are more likely to become bankrupt than organizations with larger boards. This finding provided support to the prior research (Pfeffer, 1972; Pearce & Zahra, 1992; Gale & Kesher, 1994; Dalton, et al., 1999). The advantages of having a large board size is the human available resource available to help solve more problems as there is more opportunity to coordinate and access resources. Shaw (1981), however, found that a small board's performance can be affected by the chief executive officer. This is due to the chief executive officer being able to maintain better internal relationships in smaller boards than is the case with larger boards. According to Chaganti, Mahajan, and Sharma (1985) large boards will encounter more coordination problems and will be relatively

independent from the Executive. Fich and Stezak (2008) found that smaller boards will be able to more effectively avoid bankruptcy of the business in comparison to the larger boards when companies experience financial difficulties.

Influencing financial ratios

Financial ratios are important tools in financial statement analysis in order to discover the performance of business enterprises.

Retained earnings to total assets: this finding supports the ratio that represents the rights over assets (claim against assets) and is not a direct asset. It is keeping the profit of the business and using it to expand the company, such as additional investment in plant machinery or inventory. Changes in retained earnings of ordinary shareholders take place when the shareholders allow dividends to be reinvested, which represents the trust that the business will continue (Brigham & Houston, 2000; Brigham & Ehrhardt, 2005). The financial ratios of this type can identify businesses that fail and not fail according to the study model of Altman (1968). This is consistent with the study of Kanittha (2002), in which two-year data is used before the samples become bankrupt to create a model to predict financial failure of listed banking and finance companies. The model of the study finds that this ratio is one variable that influences the possibility that the company will not suffer financial failure. Retained earnings to total assets has a negative relationship with the financial failure of the companies listed on SET. Conversely, if retained earnings to total assets is reduced, it is predicted that the probability that the company will fail financially increases.

Return on assets: this finding supports the ratio and the work is consistent with the research of Altman, Haldman and Naraynan (1977), Thomson (2006),

Crisostomo (2009), Piruna and Kingkarn (2009). The use of accounting data by the model found that the ratio is a variable that affects the possibility that the company will not face financial failure. The measurement of firm's profitability is negatively related to the probability of financial failure. This means that the firms with a relatively low ROA are inefficient in the use of their business assets in generating profit back to the firms. These low ROA firms tend to have a high probability of falling into financial failure.

Capital structure: this finding supports the ratio and is consistent with the research of Suntraruk (2009). This ratio is measured by total liabilities to equity shareholders. It is the ratio of debt to equity (DE Ratio), also known as the Financial Leverage or Gearing. This ratio is used for risk management in lending. This variable is correlated with the occurrence of financial problems and important to this study.

Predictive ability

Forecasting and financial planning helps companies maximize the use of capital and maintain liquidity effectively. It is taken into consideration when making an investment decision. When the companies have a large investment with returns in the long run, they need to carefully before deciding to invest. The information used in the decision making process has to be accurate in order to yield the most accurate analysis. Only then, it can be used as a planning tool to guide the company's operation efficiently. In this study, predictions can be made accurately as detail below.

Model 3 CG and Financial Ratios classification rate is 99.70 percent which is a higher rate than Model 2 Financial Ratios and Model 1 CG because Model 3 includes both corporate governance and financial ratios.

Year 2006 data can predict 92.10 percent financial failure rate of firms listed on SET when using the model to predict the financial failure of the companies listed in 2009. It shows that it is 99.00 percent accurate for the overall prediction. It is 22.20 percent of Type I Error and 0.50 percent of Type II Error.

Year 2008 data can predict 94.40 percent financial failure rate of firms listed on SET when using the model to predict the financial failure of the companies listed in 2009. It shows that it is 99.2 percent accurate for the overall prediction. It is 33.30 percent of Type I Error and 0 percent of Type II Error.

The Models 3 CG and Financial Ratios are used to predict the financial failure information of the companies listed on the Stock Exchange. The advanced prediction is made for the data of 2009. It shows that aggregated prediction 2006-2009 have the ability to predict the financial failure of the Year 2009 of firms listed on the Stock Exchange similarly, which is 89.80 percent.

According to the equations, it can be concluded that the equation, which uses the data from 2006 to 2008 in the equation formulation, is the most accurate in predicting the financial failure of firms listed on SET. The error in prediction, especially Type I Error, is the least of which is considered significant if the equation is used to predict financial failure and for credit information.

Financial ratio variables include the ratios of retained earnings to total assets (RETA), return on assets (ROA), total assets (LNTA) and current ratio (CACL) the ratio affecting the prediction of financial failure.

The prediction of financial failure in business benefits those who are interested in the subject. In the interest of the sustainable growth of an organization, investors expect to be treated as shareholders, that is, to be accurately, completely and timely informed of investing decisions made by management in a transparent manner. CG is a key element to facilitate investment, taken in consideration, by institutional investors in particularly. Furthermore, a company's good image results in lower financing costs because it reduces agency problem as a result of the conflict between the principal and an agent (Uerjitanantakul & Sichawat, 2006).

The results show that prediction of financial failure of listed companies using the data over the years nearer to the predicting time of financial failure can predict with greater accuracy the proportion of companies that failed. In addition, if the data from other years is used, it will lead to more accurate predictions, and using data from year 2006 to 2008, is the most accurate.

From the other analysis, after the prediction of the Type I error and Type II error, it was found that the prediction was accurate. In the follow-up investigation of the companies, they were found to be in accordance with the actual conditions.

The findings of failure group's education, the results shows that the administrators with accounting degree was at 15.05 percent, followed by Finance degree at 2.15 percent and Legal degree at 1.07 percent. In non-failure group the

administrators with accounting degree is at 17.65 percent, followed by Legal degree at 8.95 percent and Finance degree at 5.28 percent.

It was found that the more management had graduated and qualified as required by the Exchange, the less likely the company would be in the failure group and the less likely the company would experience financial problems.

In terms of experience in the field of management before taking the executive positions in the business, it was found that there was the ratio of the executives in non-failure group with work experience in related business, with tenure and the expertise in the management areas. The companies with high ratio of these types of managers could enhance the stability and avoid financial problems.

In the Failure Group, it showed that the administration with more than 10 years of working experience is at 61.29 percent, followed by 3-5 years at 17.20 percent and 5- 10 year at 12.90 percent. In Non-failure Group, the study finds that the administration with more than 10 year working experience is at 39.55 percent, followed by more than 0-1 years at 17.60 percent and 5-10 years at 16.90 percent.

In terms of auditor's opinions, in the failure group, it was found that the auditor's judgment about the nature of the incident that resulted in a change of comment is a conditional change. The reason is that the financial statements showed data that was contrary to the material facts and the companies could not find enough evidence to appropriately support their claims. This was contrary to the financial statements of non-failure group. Most of the financial statements were expressed an unconditional opinion.

The detailed summary of the auditor's opinions regarding each business can be divided into two groups: Failure group and Non-failure group.

In the Failure group, it shows that they are all qualified opinion. In the case of Non-failure group, it is found that, in 2006, the unqualified opinion was 97.57 percent and qualified opinion was 2.43 percent. In 2007 and in 2008, the qualified opinion increased respectively. The increase in satisfactory opinions reflected the complexity of the transactions and the business' financial problems increased.

It should be noted in selecting investments for investors and as a warning signal that the administrators should bear in mind to find solutions and prevent further companies from experiencing financial failure.

Limitation of the Study

There are limitations in the study of the relationship between CG and financial ratios and their influence on financial failure and the development of financial failure models. Only accounting data has been taken into consideration and other factors that may be related to the financial failure of businesses listed on SET, such as economic variables or other qualitative data, have not been into consideration. However, using statistical analysis furnishes the researcher with independence, removes the possibility of partiality or arriving conclusions by studying qualitative data other than CG variables and financial ratios.

Sampling

There are requirements in the sampling used in the modeling with statistical methods in terms of the probability of the sample. This is to ensure that the samples represent the population and the model is accurate in predicting the population. In past studies, the sample has been obtained without the use of probability technique as the number of failed financial businesses was small and cannot be sampled. In addition, studies that match the samples of failed and non-failed companies in terms of company size or age of the companies could not be undertaken (Ohlson, 1980). The need for complete accounting data of the sample is another issue, as most of the failed businesses do not have complete accounting information. Therefore, the sampling or sampling based on probability cannot be done. It was also found that many failed businesses failed to submit financial statements one to two years before the end of business. Therefore, the sampling that does not rely on probability has to be selected in order to obtain complete accounting information.

Financial Ratio Calculations

Dambolena and Khoury (1980) has pointed out a good model for predicting financial failure should include financial ratios to measure the liquidity ratio, the efficiency of asset management, liability management, and profitability. In this study, the financial ratios and CG variables are used to increase comprehensiveness. However, it is found that a great deal of the financial data of the sample is 0. Therefore, some of the data cannot be calculated as in some areas such as long-term liabilities, accounts payable, or accounts receivable, data are missing.

Research Contributions

The study found that the CG under the division of rights of shareholders has a relationship with auditor's opinion and board size as the shareholders have the right to select the auditor and they are significant variables in predicting non-failure and failure in this study. In the field of auditing with the comment by the auditor, the audit type of audit is discussed in Accounting Standards Code 700 of accounting standard. Accounting Standards Code 700 describes the responsibilities and relationship of the management and supervision (if any), which is the basis of performance audit in accordance with auditing standards, management and oversight functions (if any) to acknowledge responsibility for the preparation of financial statements in accordance with International Financial Reporting Standards (IFRS) relating to the presentation of the financial statements as it should be. The management must also be aware of the internal control that they consider necessary in order to prepare financial statements that are free from the information that is contrary to the substantial facts, whether due to fraud or error. The description of the management responsibility in the auditor report on both of the responsibilities will help to explain the principles used in the auditing to the financial statement users.

Recommendations

Recommendations for Management and Certified Public Accountant (CPA)

Good corporate governance leads to better results for both companies and management. Corporate governance and financial ratios, therefore, is a factor that investors cannot ignore but should consider in seeking the best possible results for themselves or their clients. In this study, it is found that auditor's opinion has an influencing on financial failure. Using professional judgment in during the observation and consideration process as well as possessing an in-depth understanding of the client's business allows the auditor to effectively perform the risk assessment plan, audit, and evaluate evidence to make their determination. The auditor is required to consider warning signs and investors should consider the auditor reports that come with a qualified opinion and note the caution in the investment and the number of board members, as smaller organizations are more likely to bankrupt than the larger ones. According to the study, other factors may affect, or are associated with the financial failure of the listed companies such as the other internal and external factors. Furthermore, it is essential to apply disclosure when issuing financial statements, as this is of great significance in revealing the likelihood of financial failure, as well as preclude various departments use misleading in passing data and particulars. Salam and Azzam (2012) stated the fact that information is collected from listed companies only must not be forgotten. In other cases, performance or accuracy in predicting the outcome may change although the data is in the same manner. There are other analytical methods that can be used in the prediction of

the financial failure of firms listed on SET. Therefore, those who use these models should clearly consider the pros and cons of various models to result in accurate forecasts. Accountants and licensed auditors should perform their duties in accordance with accounting and auditing standards diligently. Because financial ratio analysis for warning signs uses financial data, when financial statements are prepared properly, they can serve as reliable alarm signals. Failure groups are ready to do business. However, because there is a lot of debt cannot be paid at all, it is necessary to restructure the debt with creditors to reflect business conditions and cash flows of the company that will used to repay debts to the creditors to minimize damage. The solution are lower interest rates to pay down, extending the repayment period to reduce debt and get some, writing down the debt so the business can continue without closing .

Recommendations for Government and Regulators

In this study, CG and financial ratios has an influence on financial failure. The findings implies that model 3 CG and Financial Ratios has a predictive ability to predict of the failure of companies listed on SET using the data over the years nearer to the predicted time of failure can predict with greater accuracy the proportion of companies that failed. Hence, the government should consider policies and regulations that take into account the importance of both CG and financial ratios perspectives.

Recommendations for the Stock Exchange of Thailand

This study proved that good corporate governance variables and financial ratios can prevent or serves warning signal before financial failure. The Thai Institute of Directors Association (IOD), which has reported the results of the evaluation of corporate governance practices of Thai listed companies since 2001, should encourage and invite companies to engage in the IOD's projects. When companies have good corporate governance it also implies that corporate value will be increased.

Recommendations for Further Research

The study to predict financial failure of companies listed on SET divides the relevant events or the dependent variables into two groups: the financially failed group and non-financially failed group. Due to the financial failure of a business is a consequence of business operations and dynamic processes, Laitinen (1991).

This study does not intend to construct a bankruptcy model. It is intended to be useful for Thai society, to contribute to the body of literature on the subject under study, and there should be model development in predicting firm failure by using CG score and external factors. Due to the rapid change in economic conditions, the quarterly financial information may be used in the equation formulation for even more accuracy and precision in forecasting. Using time series data inevitably results in temporal issues. Firms failing in different years may confront unequal external pressures due to evolving economic and financial conditions. Several methods have been proposed to effectively ameliorate the potential temporal distortion of time series data in the equation.

Lastly, besides conducting SWOT, the investors need to consider environmental issues, the management's vision, policies, market positioning, marketing mix the business cycle, management risks, investment timing, government policies, political conditions, economic trends, and the consumption habits of modern human life.

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APPENDIX A

(The 15 Principles of Good Corporate Governance)

Principle 1 : Policy of Corporate Governance

- The board of directors should identify and approve a written corporate governance policy. The board should disclose that policy for acknowledgement of shareholders and other stakeholders.

Principle 2 : Shareholders : Rights and Equitable Treatment

- The board of directors should facilitate shareholders' meetings in such a way that they encourage equal treatments for all shareholders. There should not be any difficulty for shareholders to attend the meetings. Information should be provided for shareholders to consider before making decisions.

Principle 3 : Rights of Various Groups of Stakeholders

- The board of directors should perceive and ensure that the legal rights of stakeholders are protected and treated with care. The board should support cooperation between the company and the various groups of stakeholders in order to secure the business's wealth and stability.

Principle 4 : Sharedholders' Meetings

- The chairman of the meeting should encourage shareholders to express opinions and ask questions. All directors should attend the shareholders' meeting to respond to questions.

Principle 5 : Leadership and Vision

- The board of directors should have leadership, vision, and decision-making for the best interests of shareholders. The roles and responsibilities are clearly separated between the board and management, as well as between the board and the shareholders.

Principle 6 : Conflict of Interests

- Information on how the board and management supervise the use of inside information, conflict of interests and related transactions are disclosed.

Principle 7 : Business Ethics

- There is a written code of ethics or a written statement of business conduct.

Principle 8 : Balance of the Power in the Board

- One-third of the total directors on the board should be independent with three as the minimum.

Principle 9 : Aggregation or Segregation of Position

- There should be a clear segregation of power and authority between the board's chairman and head of management team. The chairman of the Board should be independent.

Principle 10 : Remuneration for Directors and the Management

- Directors and management remuneration should be disclosed according to the requirement of the Security Exchange and Commission (SEC). Directors should not be involved in the decision-making concerning their own remuneration.

Principle 11 : Board of Directors' Meeting

- The board of directors should disclosed the total attendance of each director.

Principle 12 : Committees

- An audit committee and remuneration committee should be established. All or most members of the committee should be non-executive directors and committee's chairman should be independent.

Principle 13 : Controlling System and Internal Control

- Financial, operation and compliance internal audit should be in place. System of control and risk management should exist. Internal audit activities should be set up as a separate unit within the company.

Principle 14 : Directors' Reporting

- The board should provide a report internal its responsibility on financial information. The report is exhibited alongside the auditor's report.

Principle 15 : Relations with investors

- The board should ensure that company disclosed important information correctly, timely, and transparently. There should be an investor relations unit/staff.

Source : SET, 2002 : 1-12

APPENDIX B

(Tables of Research Result)

Analysis of CG variables using the data years 2006

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	80.923	5	.000
	Block	80.923	5	.000
	Model	80.923	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	25.748	.191	.784

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	.847	1.012	.701	1	.403	2.333
	CG4(1)	5.851	1.260	21.568	1	.000	347.754
	CG5	-.008	.032	.057	1	.811	.992
	CG6	-.057	.065	.757	1	.384	.945
	CG7	-.304	.207	2.142	1	.143	.738
	Constant	-1.010	4.432	.052	1	.820	.364

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7.

Classification Table(d)

Observed			Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	366	4	98.9	373	6	98.4
		1	3	9	75.0	5	4	44.4
	Overall Percentage				98.2			97.2

a Selected cases year EQ 2549
b Unselected cases year NE 2549
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

Analysis of CG variables using the data years 2007

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	66.969	5	.000
	Block	66.969	5	.000
	Model	66.969	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	26.147	.157	.743

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	.747	.932	.641	1	.423	2.110
	CG4(1)	5.856	1.232	22.584	1	.000	349.290
	CG5	.018	.022	.669	1	.413	1.018
	CG6	-.065	.061	1.131	1	.288	.938
	CG7	-.220	.172	1.623	1	.203	.803
	Constant	-3.492	3.781	.853	1	.356	.030

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7.

Classification Table(d)

	Observed		Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	379	3	99.2	377	2	99.5
		1	4	6	60.0	6	3	33.3
	Overall Percentage				98.2			97.9

a Selected cases year EQ 2550
b Unselected cases year NE 2550
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

Analysis of CG variables using the data years 2008

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	60.480	5	.000
	Block	60.480	5	.000
	Model	60.480	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	25.475	.141	.726

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	1.102	1.003	1.208	1	.272	3.011
	CG4(1)	5.995	1.249	23.034	1	.000	401.358
	CG5	.006	.026	.060	1	.807	1.006
	CG6	-.039	.057	.484	1	.486	.961
	CG7	-.081	.190	.182	1	.670	.922
	Constant	-5.056	4.254	1.413	1	.235	.006

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7.

Classification Table(d)

	Observed		Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			Status		Percentage Correct	Status		Percentage Correct
			.00	1.00		.00	1.00	
Step 1	Status	.00	391	25	94.0	375	28	93.1
		1.00	10	5	33.3	9	5	35.7
	Overall Percentage				91.9			91.1

a Selected cases YEAR NE 2552
b Unselected cases YEAR EQ 2552
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

Analysis of CG variables using the data years 2006-2008

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	207.647	5	.000
	Block	207.647	5	.000
	Model	207.647	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	78.686	.162	.749

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	.795	.523	2.313	1	.128	2.214
	CG4(1)	5.903	.717	67.693	1	.000	366.068
	CG5	.009	.014	.410	1	.522	1.009
	CG6	-.056	.034	2.745	1	.098	.946
	CG7	-.200	.102	3.838	1	.050	.819
	Constant	-3.315	2.238	2.193	1	.139	.036

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7.

Classification Table(d)

	Observed		Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	1131	9	99.2	376	3	99.2
		1	11	20	64.5	6	3	33.3
	Overall Percentage				98.3			97.7

a Selected cases year NE 2552
b Unselected cases year EQ 2552
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

Analysis of financial ratio variables using the data years 2006

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	70.442	7	.000
	Block	70.442	7	.000
	Model	70.442	7	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	36.294	.168	.691

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	RATIO1	-.031	.008	13.654	1	.000	.969
	RATIO2	-.027	.022	1.526	1	.217	.973
	RATIO3	.008	.011	.542	1	.462	1.008
	RATIO4	-.045	.235	.038	1	.846	.956
	RATIO5	-.006	.016	.147	1	.701	.994
	RATIO6	-.006	.304	.000	1	.983	.994
	RATIO7	.162	.089	3.305	1	.069	1.176
	Constant	-3.927	4.972	.624	1	.430	.020

a Variable(s) entered on step 1: RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(c)

	Observed		Predicted					
			Selected Cases(a)			Unselected Cases(b)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	368	3	99.2	378	2	99.5
		1	6	6	50.0	4	5	55.6
	Overall Percentage				97.7			98.5

a Selected cases year EQ 2549
b Unselected cases year NE 2549
c The cut value is .500

Analysis of financial ratio variables using the data years 2007

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	81.022	7	.000
	Block	81.022	7	.000
	Model	81.022	7	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	12.095	.187	.883

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	RATIO1	-.019	.010	3.371	1	.066	.981
	RATIO2	-.025	.060	.177	1	.674	.975
	RATIO3	-.016	.016	.978	1	.323	.984
	RATIO4	.204	.445	.211	1	.646	1.227
	RATIO5	.015	.012	1.750	1	.186	1.015
	RATIO6	-.128	.223	.329	1	.566	.880
	RATIO7	-1.936	.578	11.219	1	.001	.144
	Constant	-8.127	9.569	.721	1	.396	.000

a Variable(s) entered on step 1: RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(c)

Observed			Predicted					
			Selected Cases(a)			Unselected Cases(b)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	381	1	99.7	376	4	98.9
		1	1	9	90.0	6	3	33.3
	Overall Percentage				99.5			97.4

a Selected cases year EQ 2550
b Unselected cases year NE 2550
c The cut value is .500

Analysis of financial ratio variables using the data years 2008

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	65.553	7	.000
	Block	65.553	7	.000
	Model	65.553	7	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	20.403	.152	.782

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	RATIO1	-.050	.013	14.158	1	.000	.951
	RATIO2	.092	.055	2.844	1	.092	1.097
	RATIO3	-.010	.021	.213	1	.644	.990
	RATIO4	.035	.400	.008	1	.931	1.035
	RATIO5	.014	.019	.539	1	.463	1.014
	RATIO6	-.096	.100	.915	1	.339	.909
	RATIO7	-.035	.190	.035	1	.852	.965
	Constant	-6.372	8.697	.537	1	.464	.002

a Variable(s) entered on step 1: RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(c)

Observed			Predicted					
			Selected Cases(a)			Unselected Cases(b)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	386	2	99.5	377	3	99.2
		1	3	6	66.7	5	4	44.4
	Overall Percentage				98.7			97.9

a Selected cases year EQ 2551
b Unselected cases year NE 2551
c The cut value is .500

Analysis of financial ratio variables using the data years 2006-2008

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	177.652	7	.000
	Block	177.652	7	.000
	Model	177.652	7	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	108.735	.141	.649

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	RATIO1	-.037	.005	52.753	1	.000	.963
	RATIO2	.007	.014	.243	1	.622	1.007
	RATIO3	.006	.004	2.154	1	.142	1.007
	RATIO4	-.058	.144	.161	1	.688	.944
	RATIO5	-.002	.008	.049	1	.825	.998
	RATIO6	-.056	.055	1.031	1	.310	.945
	RATIO7	.065	.039	2.850	1	.091	1.067
	Constant	-3.594	3.082	1.360	1	.244	.028

a Variable(s) entered on step 1: RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(c)

	Observed		Predicted					
			Selected Cases(a)			Unselected Cases(b)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	1134	7	99.4	380	0	100.0
		1	16	15	48.4	4	5	55.6
	Overall Percentage				98.0			99.0

a Selected cases year NE 2552
b Unselected cases year EQ 2552
c The cut value is .500

Analysis using the data CG and Financial ratios years 2006

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	97.069	12	.000
	Block	97.069	12	.000
	Model	97.069	12	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	9.603	.224	.921

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	.897	1.441	.388	1	.534	2.453
	CG4(1)	5.033	1.539	10.696	1	.001	153.435
	CG5	.010	.044	.056	1	.813	1.011
	CG6	-.011	.119	.008	1	.929	.989
	CG7	-.080	.359	.050	1	.823	.923
	RATIO1	-.026	.011	5.478	1	.019	.975
	RATIO2	-.028	.033	.713	1	.399	.972
	RATIO3	.008	.019	.169	1	.681	1.008
	RATIO4	-.125	.348	.130	1	.718	.882
	RATIO5	.020	.014	2.087	1	.149	1.021
	RATIO6	-.189	.463	.167	1	.683	.827
	RATIO7	.132	.154	.744	1	.388	1.142
	Constant	-3.839	13.394	.082	1	.774	.022

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7, RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(d)

Observed			Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	369	1	99.7	377	2	99.5
		1	0	12	100.0	2	7	77.8
	Overall Percentage				99.7			99.0

a Selected cases year EQ 2549
b Unselected cases year NE 2549
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

Analysis using the data CG and Financial ratios years 2007

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	85.322	12	.000
	Block	85.322	12	.000
	Model	85.322	12	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	7.795	.196	.925

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	-.258	1.401	.034	1	.854	.772
	CG4(1)	3.356	1.663	4.076	1	.044	28.686
	CG5	.017	.045	.149	1	.699	1.018
	CG6	-.051	.106	.231	1	.631	.950
	CG7	.029	.355	.007	1	.936	1.029
	RATIO1	-.024	.014	3.051	1	.081	.977
	RATIO2	-.002	.076	.001	1	.976	.998
	RATIO3	-.007	.020	.112	1	.738	.993
	RATIO4	-.002	.532	.000	1	.996	.998
	RATIO5	.020	.015	1.822	1	.177	1.020
	RATIO6	-.071	.307	.054	1	.817	.931
	RATIO7	-.820	.645	1.617	1	.203	.440
	Constant	-5.423	13.146	.170	1	.680	.004

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7, RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(d)

Observed			Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	381	1	99.7	376	3	99.2
		1	0	10	100.0	6	3	33.3
	Overall Percentage				99.7			97.7

a Selected cases year EQ 2550
b Unselected cases year NE 2550
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

Analysis using the data CG and Financial ratios years 2008

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	80.628	12	.000
	Block	80.628	12	.000
	Model	80.628	12	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	5.327	.184	.944

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	.541	1.533	.125	1	.724	1.718
	CG4(1)	3.975	1.450	7.512	1	.006	53.239
	CG5	.036	.050	.498	1	.480	1.036
	CG6	-.024	.099	.061	1	.805	.976
	CG7	.190	.288	.434	1	.510	1.209
	RATIO1	-.044	.017	7.026	1	.008	.957
	RATIO2	.038	.061	.387	1	.534	1.039
	RATIO3	-.001	.019	.001	1	.969	.999
	RATIO4	.051	.485	.011	1	.916	1.053
	RATIO5	.018	.025	.500	1	.480	1.018
	RATIO6	-.074	.134	.308	1	.579	.928
	RATIO7	-.017	.249	.005	1	.945	.983
	Constant	-11.719	12.047	.946	1	.331	.000

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7, RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(d)

Observed			Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	388	0	100.0	379	0	100.0
		1	0	9	100.0	3	6	66.7
	Overall Percentage				100.0			99.2

a Selected cases year EQ 2551
b Unselected cases year NE 2551
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

Analysis using the data CG and Financial ratios years 2006-2008

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	253.730	12	.000
	Block	253.730	12	.000
	Model	253.730	12	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	32.603	.195	.898

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	CG3(1)	.357	.692	.265	1	.606	1.428
	CG4(1)	4.783	.807	35.116	1	.000	119.428
	CG5	.019	.020	.884	1	.347	1.019
	CG6	-.054	.049	1.221	1	.269	.948
	CG7	.009	.154	.004	1	.951	1.010
	RATIO1	-.030	.006	24.302	1	.000	.971
	RATIO2	-.002	.017	.019	1	.890	.998
	RATIO3	.006	.007	.697	1	.404	1.006
	RATIO4	-.120	.179	.451	1	.502	.887
	RATIO5	.018	.010	3.159	1	.076	1.018
	RATIO6	-.071	.174	.168	1	.682	.931
	RATIO7	.066	.060	1.197	1	.274	1.068
	Constant	-3.970	5.832	.463	1	.496	.019

a Variable(s) entered on step 1: CG3, CG4, CG5, CG6, CG7, RATIO1, RATIO2, RATIO3, RATIO4, RATIO5, RATIO6, RATIO7.

Classification Table(d)

	Observed		Predicted					
			Selected Cases(a)			Unselected Cases(b,c)		
			STATUS		Percentage Correct	STATUS		Percentage Correct
			0	1		0	1	
Step 1	STATUS	0	1137	3	99.7	379	0	100.0
		1	3	28	90.3	1	8	88.9
	Overall Percentage				99.5			99.7

a Selected cases year NE 2552
b Unselected cases year EQ 2552
c Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.
d The cut value is .500

APPENDIX C

Explanatory β coefficients and standard error (S.E.)

Table 1 Explanatory β coefficients and standard error (S.E.) for test multicollinearity used 18 variable

variable	**2006-2008**		**2008**		**2007**		**2006**	
	B	**S.E.**	**B**	**S.E.**	**B**	**S.E.**	**B**	**S.E.**
CON_R > 25%(1)	0.256	2.020	1.056	2.450	0.377	2.448	0.411	1.004
CON_R >10% - 25%(1)	-0.253	2.017	1.164	1.978	-0.106	1.958	-0.095	0.908
FOR	-0.402	4.210	-0.281	4.319	0.201	4.361	-0.617	2.318
EDU	0.916	1.560	-0.397	1.469	0.572	1.775	0.347	0.725
AUD_O	5.426	1.676	3.614	1.733	4.170	1.713	4.861	0.822
OWN_S	0.027	0.059	0.025	0.051	0.036	0.056	0.022	0.022
BOA_I	0.033	0.127	-0.065	0.118	-0.029	0.108	-0.047	0.048
BOA_ S	0.025	0.382	-0.003	0.429	0.127	0.340	0.018	0.159
RETA	-0.028	0.016	-0.023	0.015	-0.046	0.021	-0.033	0.007
ROA	-0.048	0.043	-0.021	0.088	0.018	0.071	-0.004	0.014
ROE	0.010	0.020	-0.002	0.022	0.002	0.022	0.005	0.007
LNTA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WCTA	0.019	0.017	0.017	0.017	0.018	0.030	0.018	0.011
CACL	-0.231	0.538	-0.097	0.334	-0.086	0.144	-0.074	0.178
CAPSTR	0.117	0.143	-0.831	0.662	0.040	0.275	0.056	0.060
LOSS 2	-2.020	2.896	-0.195	1.752	-2.212	2.860	-0.712	0.908

Table 2 Explanatory β coefficients and standard error (S.E.) for test multicollinearity used 17 variable

variable	2006-2008		2008		2007		2006	
	B	**S.E.**	**B**	**S.E.**	**B**	**S.E.**	**B**	**S.E.**
CON_R > 25%	0.290	1.990	1.089	2.407	0.361	2.427	0.477	0.980
CON_R >10% - 25%	-0.250	2.027	1.177	1.975	-0.113	1.953	-0.057	0.901
EDU	0.904	1.562	-0.418	1.443	0.583	1.762	0.316	0.717
AUD_O	5.443	1.676	3.621	1.733	4.159	1.690	4.871	0.822
OWN_S	0.027	0.059	0.025	0.051	0.036	0.055	0.022	0.023
BOA_I	0.034	0.127	-0.064	0.117	-0.029	0.108	-0.047	0.048
BOA_ S	0.028	0.381	0.002	0.418	0.126	0.340	0.021	0.158
RETA	-0.029	0.015	-0.023	0.015	-0.046	0.021	-0.033	0.007
ROA	-0.049	0.042	-0.021	0.088	0.018	0.071	-0.004	0.014
ROE	0.010	0.020	-0.002	0.022	0.002	0.021	0.006	0.007
LNTA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WCTA	0.019	0.017	0.017	0.017	0.018	0.030	0.018	0.011
CACL	-0.242	0.518	-0.098	0.336	-0.086	0.144	-0.075	0.178
CAPSTR	0.117	0.143	-0.834	0.660	0.040	0.275	0.057	0.061
LOSS 2	-2.099	2.717	-0.183	1.737	-2.207	2.855	-0.746	0.899

Table 3 Explanatory β coefficients and standard error (S.E.) for test multicollinearity used 16 variable

variable	2006-2008		2008		2007		2006	
	B	**S.E.**	**B**	**S.E.**	**B**	**S.E.**	**B**	**S.E.**
EDU	0.826	1.442	-0.219	1.392	0.630	1.733	0.333	0.710
AUD_O	5.417	1.674	3.359	1.657	4.072	1.604	4.830	0.811
OWN_S	0.030	0.056	0.017	0.046	0.036	0.054	0.022	0.021
BOA_I	0.033	0.126	-0.056	0.110	-0.029	0.106	-0.048	0.047
BOA_ S	0.030	0.347	0.008	0.380	0.125	0.328	0.023	0.157
RETA	-0.027	0.013	-0.024	0.014	-0.046	0.019	-0.032	0.006
ROA	-0.049	0.041	-0.005	0.082	0.020	0.070	-0.003	0.013
ROE	0.009	0.020	-0.007	0.017	0.002	0.021	0.004	0.006
LNTA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WCTA	0.018	0.016	0.020	0.015	0.018	0.030	0.018	0.011
CACL	-0.222	0.505	-0.074	0.309	-0.088	0.141	-0.073	0.176
CAPSTR	0.120	0.134	-0.832	0.665	0.045	0.267	0.055	0.059
LOSS 2	-2.005	2.448	-0.153	1.725	-2.100	2.769	-0.640	0.860

Table 4 Explanatory β coefficients and standard error (S.E.) for test multicollinearity used 15 variable

variable	2006-2008		2008		2007		2006	
	B	**S.E.**	**B**	**S.E.**	**B**	**S.E.**	**B**	**S.E.**
EDU	0.871	1.446	-0.228	1.385	0.540	1.537	0.361	0.698
AUD_O	5.063	1.545	3.357	1.651	3.982	1.463	4.795	0.809
OWN_S	0.012	0.045	0.017	0.045	0.036	0.050	0.021	0.020
BOA_I	-0.001	0.115	-0.055	0.107	-0.024	0.099	-0.049	0.047
BOA_ S	-0.040	0.326	0.015	0.356	0.193	0.287	0.023	0.154
RETA	-0.026	0.011	-0.024	0.014	-0.044	0.017	-0.031	0.006
ROA	-0.031	0.032	-0.003	0.076	0.037	0.060	-0.001	0.014
ROE	0.007	0.019	-0.007	0.017	0.000	0.017	0.004	0.006
LNTA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WCTA	0.020	0.014	0.020	0.015	0.018	0.025	0.019	0.010
CACL	-0.172	0.453	-0.075	0.310	-0.076	0.133	-0.072	0.179
CAPSTR	0.123	0.142	-0.823	0.625	-0.016	0.247	0.058	0.059

BIOGRAPHY

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