Faculty of Economics and Business

CORPORATE FAILURE PREDICTION: EMPIRICAL EVIDENCE FROM THE KUALA LUMPUR STOCK EXCHANGE 2009-2013

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Statement of Originality

The work described in this Final Year Project, entitled
**"CORPORATE FAILURE PREDICTION: EMPIRICAL EVIDENCE
FROM THE KUALA LUMPUR STOCK EXCHANGE 2009-2013"**
is to the best of the author's knowledge that of the author except where
due reference is made.

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ABSTRACT

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By

TEOH TSUI VEN

The objective of this study is to predict the corporate failure by using Altman Z-Scores Models. There are total of 30 public listed companies which are come from different kind of sectors are selected from Bursa Malaysia as sample and the period is collecting from 2009 until 2013. Altman Z-Score Models categorized the companies into three zones which are safe, grey and distress zone according to the z-score index of each company. This study collects secondary data from financial statements (income statement and balance sheet). Methodology such as descriptive statistics and correlation analysis have been done to analysis the relationship between variables. The findings of this study show that there is 8 out of 10 PN17 companies, which is 80% in distress zone, only one company in grey zone and distress zone, which carry 10% respectively. For 20 non PN17 companies, 12 companies out of them, which is 60% in safe zone, 3 companies in grey zone and 5 companies in distress zone which carry 15% and 25% accordingly.

Keywords: Altman Z-Score Models, corporate failure prediction

ABSTRAK

RAMALAN KEGAGALAN KORPORAT: BUKTI EMPIRIKAL DARIPADA BURSA SAHAM KUALA LUMPUR 2009-2013

Oleh

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Objektif kajian ini adalah untuk meramalkan kegagalan korporat dengan menggunakan Altman Z-Score Models. 30 syarikat daripada pelbagai jenis sector yang tersenarai secara awam di Bursa Malaysia telah dipilih sebagai sampel dan tempoh adalah dari 2009 hingga 2013. Altman Z-Score Models mengkategorikan syarikat kepada tiga zon iaitu zon selamat, kelabu dan kesusahan mengikut indeks z-skor bagi setiap syarikat. Kajian ini mengumpul data sekunder daripada penyata kewangan (penyata pendapatan dan kunci kira-kira). Kaedah seperti statistik deskriptif dan analisis korelasi telah dilakukan untuk menjalankan analisis hubungan antara pembolehubah. Keputusan bagi kajian ini menunjukkan sebanyak 8 syarikat daripada 10 PN17 syarikat dikategorikan dalam zon bahaya, hanya 1 syarikat di zon kelabu dan zon selamat, iaitu 10% sahaja. Sebanyak 12 syarikat daripada 20 non PN17 syarikat dikategorikan dalam zon selamat, 3 syarikat di zon kelabu dan 5 syarikat di zon bahaya, iaitu 15% dan 25% berikut.

Kata Kunci: Altman Z-Score Models, ramalan kegagalan korporat

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CHAPTER ONE

INTRODUCTION

1.0   Introduction

Financial distress is a hot issue in the finance area. When come across global financial crisis, it became increasingly vital and relevant. According to Andrade and Kaplan (1998), financial distress describes a company which unable to fulfill its liabilities to the third parties. The term "bankruptcy," "failure," "insolvency," and "default" usually used to illustrate those company which face financial difficulties. The situation become worsens when the company possesses high fixed costs, illiquid assets, and the revenues generated are too sensitive to economic recession. The company falls in a tight cash situation in which it is hard to pay the owed amounts before the due date. To fulfill short-term obligations, the amount of borrowing additional funds from outsiders will generally increase, causes the company placed in a highly leveraged situation. If this situation prolonged, and the company does not take appropriate actions, this can force the owning entity into bankruptcy, in the circumstances that banks and other financial institutions refuse to borrow again to those in serious distress.

When a company is under financial distress, its market value will be reduced sharply, suppliers will request cash on delivery terms, and larger customer may cancel their orders in anticipation of not getting deliveries on time (Altman, 2006). In addition, investors would deem it as an incompetent company and may damage the company's reputation. Thus, due to relatively high frequency of bankruptcies

filed by publicly-traded business, and the threat faced by shareholders and suppliers, a reliable bankruptcy model is essential in today's rapidly-changing business environment.

Altman Z-Score is one of the best known bankruptcy prediction models. Z-Score Model is useful to measure a company's financial condition and estimate the probability of the company to face bankruptcy within two years. According to Altman (1968), an emphasis on ratio analysis in a firm's financial health, Multiple Discriminant Analysis (MDA) is deemed as an advisable statistical technique which comprises of various accounting based variables to produce a single distress score. This study utilized the Altman Z-Score Model in the measurement of corporate financial distress and assesses the extent of its effectiveness. The factors, which are drawn from the Altman Z-Score Model, include companies' profitability, liquidity, growth, leverage, and activity ratios.

1.1 Background of study

1.1.1 Asian Financial Crisis 1997 and Global Financial Crisis 2008

In the middle of 1997, there is a sudden of economic crisis and brought many impacts to Asian corporations and lead to an increasing number of bankruptcy cases. Gross Domestic Product (GDP) growth in Malaysia has faced a contraction because of the Asian financial crisis which begins from our neighbouring country, Thailand. The crisis results in massive restructuring of Malaysia companies. Malaysia Stock Market almost collapsed due to the downturn of economy growth rate in year 1997 to 1998.

On the other hand, global financial crisis which begins in the United States cause a critical international financial crisis and extensive decline in global trade. For an instance, the world's biggest economies, such as United Stated, Japan, and Europe are facing the worst economic recession since the Great Depression of the 1930s. The economy of Malaysia slowed down in 2008 due to the intensified economy downturn in those developed countries as highlighted earlier. Financial exposure has a little effect on Malaysia economy due to the new derivatives hasn't fully penetrate in the country. However, the global financial crisis has become the obstacle of the Malaysia Government's plans to accomplish vision 2020 because of the severe slump in exports and a steep fall in foreign direct investment (FDI).

In the last quarter of 2008, the Malaysia GDP growth rate faced a recession which is 0.1% and declined again by -6.2% in the first quarter of 2009. While in the second quarter of the year, the GDP growth rate was continuing slowdown further by -3.9%. It is obviously to see that over the first two quarters of 2009, the economy of Malaysia has get into a depression as a result of decline in GDP. If the situation is prolonged, it is anticipated that the Malaysia's capacity to accomplish the vision 2020 program, which is capita income of US$15,341 will be diminished. The chart of Malaysia GDP Growth Rate (in percentage) can be seen as below:

Chart 1.0 Malaysia GDP Growth Rate (%)
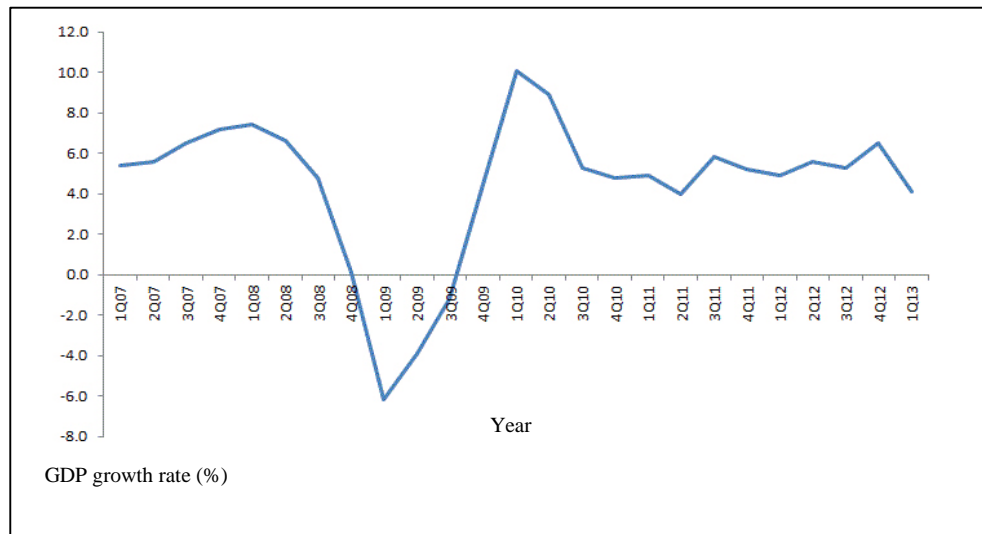
Source: Department of Statistics, Malaysia (2013)

The GDP changes illustrates the largest contraction in manufacturing sector with growth decreasing by -9.0% in the year of 2009, which is shown in Table 1.0. Mining and quarrying also one of the sectors similarly affected in same period, which is decreasing 6.5%. Construction recovered slightly in year 2009, while agriculture showed a well performance from year 2009 to 2011. Malaysia's largest manufacturing industry made the highest record of recession among the other real sectors due to its high dependence on exports. Decreasing demand in export of particular commodity was directly influence the GDP growth rate of the particular sector. Table 1.0 shows the real GDP by sectors in Malaysia from period 2009 to 2013.

Table 1.0 GDP (RM million) by Sectors from period 2009-2013

Sectors	2009	2010	2011	2012	2013
Agriculture	50,063 (0.1)	51,263 (2.4)	54,253 (5.8)	54,782 (1.0)	56,281 (2.7)
Mining and quarrying	66,386 (-6.5)	66,182 (-0.3)	62,565 (-5.5)	63,432 (1.4)	64,858 (2.2)
Manufacturing	152,150 (-9.0)	170,261 (11.9)	178,237 (4.7)	186,748 (4.8)	192,786 (3.2)
Construction	19,270 (6.2)	21,459 (11.4)	22,464 (4.7)	26,531 (18.1)	29,332 (10.6)
Services	335,027 (2.9)	359,829 (7.4)	385,179 (7.0)	409,976 (6.4)	432,320 (5.5)
(+) Import duties	6,989 (-7.1)	7,660 (9.6)	8,653 (13.0)	10,001 (15.6)	10,948 (9.5)
GDP at purchasers' prices	629,885 (-1.5)	676,653 (7.4)	711,351 (5.1)	751,471 (5.6)	786,526 (4.7)

Note: Figures in parentheses are annual percentage changes.
Source: Ministry of Finance, Malaysia (2013)

1.1.2 Malaysia Bankruptcies

In Malaysia, bankruptcies denote those insolvent companies who unable to pay back their financial obligations to creditors and cannot proceed with their operations. Legally, all of the asset owned by an organization will be taken over and controlled by the court for the purpose of paying back their obligations.

During the period from year 1998 to 2014, there are averages of 1236.73 listed and non-listed companies facing bankruptcies. In July 2013, it recorded the highest number cases of bankruptcies, which are 2366 companies while the lowest number of bankruptcies was occurred in February of 1999, which are 503 companies. Central Bank of Malaysia reported the cases of bankruptcies in Malaysia. The graph below shows the amount of bankruptcy cases in Malaysia from the year of 2009 to 2013.

Chart 1.1 Number of Bankruptcy Cases in Malaysia from the year of 2009 to 2013
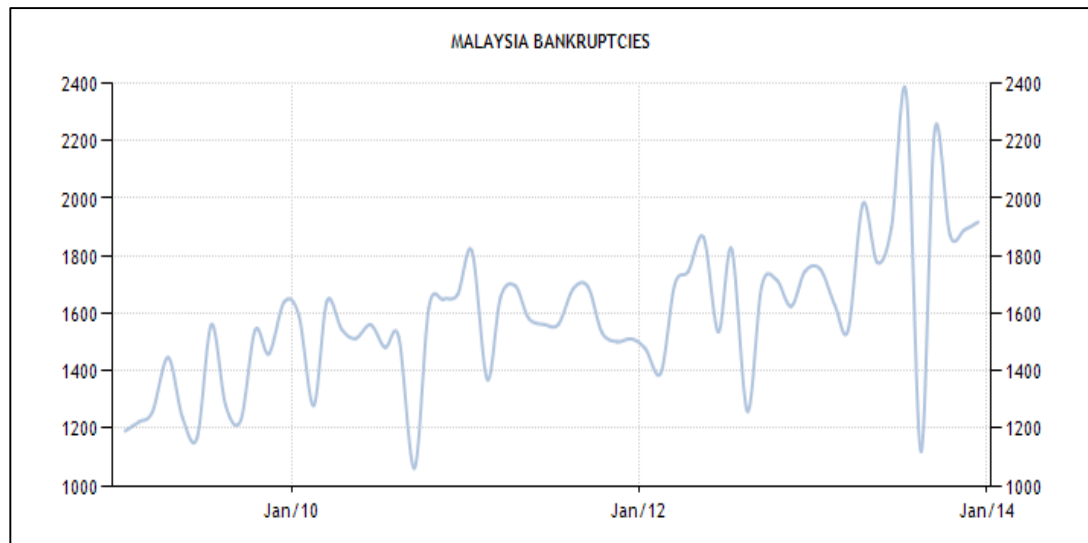
Source: www.tradingeconomics.com | Central Bank of Malaysia (2013)

According to the statistic above, it is clearly to see that the number of bankruptcy cases has declined moderately from the year of 2010 to 2011, in the following year, it remains constant. Nevertheless, the number of bankruptcy was slightly increased again from the year of 2012 to 2013.

It is obviously to see that there are many companies failure incurred in Malaysia capital market at last decade. Even though there are more than a thousand companies listed in Bursa Malaysia (Kuala Lumpur Stock Exchange), not all of the companies are in a financially sound position. In the concept of Malaysia, those companies which are facing financial distress will be categorized by Bursa Malaysia as Practice Note 4 (PN4) and Practice Note 7 (PN17). Companies which under these category are most probably facing shortfall in shareholders' funds, and are not available to continue trading and listing in the stock exchange. However, they will be given chance to regularize and take actions on their financial conditions within a

given period. If successful, they can be released from the classification of Practice Note (Haniff, Shanmugam, and Yap, 2011). There are many public listed companies in Malaysia tried to obtain Restraining Orders pursuant to Section 176(10) of the Company Act 1965, where aiming to restructure the company debt.

1.2   Theoretical Framework

Figure 1.0 Theories used in Predicting Corporate Financial Distress
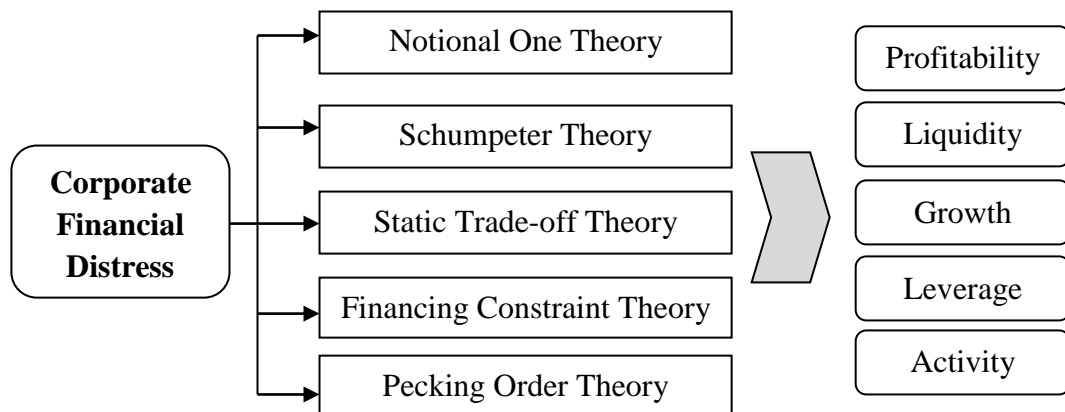
Source: E. Altman. The Z-Score Bankruptcy Models (1968)

Theoretical framework in this study made up of Notional One Theory, Schumpeter Theory, Static Trade-off Theory, Financing Constraint Theory and Pecking Order Theory, as shown in Figure 1.0. Notional One Theory was the common use of theory in previous study. Liquidity, profitability and wealth are the three main classes of measurement in this theory. Schumpeter Theory illustrates the profitability of company, Static Trade-off Theory, Financing Constraint Theory and Pecking Order Theory describes the important of liquidity, growth, leverage, and

activity ratio of company in making profits. The review of these theories will be discussed later in chapter 2.

1.3 Problem Statement

In this study, the practical problem and research problem will be discussed as following section.

1.3.1 Practical Problem

In recent years, the emphasis on corporate financial distress determination has been critical. An enormous debate has been ignited in the field of corporate finance on which financial distress measurement tools are most desirable. Economic crisis started to attack economic in Malaysia in July 1997. Due to unable to cope with the economic downturn, there are numerous of companies fall into financial distress and face threat of failing to repay obligations (Andreev, 2006). Bankruptcy was involving cost for shareholders and stakeholders. Company with a low profitability and poor solvency might be regarded as potential to face bankruptcy. The phenomenon of corporate failure in Malaysia can be noticed after few indicators such as company liquidation, failed to fulfill debt payment, and non-compliance with reporting as well as rating action.

1.3.2 Research Problem

Generally, the main goals for most company are to generate a profit, minimize their expenses and maximize their market share in order to sustain their business activity. However, there are various factors can become the obstacle of

companies on their way to pursue profitability and growth. The factors can be credit risk, interest risk, market risk and exchange risk. These risks may because companies suffer in term of poor cash slow and low profitability. Consequently, the companies will be facing risk of corporate failure. Therefore, this study is conducted to investigate to what extend undesirable cash flow and low profitability can be forecasted by applying Altman Z-Score Models towards those companies which listed in Bursa Malaysia. Since the Altman Z-score model was created in 1968, it has been evolved to suit the peculiar nature of firms under study. The model has evolved from one that predicts financial distress for large firms in the developed countries to one that best suits all firms in the developing world (Baimwera and Muriuki, 2014).

1.4   Research Question

In this section, the research question is intended to find out the answer of the statement below:

- The extent to which the Altman Z-Score Models can be assessed to predict the corporate failure among public listed companies in Bursa Malaysia.

1.5   Objectives of study

In this study, there are two objectives which can be separated into two proportions; general objectives and specific objective.

1.5.1 General Objectives

The general objective of this study is to distinguish the failure company from non-failure company by using financial ratios measurements. It is believed that not only the crisis cause financial distress of companies, but also due to the poor management of the particular companies as well. Therefore, a corporate failure prediction model is essential to play a role as a predictor to assess the financial status of the companies which listed in Bursa Malaysia.

1.5.2 Specific Objectives

The specific objectives of this study are as follow:

(i) To investigate the condition of financial ratios of public listed companies in Bursa Malaysia from period 2009-2013.

(ii) To examine the value of Altman Z-Score of public listed companies in Bursa Malaysia from period 2009-2013.

(iii) To study the probability of success in corporate failure prediction on public listed companies in Bursa Malaysia by using financial ratio in Altman Z-Score Models.

1.6   Significant of study

This study is able to provide a guideline to public to understand about prediction of bankruptcy of public listed companies in Bursa Malaysia during period 2009-2013. A company's health condition is the main concern for investors as well as management. Companies with financially health always become the best choices

for investors who want to make investing activities and avoid any possibility of risk of default for them. By understanding the condition of firm, management team will be easier to recognize the starting point of distress and apply several measures to control it. The corporate failure prediction model able to provide a warning signal to all parties related in the company such as managers, employees, management team, investors and shareholders of the company. There are still a lot of measurements should be explored, accessed and investigated for financial distress. There are few and limited researches being done in developing countries, thus Malaysia is chosen as the sample in this study. Furthermore, the economy of Malaysia has been severely influenced by financial crises in last few years. Thus, through this study, more factors can be explored and improvement also can be made to strengthen the position of firms in Malaysia

1.7   Scope of study

This research focuses on corporate failure prediction of public listed companies in an emerging market economy, as refer to Bursa Malaysia in this study from period 2009-2013. Altman Z-Score Model was employed to predict the corporate failure. Secondary data was applied in this study. The data on financial statement which are balance sheet and income statement has been collected from Bursa Malaysia public listed companies within 5 years.

1.8　Organization of study

The structure of this study is arranged as: Chapter 2 Literature Reviews, Chapter 3 Methodology, Chapter 4 Findings and Discussion, and ended with Chapter 5 Conclusion.