



Faculty of Economics and Business

CORPORATE FAILURE PREDICTION OF PUBLIC LISTED COMPANIES IN SARAWAK

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**CORPORATE FAILURE PREDICTION OF PUBLIC LISTED COMPANIES IN
SARAWAK**

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Statement of Originality

The work described in this Final Year Project, entitled
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is to the best of the author’s knowledge that of the author expect
where due references is made.

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ABSTRACT

CORPORATE FAILURE PREDICTION OF PUBLIC LISTED COMPANIES

IN SARAWAK

By

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The purpose of this research is to extend the bankruptcy prediction model to predict financial distress among 25 public listed companies in Sarawak from period 2006 to 2010 by using secondary data. Applicability of Altman Z-Score Models was used to identify classification on three main zone which is safe, grey or distress zone. The findings indicated 14 out of 25 companies or 56% of listed companies were classified as distress zone, 6 or 24% of the companies were known as grey zone while 5 or 20% companies was classified as safe zone. Two likely to fail companies was correctly predict at distress zone which Z-Score was lower than 1.81. On the other hand, the findings show most of the companies was face financial distress when global financial crisis on 2008. Industrial transportation and industrial engineering sectors were classified as safe zone while food and staplers retailing, real estate investment and services and industrial metals and mining sectors were classified as distress zone.

Keywords: Altman Z-Score Models, corporate failure prediction

ABSTRAK

RAMALAN KEGAGALAN PADA SYARIKAT AWAM TERSENARAI DI

SARAWAK

Oleh

Liu Boon Hui

Kajian ini bertujuan untuk mengaji ramalan kegagalan pada 25 buah syarikat awam tersenarai di Sarawak dari tempoh 2006 hingga 2010 dengan menggunakan data sekunder. Altman Z-Score Models telah diuji untuk mengenalkan pasti syarikat diklasifikasikan dalam zon selamat, kelabu atau kesusahan dengan menggunakan nisbah kewangan. Keputusan menunjukkan 14 daripada 25 atau 56% syarikat tersenarai diklasifikasikan sebagai zon kesusahan manakala 6 atau 24% syarikat dikelaskan sebagai zon kelabu dan 5 atau 20% daripada syarikat diklasifikasikan sebagai zon selamat. Dua syarikat yang berkemungkinan menghadapi kegagalan telah tepat diramal dengan menggunakan Z-Score iaitu dikategori dalam zon bahaya. Hasil kajian menunjukkan kebanyakan syarikat menghadapi kesukaran kewangan apabila krisis kewangan pada 2008. Sektor pengangkutan dan kejuruteraan telah diklasifikasikan sebagai zon selamat. Manakala, sektor peruncitan, pelaburan harta tanah dan perlombongan diklasifikasikan sebagai zon bahaya.

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

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

This research looks into corporate failure prediction of public listed companies in Sarawak. This chapter discusses background of study, brief review, problem statement, question of research, objectives, rational of study, scope of study, research structure and conclusion.

1.1 Background of Study

Risk of corporate failure exists in every industry. Corporate failure is a phenomenon happen in developing countries as well as developed countries. Economic crisis sudden occurred in the middle of 1997 and brought many impacts to Asian corporations which increase number of corporations facing financial difficulties. Financial failure can be form into financial distress, bankruptcy or insolvency. Insolvency can be defined as where a corporate was unable to meet the obligations or working capital is negative. However, bankruptcy defined as when total liability was exceeding fair value of assets (Odipo & Sitati, 2010). According to Thai (2003),

corporate failure was developed slowly over many years. Few symptoms can lead to corporate failures which are declining on earning, working capital and increasing in debt.

Corporate failure prediction is an important decision making problems in business field. Many parties such like investors, employers, employees, suppliers, customers and stakeholders was interest in the financial health on certain company (Brabazon, Matthews, Neill, & Ryan, 2002). Impact of financial crisis on corporate failure in Malaysia can be looking through liquidity of a company and default on repayments of debt. Financial institutions evaluated on ability of a company repay the loan when the company was applies for loans (Khong, Ong, & Yap, 2011). Besides that, financial institutions also will identify the probability or changes of the companies to fall into financial distress. Therefore, the financial institutions can take relevant correction action, rejected the loan applications or identify borrowing company's weaknesses. Financial institutions can take action to make correction on the company in order to avoid loan default.

Economic crisis was begun to affect Malaysia's economic in July 1997, these cause many corporate face financial distress. Corporate was unable to face the unexpected changes in economic and fail to generate profit for the companies. Business failure can be caused by poor management on the company which are management styles and rapid changes of technologies or economic changes (Blocher, Ko, & Lin, 1999). Besides that, Khor (2009) state that global financial crisis was began in 2007 and

worsened in first half of 2008, hence it lead little effect on Malaysia and other Asian countries.

There are many company failures in Malaysia capital market at last decade. Corporate failure prediction was very important challenging issue (Zulkarnain, 2006). In Malaysia's studies, most of the failed companies were classified by Bursa Malaysia (Kuala Lumpur Exchange Stock) under Practice Note 4 (PN 4) and Practice Note 7 (PN 17). Companies which categories into these classifications most probably because the firms are mainly deficit in the company shareholders' funds where the financial conditions does not continue trading and listing in the stock exchange. Hence, the companies have been given certain time to regularize and take actions on their financial position which can release the companies from the Practice Note classification (Haniff, Shanmugam, Yap, & Yap, 2011). There are many public listed companies in Malaysia was success obtain Restraining Orders pursuant to Section 176 (10) of the Companies' Act, 1965, where the purpose is to restructure the company debts (Thai, 2003).

Based on the Altman (1968), corporate failure prediction models were extremely valuable to many industry sectors. Altman model which establish in 1968 is known as Altman Z-Score Models formula. It defined as financial model to predict the probability of bankruptcy of a company. Odipo and Sitati (2010) define purpose of the Z-Score model is to measure the financial situation of a corporate and estimate the probability of the company which face bankruptcy within two years. This study provides on relevant financial ratios of a corporate which is useful in predicting the probability of corporate

failure. The accuracy classified is 94% of one year before the corporate facing bankruptcy (Altman, 1968). In contrast, Z-Score define 97% of the non-bankruptcy firms in the research. Suppliers of capital, creditors, investors, management and employees are very seriously affected from the business failures. Therefore, this study would like to predict the corporate failure using Altman Z-Score Models (Odipo & Sitati, 2010).

1.2 Brief Review

Over the last 35 years, corporate finance had developed a lot of studies on corporate failure prediction topic (Odipo & Sitati, 2010). From an empirical literature, researchers have been developed effort to examine corporate failure prediction for different country in the world since 1960s. From the beginning of the research, there are no well-developed statistical methods available for the research.

Bankruptcy model prediction can be divided into three categories which are Statistical Models, Artificial Intelligence Expert Systems (AIES) Models and Theoretic Models. Seven methodologies can be found in Statistical Models which are Univariate Analysis, Multiple Discriminant Analysis (MDA), Linear Probability Models (LPM), Logit Model, Probit Models, Cumulative Sums (CUSUM) procedure and Partial Adjustment Process, while AIES Models consist of five methodologies, which are Recursively Partitioned Decision Trees (Inductive Learning) Model, Case Based

Reasoning (CBR) Model, Neural Networks (NN), Genetic Algorithm (GA) and Rough Set (RS) Models. There are four methodologies were classified in Theoretic Models, which are Balance Sheet Decomposition Measure, Gamble's Ruin Theory, Cash Management Theory and Credit Risk Theories.

The prediction of corporate financial distress was first developed by Beaver at 1966. Beaver (1966) use Univariate approach as model to predict corporate failure. More than 30 financial ratios were categories into six groups. This research found the cash flow to total debt ratio is single ratio predictor in corporate failure. Most popular statistical model is Multiple Discriminant Analysis (MDA) which developed by Altman at 1968. MDA model was widely used to predict corporate failure in 1970s to 1980s. Wilcox (1970) show the results which are used to explain the observations of Beaver (1966) on various financial ratios for the corporate failure prediction. Ohlson (1980) is one of the first researchers who use Logit Regression techniques to predict the financial distress in corporate. Besides that, Taffler (1982) use Multivariate statistical techniques to predict corporate bankruptcy.

In this studied, the attention is focused to predict financial distress of public listed companies in Sarawak from 2006 to 2010. Although Malaysia was economic quiet well develop, the capital and stock growth rapidly in last twenty years. In Malaysia, corporate failure prediction was only started in 2001, the studies was carried out by Haniff et al. (2011); Thai (2003); Low, Nor and Yatim (2001); Zulkarnain (2006); Adiana (2008); Adibah, Adzrin, Anuar, and Rusliza (2005); Khong et al. (2011) and

Poon, Yap and Yong (2010). Haniff et al. (2011) was used a Classic Univariate approach to predict corporate failure. The ratio was showed the significant difference between companies that fail and non-fail company.

Low et al. (2001); Thai (2003); Adibah et al. (2005); and Khong et al. (2011) was using Logistic Regression, this study suggested that cash flow ratios were very useful in predicting financial distress. In addition, Zulkarnain (2006) and Poon et al. (2010) was use Discriminant Analysis in the studies. Zulkarnain (2006) showed the model was successfully predicts firm's health at the rate of 88%, while Poon et al. (2010) showed high accuracy rates between 88% to 94% for five years prior to actual failure. There are more advance statistical model was used recently, MDA was a very reliable and potential statistical tool. Besides that, Adiana (2008) study was concerned in the comparison between Multiple Discriminant Analysis (MDA), Logistic Regression and Hazard Model Analysis. Malaysia's listed companies in corporate failure were sample and the research found that Hazard Model Analysis was higher than MDA.

In 1968, Altman was expended Multivariate Analysis (MDA). In 1980's Discriminant Analysis become domain method for corporate failure prediction (Andreev, 2006). Altman Z-Score Models formula was used to define variables which reflecting company performance. This statistical technique had given weight to the financial ratios which used to discriminant failed and non-failed company. Altman Z-Score Models can be categories into three zones which are safe zone, grey zone and distress zone. There are 66 companies were used, the result show 33 failed and 33 non-failed companies.

There are 22 potential helpful variables were an original study which is possible as bankruptcy predictors. Variables are classified into five standard ratios categories, which are liquidity, profitability, leverage, activity and solvency ratios. In the end, five variables was selected which act as best overall job together to corporate bankruptcy prediction (Altman, 1968).

From 1985 onwards, the formula has been widely use in variety of contexts and countries because it had widely acceptance by courts, management accountants, auditors, and database systems which is used for evaluation of loans. This model was originally designed for publicly held manufacturing companies, while it had designed to be applicable to privately held in companies which others than manufacturing companies (Altman, 1968).

Theoretical framework in corporate failure prediction is notional one theory. This study was mentioned implicitly financial measures in economic concept. Notional theory was developed from perception on financial ratios. Financial ratios were act as indicators to determine the corporate health. When the indicators showed good which mean the corporate was perceived as healthy company. In contrast, if the indicators showed poor, the company was perceived as unhealthy company which consist risk of bankruptcy. There are three main categories of measurement which is liquidity, profitability and wealth (Blums, 2003).

1.3 Problem Statement

In this section, the problem statements of this study are divided into two parts, which are practical problem and research problem. The explanations are in detail which listed in practical problem and research problem.

1.3.1 Practical Problem

Economic crisis was began to affect economic in Malaysia in July 1997, these was cause many companies fall into financial distress and facing treat of unable to pay debt and difficult to fulfill corporate obligations due to there was unable to cope with the economic downturn (Low et al., 2001). Bankruptcy was involving cost for shareholders and stakeholders. “Impact of the crisis on corporate failure in Malaysia was seen through indicators such as company liquidation, default in debt repayment, and non-compliance with reporting as well as rating action (Khong et al., 2011, p. 1).” Therefore, companies were forced to face financial distress when there are not able to pay their corporate obligations due to cash flow. Corporation with a poor profitability of company and record of solvency might regard as potential to face bankruptcy.

1.3.2 Research Problem

Goal of a company is to generate profit and sustainable the business activity. There are various factors can cause struggling of companies for profitability and growth. In fact, numerous companies were suffering in terms of poor cash flow and profitability. Consequently, poor liquidity and profitability may lead to corporate failure. Therefore, to what extend poor cash flow and profitability can be predicted using Altman model among public listed companies in Sarawak.

1.4 Research Question

Research question of this study are able to aim to answer:

- The extent to which the Altman Z-Score Models can be used to predict financial distress among public listed companies in Sarawak.

1.5 Objective

In this section, the objectives of this study are divided into two parts which are general objective and specific objective. The explanations are in detail listed as below:

1.5.1 General Objective

The objective of this research is to identify how important financial dimensions which can differentiate financial distress company from non-financial distress company. A corporate failure prediction model is required to act as predictor at public listed companies in Sarawak to well-being prior to a financial crisis.

1.5.2 Specific Objective

Specific objective of this study are:

- To test the applicability of Altman's bankruptcy prediction model to public listed companies in Sarawak from period 2006 to 2010.
- To identify the probability of corporate failure prediction on public listed companies in Sarawak by using financial ratio in Altman's Z-Score Models.

1.6 Rational of study

In the practical aspect, this research can help the researcher understand about prediction of corporate failure of public listed companies in Sarawak from period 2006

to 2010. Accurate failure prediction was able to prevent and take correction by the firms. This study would benefit to creditors and investors which they could gather necessary information to improve their performance. For example, if the prediction of the companies was have symptoms get into failure in future, the investors can consider whether they are worth to invest in the companies that face might financial distress in the future. It is significance that investors read the research and know the truth before they do investment on the companies. When the creditors and investors can predict the chances of financial distress, they would able to liquidate their investments to minimize their losses.

This study also can help managers to avoid difficulties before it is too late. Besides that, this study was useful to auditors, lenders and managers because they may use the research information to reduce losses from the company such as provision of bad debt (Adibah et al., 2005). Corporate failure has important consequences respect to employment and welfare of economic. As conclusion, prediction was not only important for individual and corporate, but it also important for society (Andreev, 2006).

1.7 Scope of Study

The research was focused toward corporate failure prediction of public listed companies in Sarawak from period 2006 to 2010. Besides that, this study was use Altman Z-Score Models to predict corporate failure. Data collected through secondary