

CHAPTER 1

INTRODUCTION

1.1 Background

Investment is putting money into something with the expectation of gain that upon thorough analysis has a high degree of security for the principal amount as well as security of return, within an expected period of time. In contrast putting money into something with an expectation of gain without thorough analysis, without security of principal, and without security of return is considered more of speculation.

Indonesia still considered the country where the investors are interested to put their money into. This country is the largest economy in Southeast Asia and a member of the G-20 major economies. At World Economic Forum on East Asia, Indonesian president said Indonesia will be in the top ten countries with the strongest economy within the next decade. Even though Indonesia was the country hardest hit by the Asian financial crisis of 1997-1998, Indonesia shows an impressive economic growth up until now. Since 2007, with the improvement in banking sector and domestic consumption, the national economic growth has been 6% annually and this helped the country weather the 2008-2009 global recession.

To avoid speculation, and investment must be backed by the sufficient information through a comprehensive and thorough analysis,

Warren Buffet prefers to make significant investments in just a handful of companies, companies that he has a thorough knowledge about it, and this makes him very successful and very rich. The knowledge about companies could be reflected by the financial reports.

The financial crisis that happened in 1998, it happens again in 2008. It was started with subprime mortgage in US by 2007, and then the crisis rolled out worldwide, including Asia, and Indonesia. At the third quarter on 2008, Indonesia economical growth recorded at 6%, however, it was a storm of pressure on the 2008's fourth quarter. This was reflected by the poor export performance, as less and less foreign customer order. From the external side, Indonesia also has an increase on the deficit and the exchange rate has weakened significantly. At the money market, Indonesia securities have a significant increase on the risk spread. This has caused the foreign capital flowing out of Indonesia.

Actually, Indonesia is not the worst amongst other Asia countries. By the year 2008, Indonesia economy still shows growing by 6.1%. However, the crisis could have bad impacts, especially for the export-oriented company. This paper analyse the companies that been in financial distress after the year 2008. The companies have to be non financial institution type of company, since the financial report structure of the financial institution different than other industry. Financial institution use third party funds for their funding instrument.

Financial distress generally happened before bankruptcy. By knowing a condition of financial distress, a company in analysis could be expected to perform preventive and necessary action.

Table 1.1
Period of Financial Distress
Scope of 2008 Onwards

Financial Distress Starting Year	Number of Company
2008	15
2009	11
2010	2
Total	28

Source: www.idx.co.id, processed

Table 1.1 shows the scope of analysis to distress companies beginning 2008 onwards. These are the data that representing companies having two period of negative net income. Total of 28 companies from 446 listed companies has been found as group of distress companies.

This paper use Altman (1968) model as a basis to assess Indonesia financially distressed firms, which should reveal the implication of financial ratios to the company performance. The basic theory of this paper is the model developed by Edward I. Altman, well known as Z Score and Zeta models. The research performed by Altman is a pioneer that assesses financial ratio analysis as tools to predict company bankruptcy. Altman

discover five financial ratios that can be used to detect company bankruptcy before the company actually goes bankrupt. The five ratios are : Working Capital / Total Assets (Liquidity Ratio), Retained Earnings / Total Assets (Profitability Ratio), Earnings Before Interest and Taxes / Total Assets (Productivity Ratio), Market Value of Equity / Book Value of Total Liabilities, Sales / Total Assets (Capital-turnover Ratio).

The formula may be used to predict the probability that a firm will go into bankruptcy within two years. Z-scores are used to predict corporate defaults and an easy-to-calculate control measure for the financial distress status of companies in academic studies. The Z-score uses multiple corporate income and balance sheet values to measure the financial health of a company.

Miller (2009), examines the performance of two commonly applied bankruptcy prediction models, the accounting ratio-based Altman Z-Score model, and the structural Distance to Default model which currently underlies Morningstar's Financial Health Grade for public companies. The Z-Score used in this paper constructed from six basic accounting values and one market based value. These seven values are combined into five ratios, which are the pillars that comprise the Z-Score, which is the same basis as the original Altman model. However, Miller also add one more ratio which is TLTA (Total Liability to Total Asset Ratio), and this ratio provides a single unadjusted accounting ratio.

Hillegeist, Keating, Cram and Lundstedt (2002), assess whether two popular accounting-based measures, Altman's (1968) Z-Score and an O-Score derived from Ohlson (1980), effectively summarize publicly-available information about the probability of bankruptcy, in *Assessing the Probability of Bankruptcy* (April 2002). This paper tries to explore option-pricing theories (Black and Scholes (1973), Merton (1974)), a market-based measure, should reflect all available information about probability of bankruptcy. However, the Z-Score and O-Score contain significant and incremental information, which are excess returns and relative market size.

Chava and Jarrow (2000), investigates the forecasting accuracy of bankruptcy hazard rate models for U.S. companies over the time period 1962-1999 using both yearly and monthly observation intervals. This paper validates the superior forecasting performance of Shumway's (2001) model as opposed to Altman (1968) and Zmijewski (1984). There are more ratios to add from Zmijewski and Shumway like $\text{Net Income} / \text{Total Asset}$ and $\text{Total Liabilities} / \text{Total Asset}$.

These are the comparison table of variables set that support Altman models used in the above papers.

Table 1.2
Ratios Comparison in Journal

Variables	Miller (2009)	Hillegeist et al (2002)	Chava et al (2000)	Abbas et al (2011)
$\frac{\text{Working Capital}}{\text{Total Assets}}$	U	S - (1)	S -	X
$\frac{\text{Retained Earnings}}{\text{Total Assets}}$	U	X	X	X
$\frac{\text{EBIT}}{\text{Total Assets}}$	U	S -	S -	X
$\frac{\text{Market Value of Equity}}{\text{Book Value of Total Liabilities}}$	U	S -	S -	X
$\frac{\text{Sales}}{\text{Total Assets}}$	U	S +	S +	S +
$\frac{\text{Total Liabilities}}{\text{Total Assets}}$	U	S + (1)	S +	X
$\frac{\text{Current Liabilities}}{\text{Current Assets}}$	N/A	S - (1)	N/A	X
$\frac{\text{Net Income}}{\text{Total Assets}}$	N/A	S + (1)	S -	X
$\frac{\text{FFO}}{\text{Total Liabilities}}$	N/A	S + (1)	N/A	N/A
$\frac{\text{EBIT}}{\text{Current Liabilities}}$	N/A	N/A	N/A	S +
$\frac{\text{Cash}}{\text{Current Liabilities}}$	N/A	N/A	N/A	S -

S + = Significantly positive, S - = Significantly negative, X = not significant,
U = used but the score produced less performed than Distance to Default model,
N/A = not applicable, (1) = Ohlson Model

The above table shows the variance of different affecting variables against financial distress prediction.

Abbas, Qaiser and Rashid, Abdul (2011) wrote in their research of modelling the bankruptcy prediction for non financial firm, that twenty four

financial ratios which cover four important financial attributes namely profitability, liquidity, leverage, and turnover ratios, are important to examine bankruptcy. However, their scope is within Pakistan non financial firm.

Table 1.3
List of Financial Ratios

Financial Ratios	No	Formula
Leverage Ratios	1	Cash flow ratio = net profit after tax plus depreciation for the year divided by depreciation for the year plus changes in capital employed
	2	Cash flow to total debt
	3	Current liabilities to total assets
	4	EBIT to fixed assets at cost
	5	EBIT to total liabilities
	6	Equity to long term debt
	7	Market value of equity to book value to debt
	8	Net income to fixed assets at cost
	9	Net income to total debt
	10	Total debt to total asset
Liquidity Ratios	11	Current assets to current liabilities
	12	Liquid assets to current liabilities
	13	Net liquid assets to current liabilities
	14	Working capital to total assets
Profitability Ratios	15	EBIT to current liabilities
	16	EBIT to sales
	17	EBIT to total assets
	18	Net income to sales
	19	Net income to total assets
	20	Retained earnings to total assets
Turnover Ratios	21	Expenses to sales
	22	Sales to fixed assets

	23	Sales to total assets
	24	Working capital to sales

Pakistan is a developing country with emerging different industries. Since the last two decades, a large number of bankruptcy incidences have been occurred in Pakistan. With the same classification of developing countries, perhaps the basis of this research could be used against Indonesia condition after 2008, therefore this thesis will try to use the same financial ratios to form a new modified bankruptcy predictor model.

1.2 Problem Statement

All of the journals mentioned on the previous chapter have assessed Altman as a method to assess bankruptcy outside of Indonesia. The negative net income for two consecutive periods is the indication of a financial distress condition. This study tries to expand the Altman model using financial ratios, replicating Abbas (2011) ratio analysis to predict company financial distress.

1.3 Objective of the Research

The objective of the research is to develop financial distress predictor model using Altman model as a basis to measure financially distressed firms in Indonesia, in the year of 2008-2011.

1.4 Scope of the Research

The research use the financial report data from companies listed in Indonesian Stock Exchange. All of the variables used in the model will refer to the element of the finance report. The focus will be on the companies that having two consecutive period of negative net income during the period of 2008 onwards, and will analyse the data two years before that.