

# Is Corporate Governance a Pre-Warning Sign of Firms' Problems? : An Investigation of Companies Listed on the Stock Exchange of Thailand

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## Abstract

The purpose of this research was to determine whether corporate governance is a pre-warning sign in the prediction of firms' problems. This study focused on the board structure, including size, independence, diversity, CEO duality, frequency of the board meeting, and CEO remuneration as proxies for corporate governance. The samples included firms' problems, companies listed on the Stock Exchange of Thailand that were marked the warning signals comprising SP (trading suspension), C (caution), NP (notice pending), and NC (non-compliance). Data were collected from match-pair samples of 232 firms with and without problems during the year of 2013-2019. Descriptive statistics and logistic regression analysis were employed for data analysis at a statistically significant level of 0.05. The results showed that the pre-warning sign from corporate governance could classify firms into firms with and without problems. The independent variables of corporate governance were board size, board independence, age, board meeting frequency, and director's fee. This study had an overall forecast accuracy of 66.2% in the 3-year, 64.8% in the 2-year, and 64.3% in the 1-year before the sign of C, NC, SP, and NP.

**Keywords:** pre-warning sign, corporate governance, firms' problems

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## Introduction

The Stock Exchange of Thailand is an important institution. It is a medium for trading, savings from the public sector, government and foreign. It has a duty to oversee listed companies that are significant to the country's economic and social development, like other agencies in the economy. The operation and stability of listed companies in the SET have an impact on the public and society as a whole. Thus, listed companies play an important role in the country's economic system.

Corporate governance is a system that is based on governance and management. The concept of corporate governance separates control and ownership in the company (Omankhanlen & Taiwo, 2013, pp. 44-56) to prevent organizational failure and unethical business practices (Isaac, 2014, pp. 110-118). The integration of corporate governance will increase investor confidence in the economy (Nworji, Adebayo, & David, 2011, pp. 1-19). Therefore, finding many case studies may help increase profits and prevent future business failures.

Previous researches (Glinkowska & Kaczmarek, 2015, pp.84-92), (Shi, Connelly, & Hoskisson, 2017, pp. 1268-1286) suggest that under the agency theory, when shareholders and executives have inconsistent objectives and interests, the delegated management team will neglect the operation for the best benefit of the business. It makes executives more likely to make non-transparent decisions in response to their own satisfaction. It causes the company to become a problematic company. For this reason, the researcher is interested in studying pre-warning sign from the corporate governance of companies that have problems caused by investor warning signals from the Stock Exchange of Thailand. This will be useful information for business owners or shareholders and those who interested in investing in the future.

## Purpose of the Study

The purpose of this study is to identify pre-warning sign from the corporate governance of companies that have problems caused by investor warning signals from the Stock Exchange of Thailand.

## Research Methodology

### 1. Population and Sampling

The setting of the population for data collection is divided into two groups.

- Problem firms mean listed companies on the Stock Exchange of Thailand that have been marked C, NC, SP, and NP. There are 117 companies covering a period of three years before the company was put up.

- Non-problem firms mean listed companies that are not up to the mark on the Stock Exchange of Thailand. There are 117 companies covering a period of three years in the same industry, with total assets and revenues close to companies marked C, NC, SP and NP.

C (Caution): the company has events that may affect its financial position and business operations.

NC (Non-Compliance): listed securities of the company may be delisted.

SP (Trading Suspension): the company is temporarily suspended from trading. The SP sign is posted on the securities until the listed company is able to proceed with the cause of the delisting. Each period is longer than one trading session.

NP (Notice Pending): the company has information that must be reported and the SET is pending information from the company.

During the data analysis, some data are an outlier, which has values separated from a group or different from other data values. Therefore, the researcher eliminates these data. The sample company group is divided into 2 groups: 1) problem firms mean listed companies on the Stock Exchange of Thailand that have been marked C, NC, SP, and NP (99 companies) and 2) non-problem firms means listed companies that are not up to the mark on the Stock Exchange of Thailand (114 companies). There are a total of 213 companies.

### 2. Research Instrument

This research uses secondary data searching from 22/2/2013 until 9/4/2019, compiled from the SETSMART database (SET Market Analysis and Reporting Tool), which is an online database service of the Stock Exchange of Thailand, and sorting date into Microsoft Excel, then analyzing the data.

### 3. Measurement Variables

Pre-warning signs of problem firms, as the study signals a warning signs of the Stock Exchange of Thailand from corporate governance. So it can be used to analyze the contents warning signs before boarding the mark. From past research studies such as Sarkar and Sarkar (2009, pp. 271-293), Mahadeo, Soobaroyen, and Hanuman (2012, pp. 375-388), Veprauskaite and Adams (2013, pp. 229-241), the researchers can summarize 7 independent variables of corporate governance as follows.

**Table 1** Variables used in the research

Independent variables	Symbol	Measurement
1. Board size	BS	The total number of directors during the year
2. Board independence (%)	BI	(The total number of outsider directors/The total number of directors) x 100
3. Age	AG	The average age of directors
4. Busy Boards (%)	BB	(The directors with positions in more than 3 other companies / The total number of directors) x 100
5. Board Meeting Frequency	BM	The number of directors meetings per year
6. Director's Fee (%)	DF	(The directors remuneration / the executive remuneration) x 100
7. Directors' Ownership (%)	DO	(The firm's stock owned by the directors/ The total firm's stock) x 100

  

Dependent variables	Measurement
Problem Firms	The listed companies on the Stock Exchange of Thailand have C, NC, SP, and NP.
Non-Problem Firms	The listed companies are not up to the mark on the Stock Exchange of Thailand in the same industry group company, with total assets and revenues close to companies marked C, NC, SP and NP.

#### 4. Data Analysis

This research will create a predictive model: pre-warning sign of problem firms, with a binary logistic regression analysis technique because the dependent variable (Y) is a two-choice variable (binary response) including the problem firms and non-problem firms.

### Results and Discussion

#### Research Result

The logistic Regression Model of the pre-warning sign of problem firms is as follows:

1. Omnibus Tests of Model Coefficients: the Omnibus test shows how all independent variables work well (Pallant, 2013, pp. 175-187). The test, with none of the predictor variables entered into the equation, reports the “goodness of fit” of the variables (Rohr, 2012, pp. 195-208). If the level of significance (p-value) is less than 0.05, it indicates that the dependent variable: pre-warning sign of problem firms is based on at least 1 independent variable.

Based on the results of the Omnibus test, the p-value of 0.000 is less than the 0.05. It shows that the dependent variable: pre-warning sign of problem firms is based on at least 1 independent variable: corporate governance. Therefore, all 7 independent variables should be worth checking thoroughly.

2. Testing the suitability of the forecasting model: the Hosmer–Lemeshow goodness-of-fit test is used to test the suitability of the model (Yao, Titus, & MacDonald, 2001, pp. 283-291), (Hosmer, Lemeshow, & Sturdivant, 2013, pp. 1-34). In considering the Hosmer and Lemeshow to test the suitability of the equation, if the significance value is greater than 0.05, the equation is appropriate to use to show the relationship (Rohr, 2012, pp. 195-208). Every value of significance greater than 0.05 indicated that the equation used was appropriate.

Based on the results of the R-square tests. The Cox and Snell R-square and the Nagelkerke R-square provides useful information to explain the influence of the model by considering the R-square value (called Pseudo R2) as follows.

In 3-year before being marked C, NC, SP, and NP of problem firms, the Cox and Snell R-square and the Nagelkerke R-square have the R-square value of 0.142 and 0.190. It can be explained that all 7 independent variables could explain the dependent variable: pre-warning signs of problem firms in average more than 16 percent.

In 2-years before being marked C, NC, SP, and NP of problem firms, the Cox and Snell R-square and the Nagelkerke R-square have the R-square value of 0.145 to 0.193. It can be explained that all 7 independent variables could explain the dependent variable: pre-warning sign of problem firms in average more than 16 percent.

In 1-year before being marked C, NC, SP, and NP of problem firms, the Cox and Snell R-square and the Nagelkerke R-square have the R-square value of 0.162 and 0.217. It can be explained that all 7 independent variables can explain the dependent variable: pre-warning sign of problem firms in average more than 18 percent.

3. Analysis of variables in the equation of model: the study of pre-warning sign of problem firms has research results as follows:

**Table 2** Logistic regression results

	Years before the sign of C, NC, SP, and NP											
	3-year				2- year				1-year			
	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)
BS	-.152	4.115	**.042	.859	-.225	8.151	**.004	.799	-.275	9.647	**.002	.760
BI	.034	3.923	**.048	1.035	.021	1.551	.213	1.021	.000	.000	.999	1.000
AG	-.059	4.220	**.040	.942	-.074	7.018	**.008	.928	-.070	5.477	**.019	.932
BB	.009	2.038	.153	1.009	.005	.527	.468	1.005	.006	.969	.325	1.006
BM	.097	4.350	**.037	1.102	.109	5.319	**.021	1.115	.127	8.117	**.004	1.135
DF	-.023	4.006	**.045	.977	-.010	.803	.370	.990	-.016	1.826	.177	.984
DO	.000	.000	.991	1.000	-.002	.084	.772	.998	-.007	.619	.431	.993
Constant	2.724	2.207	.137	15.235	4.639	6.395	.011	103.487	5.654	7.721	.005	285.393

\*\*significant at the 0.05

From table 2 in 3-year, it is found that there are 5 independent variables with significant level 0.05 to the dependent variable: pre-warning sign of problem firms, namely board Size (BS), board independence (BI), age (AG), board meeting frequency (BM), and director's Fee (DF). The coefficient of the independent: board independence (BI) and board meeting frequency (BM) are a positive sign, meaning that if board independence (BI) and board meeting frequency (BM) are low, the Y value will be less and the likelihood of becoming a problem firm is also less. As for the coefficients of independent variables: board Size (BS), age (AG), and director's Fee (DF) are a negative sign, meaning that if board Size (BS), age (AG), and director's Fee (DF) are very valuable, it will cause less probability to become a problem firm.

In 2-year and 1-year, it is found that there are 3 independent variables: board Size (BS), age (AG), board meeting frequency (BM) with a significant level of 0.05 to the dependent variable: pre-warning sign of problem firms. The coefficient of board Size (BS) and age (AG) are negative, the board meeting frequency (BM)'s coefficient is a plus sign.

**Table 3** Model accuracy

Observed	Years before the sign of C, NC, SP, and NP											
	Predicted of 3-year				Predicted of 2-year				Predicted of 1-year			
	Non- Problem Firms	Problem firms	Total	% Correct	Non- Problem Firms	Problem firms	Total	% Correct	Non- Problem Firms	Problem firms	Total	% Correct
Non- Problem Firms	81	33	114	71.1	77	37	114	67.5	77	37	114	67.5
Problem firms	39	60	99	60.6	38	61	99	61.6	39	60	99	60.6
Overall %				66.2				64.8				64.3

a. The cut value is .500

Table 3 shows that pre-warning sign of problem firms in the 3-year before the sign of C, NC, SP, and NP consists of 213 listed companies using corporate governance data. It has an overall forecast accuracy of 66.2% (141 companies), which can predict that the problem firms are correct, 60.6% (60 companies) and can accurately predict non-problem firms 71.1% (81 companies). However, the model had a type I error, which was a mistake from rejecting H0 when H0 was true, by forecasting that it was a non-problem firm, but in fact the problem firm for 39.4% (39 companies). The model had a

type II error that was a mistake from accepting H0 when H0 was false, by predicting the problem firms, but in fact, non-problem firms for 28.9% (33 companies).

In the forecast: pre-warning sign of problem firms in the 2-years before the sign of C, NC, SP, and NP, it was found that the model could accurately predict 64.8% (138 companies). It predicted the problem firms correctly 61.6% (61 companies) and accurately forecasts the non-problem firms 67.5% (77 companies), with a type I error of 38.4% (38 companies) and type II error of 32.5% (37 companies).

In the forecast: pre-warning sign of problem firms in the 1-year before the sign of C, NC, SP, and NP, the model had 64.3% accuracy in forecasting (137 companies). The forecast of the problem firms was 60.6% accurate (60 companies) and was able to accurately predict the non-problem firms 67.5% (77 companies), with a type I error of 39.4% (39 companies) and type II error of 32.5% (37 companies).

### Discussion

The pre-warning sign from corporate governance can classify firms into problem and non-problem. The independent variable: corporate governance is board Size (BS), board independence (BI), age (AG), board meeting frequency (BM), and director's Fee (DiF).

It can summarize pre-warning sign from corporate governance that the companies with a number of board members during the year are low, mean of board age is small, and the number of meetings of the board of directors per year is high, for 3 consecutive years. In addition, it is found that in 3-year the company has a high proportion of board independence to the board size, and the proportion of the remuneration for directors compared to the executive remuneration is small. In the next year, there will be opportunities for problem firms. That is the company has the opportunity to be posted C, NC, SP, and NP from the Stock Exchange of Thailand.

This finding is consistent with Parker, Peters, and Turetsky (2005, pp. 5-29), Lamberto and Rath (2010, pp. 133-147), which found that the board size affects survival. Murray (1989, pp.125-141) identifies elements related to age and experience in 84 US food and oil companies, found that there is a negative correlation between age diversity and short-term effectiveness. Vafeas (1999, pp. 113-142) considers that the board meeting may be beneficial to shareholders, but may not always be because the board has a limited time in each meeting and may no spend time to discuss useful ideas. As a

result, the frequency of the board meetings is negatively related to the company's performance (Danoshana & Ravivathan, 2019, pp. 62-67).

The results were consistent with the study of Erkens, Hung, and Matos (2012, pp. 389-411) confirmed that increasing the number of non-executive directors on the board could result in significant losses and risks that occur before the crisis, which may have a negative impact on the company when a crisis occurred. Over the past two decades, companies have paid a great deal of compensation to directors and executives in the form that is linked to the equity of the company (Ofek & Yermack, 2000, pp. 1367-1384). It is based on the belief that sharing ownership can help reduce agency costs.

### Practical contributions

Business owners or shareholders and those interested in investing in the future are aware of warning signs from corporate governance of problem companies, which are a number of board members during the year are low, mean of board age is small, and the number of meetings of the board of directors per year is high.

The companies with a small number of board members are more likely to go bankrupt when experiencing problems. While companies with large number of board members have more human resources to help solve problems. There are opportunities to collaborate and use external resources to solve company problems.

In theory, age is related to experience and can be hypothesized that a high average age of the board will lead to more effective corporate governance. Therefore, companies with a low mean of board age is a warning sign for a problematic company.

For the number of meetings of the board of directors per year, if the board has too many meetings, it can lead to ineffectiveness and failure due to reduced actual work time. The company should have a number of meetings that are appropriate for only really important meetings and try to use the time in the meeting as efficiently as possible.

### Suggestions for Future Research

1. Currently, the Securities and Exchange Commission, Thailand (SEC) had issued a new CG Code for listed companies. It raised the level of corporate governance from development-oriented forms to focus on content to narrow the gap between good intentions to good actions to see the real results in practice. Therefore, CG Code for listed company is an interesting research for further study.
2. Researchers can use the process, methods and results of this study to develop an alarm system. Current environmental factors have changed quite a lot. If more extensive research is done, the capital market system in the country will increase.

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