

CHAPTER II

THEORETICAL BACKGROUND

2.1 Theoretical Background

Corporate failure is situation when company faced crisis in terms of financial and do not take proper actions that can avoid bankruptcy. According to (Bryan, 2012), financial distress in firms that lead to bankruptcy is generally evident long before the event. Based on that study, Author believes that predicting bankruptcy is necessary to investigate.

2.1.1 Financial Distress

Financial distress is a situation where a firm's operating cash flows are not sufficient to satisfy current obligations (such as trade credits or interest expenses), and the firm is forced to take corrective action. According to Platt and Platt (2012), financial distress may lead a firm to default on a contract, and it may involve financial restructuring between the firm, its creditors, and its equity investors. Usually the firm is forced to take actions that it would not have taken if it had sufficient cash flow.

There are many responses to financial distress that a firm can make. These include one or more of the following turnaround strategies: Sources (Stephen Ross, 2012)

a. Asset Expansion Policies

When company faced difficulty in terms of financial, usually the managers of the firm try to take some actions to reduce that risk.

One of the actions is increasing the size of its business or familiar with the asset expansion policy. Asset expansion policy is policy that make by the managers of the firm to reduce the risk that company faced. Asset expansion policies include the full of acquisition of another firm, a partial acquisition, setting up a new joint venture, increasing capital expenditure, higher levels of production, or expansion of existing facilities.

b. Operational Contraction Policies

Contraction is the opposite of expansion which means the company which faced difficulty tries to keep and maintain its business by itself. Firm managers will focus on the most profitable business during a downturn situation.

c. External Control Activity

External control activity is the situation when the company has been taken over or the major business of the company is handling by outside investors.

d. Changes in Managerial Control

Changes in managerial control means the company changes their high staff position (Chairman, Chief Executive, Directors, and other higher position in the company). The company tries to restructure the staff in order to recover the situation.

e. Wind up Company

The last and final strategy is to wind up its operations and go into some form of bankruptcy. Maybe it sound bad and terrible but this is the last strategy when the company cannot change the situation to be better.



2.1.2 Bankruptcy

a. Definition of Bankruptcy

Financial distress may or may not lead into Bankruptcy. A firm is in financial distress when it is having trouble paying its debts as they come due. On the other hand, a firm is bankrupt when it has filed a petition for relief from its creditors under the bankruptcy codes, or when it has consented to a filing by its creditors (Chang, 2000). In Indonesia, Indonesia Bankruptcy system regulated by Undang Undang Republic Indonesia No. 37 Tahun 2004 Tentang Kepailitan dan Penundaan Kewajiban Pembayaran Utang. (BPKP, 2004). According to the UU No. 37 Year 2004 Bankruptcy process is performed in the Commercial Court.

b. Sources of Bankruptcy

Sources: Emery & Finnerty (1977)

1. External Factors

1.1 Market Condition

Market condition is related with business cycle. Usually customers want something that in the trend situation, they do not want to buy something that out of trend. For example, recently people more likely to bring their phone to take pictures rather than bring camera, this situation lead companies that produce camera faced difficult situation. If they do not make an innovation immediately, the decreasing amount of sales may lead the company into bankruptcy.

1.2 Intense Competition

In this tight competition directly forced the companies to be more creative and innovative, especially for the small companies which don't have strong financial condition yet. Usually, this competition is focus on the price and quality competition, how to produce higher quality in lower price.

1.3 Other causes

Bankruptcy can result from a host of other underlying problems that inhibit profitability. Some other factors that can contribute to bankruptcy include poor business location, loss of key employees, lawsuits raised by competitors and personal issues like illness or divorce. Unforeseen disasters and criminal activities like floods, storms, theft, and fraud can also cause hardships that lead to bankruptcy.

2. Internal Factors

2.1 Poor Management

According to Dun & Bradstreet survey, 94 percent of business failure was caused by lack of management experience, unbalanced experience, or outright managerial incompetence. For the additional information, based on the book of RE-CODE YOUR CHANGE DNA by Rhenald Kasali (2007), the author motivates managers in the companies to change if they want to improve the condition of their companies to avoid bankruptcy.

2.2 Unwise Expansion

This situation happened when the company only focus to expand the company without consider other negative possibilities. Because of that policy, whole company can faced bankruptcy. Author does not say that expansion is

bad; expansion is good and profitable if the company consider all possibilities wisely.

2.3 Too Much Debt

When company faced too much debt, it makes the amount of interest payment also huge and decrease the profit which company can get. If the company has higher debt than profit (negative profit) it makes company difficult to pay other obligations and lead it into bankruptcy.

In this study, author only focus on the internal sources of bankruptcy which is related to the financial statement.

c. How to detect bankruptcy?

One indicator to consider that company will faced bankruptcy is financial distress. Financial distress is the situation when the company faced difficulty in terms of financial which means the company difficult to meets its obligation. Company which faced financial distress does not faced bankruptcy yet but if the company does not take any proper strategies to handle its condition, it will lead into bankruptcy.

Company which has good financial condition has small probability to faced financial distress which lead into bankruptcy. In other word, the author concludes that the better the financial condition of the company the lower the probability to faced financial distress. We can see whether company has

good or bad financial condition in its financial statement. Financial Statements represent a formal record of the financial activities of an entity. These are written reports that quantify the financial strength, performance and liquidity of a company. Financial Statements reflect the financial effects of business transactions and events on the entity (Ammar Ali, 2010).

2.1.3 Financial Ratios

One of the measurements to detect financial distress is the calculation of financial ratio from the data in the financial statement of the company. Financial ratio simplifies the process of determining the health of a listed company and make reported financial information more meaningful and useful for investors. Financial ratio analysis must form the basis of all investment decisions, because without knowing the true financial position of a company you are purely speculating (Graham, 1928).

a. Financial Ratio Classification

According to Australian Shareholders' Association, there are top 15 financial ratios which are classifying four groups:

Sources: (ASA, 2010)

1) Liquidity Ratio

Liquidity Ratio indicate whether a company has the ability to pay off short-term debt obligations (debts due to be paid within one year) or not. Generally, higher value indicates that the company ability to pay off its debt obligation is greater.

Liquidity Ratios include:

a) Current Ratio

Current ratio measures a company's ability to repay short-term liabilities such as account payable and current debt using short-term assets such as cash, inventory, and receivables. In the table below, there is a formula to calculate current ratio. If the result is less than one means that the company may not have sufficient resources to pay its short-term debt obligations on the due date.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

b) Profit Before Depreciation and Amortization to Current Liabilities (PDAFL)

Profit before depreciation and amortization to current liabilities is defined as net operating profit before tax plus non-cash charges in relation to short-term debt obligations. This is a powerful ratio because it shows a company's margin of safety to meet short-term commitments using cash flow generated from trading operations.

$$PDAFL = \frac{\text{Profit before depreciation and amortisation}}{\text{Current liabilities}}$$

c) Operating Cash Flow to Current Liabilities (OCFCL)

Operating Cash Flow to Current Liabilities is related to cash generated from the operations of a company (revenues less all operating expenses plus depreciation) in relation to short-term debt obligations. Operating cash flow is a more accurate measure of a company's profitability than net income because it only deducts actual cash expenses and therefore demonstrates the strength of a company's operations. In the table below, there is a formula to calculate OCFCL. The higher the value of OCFCL the lower the level of risk that company faced because it indicates that the company generates

sufficient cash from its operations to cover short-term liabilities.

d) Cash Balance to Total Liabilities (CBTL)

Cash Balance to Total Liabilities shows a company's cash balance in relation to its total liabilities. Cash indicates assets in the business. A negative cash balance increases a negative signal to the company. In the table below, there is a formula to calculate CBTL. Based on the calculation, the higher value of CBTL means that company has lower risk because the company has more cash that can be used to pay suppliers, banks, or any other party that has provided the company with a product or service.

$$CBTL = \frac{\text{Cash balance}}{\text{Total liabilities}}$$

2) Leverage Ratios

Leverage ratio provides an indication of a company's long-term solvency. Leverage ratio used to determine about the companies' financing methods, or the ability to meet the obligations. There are many ratios to calculate leverage but the important factors include debt, interest expenses, equity and assets (Ratios, 2011)

e) Debt to Equity Ratio (DE RATIO)

The debt to equity ratio provides an indication of a company's capital structure and whether the company is more reliant on borrowings (debt) or shareholder capital (equity) to fund assets and activities. Debt is not necessarily a bad thing. Debt can be positive, such as for purchasing assets and providing processes to increase net profits. In the table below, there is a formula that can be used to calculate DE Ratio. The higher the DE Ratio the higher the risk.

$$DE\ Ratio = \frac{Total\ debt}{Shareholders'\ equity}$$

f) Total Liabilities to Total Tangible Assets (TLTAI)

Total Liabilities to Total Tangible Assets provides the relationship between a company's liabilities and tangible assets. Tangible assets are defined as physical assets, such as property, cash, inventory and receivables. Author used tangible assets because it is simple or because it

considers only tangible assets that can be easily valued and liquidated to cover liabilities. Table below shows the formula to calculate TLTAI. The higher the value of TLTAI ratio, the higher the level of risk.

$$TLTAI = \frac{\text{Total liabilities}}{\text{Total tangible assets}}$$

g) Interest Cover Ratio

Interest Cover Ratio measures company's ability to meet interest expenses on debt using profits. Table below shows the formula to calculate Interest Cover. When the result is greater than two means the company has healthy position to cover interest.

$$\text{Interest cover} = \frac{\text{Net profit before tax + interest}}{\text{Interest}}$$

3) Profitability Ratio

Most studies said that companies with low profitability are likely to become less liquid (Morris, 1997). Profitability ratios measure a company's performance and provide indication of its ability to generate profits. As profits are used to fund business development and pay dividends to shareholders, a company's profitability and how efficient it is at generating profits is an important consideration for shareholders.

h) Earnings Per Share (EPS)

Earnings per Share ratio used to measure earnings in relation to every share on issue. This ratio is important because it indicates how much each share that you own has earned or will earn. In the table below, there is a formula that can be used to calculate EPS.

$$EPS = \frac{\text{Net income attributable to common shareholders}}{\text{Total shares outstanding}}$$

i) Gross Profit Margin

Gross Profit Margin tells us what percentage of a company's sales revenue that company can get (after decrease by the cost of goods sold). This information is important because we can know whether the company has enough funds to cover operating expenses (such as employees' salary, lease payments, advertising, etc) or not. Table below shows a formula that can be used to calculate Gross profit margin. Company which has higher gross profit margin than its industry or competitors can classify as efficient company in terms of productivity.

$$\text{Gross profit margin} = \frac{\text{Sales} - \text{Cost of goods sold}}{\text{Sales}} \times 100$$

j) Net Profit Margin

Net Profit Margin indicates what percentage of a company's sales revenue that company can get after deduct with all costs. Table below shoes the formula that can be used to calculate the Net profit margin. If the result of net profit margin is decline, it may indicate there is an increasing costs or competitions.

$$\text{Net profit margin} = \frac{\text{Net income}}{\text{Sales}} \times 100$$

k) Return on Assets (ROA)

Return on Assets is used to measure the performance of the management in the company. ROA tells the investor how well a company uses its assets to generate income. Table below shows the formula that can be used to calculate ROA. A higher ROA indicates higher level of management performance.

$$\text{ROA} = \frac{\text{Net income}}{\text{Average total assets}} \times 100$$

1) Return on Equity (ROE)

Return on Equity also used to measure the performance of management in the company. ROE tells the investor how well a company has used the capital from its shareholders to generate profit. Table below shows a formula to calculate ROE. A higher ROE indicates a higher level of management performance.

$$ROE = \frac{\text{Net income}}{\text{Average shareholders' equity}} \times 100$$

4) Valuation Ratios

Valuation ratios are used as an indicator whether the current share price of the company is high or low in relation to its true value. Valuation ratios also help investors to know whether the company is good or bad in terms of earnings, growth prospects and dividend distributions.

m) Price to Earnings Ratio (PE)

The price to earnings ratio (PE) shows the number of times the share price covers the earnings per share over a 12 month period. It is measured by taking a company's current share price and dividing this by earnings per share (EPS). PE may also be interpreted as how much an investor pays for every \$1 dollar the company earns. PE is one of the most widely used ratios for assessing a Company's value. Table below shows the formula that can be used to calculate PE. But, different with other

ratio, PE Ratio cannot determine and classify by the number of the result. PE Ratio may be interpreted by compare the result with industry PE or market PE.

$$PE = \frac{\text{Share price}}{\text{Earnings per share}}$$

n) Price/Earnings to Growth Ratio (PEG)

Price/Earnings to Growth Ratio are the continuation of PE Ratio. If the company has higher PE than its industry average or when the company's stock consider as a growth stock, we have to calculate PEG ratio in order to assess whether the premium price paid is justified given the current level of earnings growth. Table below shows formula that can be used to calculate PEG. If the value of PEG is less than one, it indicates that the stock may be undervalued and may have further potential for increasing share prices. But if the PEG is more than one implies the stock is overvalued at current prices.

$$PEG = \frac{PE \text{ ratio}}{EPS \text{ growth rate}}$$

o) Dividend Yield

The dividend yield is a calculation of the dividends paid over the last 12 months as a percentage of a company's current share price. This dividend yield ratio is expressed as a percentage and can then be compared to current interest rates (such as the risk free rate of return) to

determine whether the annual return is attractive to income seeking investors.

$$\text{Dividend yield} = \frac{\text{Full year dividend}}{\text{Share price}}$$

b. Relationship Between Financial Ratios to the Bankruptcy
(Conceptual Framework)

(1) Liquidity Ratio has negative relationship to Bankruptcy

According to ASA (2010), the higher value of liquidity ratio indicates that the company ability to pay off its debt obligation is greater. Based on that theory, Author makes a conclusion that Liquidity ratio has negative relationship to bankruptcy because the higher the value of liquidity ratio, the lower the probability of the company faced bankruptcy.

(2) Leverage/ solvency ratio has positive relationship to Bankruptcy

According to ASA (2010), the higher the value of leverage ratio, the more debts than assets that company has. It means that the more value of leverage ratio of the company the higher risk that company has. Based on that theory, Author concludes that the leverage or solvency ratio has positive relationship to bankruptcy.

(3) Profitability ratio has negative relationship with Bankruptcy

According to the theory of ASA (2010), Profitability ratios measure a company's performance and provide indication of its ability to generate profits. The higher the value of profitability ratio, the higher the ability of the company to generate the profit. Based on that theory, Author concludes that profitability ratio has negative relationship to the bankruptcy because the higher the value of profitability ratio the lower the probability that company to faced bankruptcy.

(4) Valuation ratio has negative relationship with Bankruptcy

According to the ASA (2010), Valuation ratios are used as an indicator whether the current share price of the company is high or low in relation to its true value. Based on that definition, Author concludes that company which has high value of valuation ratio is become more profitable to invest. Usually, company with high share price than its competitors and industry average has a good performance. Author concludes that the higher the value of valuation ratios the lower the probability of the company to faced bankruptcy.

2.2 PREVIOUS RESEARCH

Since the failure prediction become important and untended topic among researchers, a lot of researchers try to develop models that can predict failure accurately. Models for predicting corporate distress has shifted from traditional ratio analysis in the early 1930's to single ratio developed from univariate studies to today's multivariate predictive models. Basically, models for predicting corporate failure using financial ratios can be classified into two major sub-types; univariate analysis and multivariate models (Gilbert Mbanwie, Financial Ratios as Bankruptcy Indicators; The case of Financial Distressed Firms in Sweden, 2009).

Ika Yuanita (2009) is the researcher who try to identify empirical evidence in the prediction of financial distress within textile and garment industries that listed by Indonesia Stock Exchange in 2005-2008 using logistic regression model. This study was used four ratios (CA/CL, NI/Sales, CL/TA, and NI/TA) as independent variables and eight textile mill products and apparel and other textile products as sample. The results prove that all four independent variables have been found to be significant and useful for corporate failure prediction in textile and garment industries in Indonesia. The overall predictive accuracy is 75 percent and it shows that the logistic regression analysis is a reliable technique for financial distress prediction. (Yuanita, *Prediksi Financial Distress Dalam Industri Textile dan Garment*, 2009)

Mbanwie and Edmond (2009) tried to predict financial distress using in Swedish using the cross sectional analysis. They used eight ratios (current ratio, quick ratio, debt to equity ratio, gearing ratio, operating margin, return on capital employed, and day's receivable outstanding and sales-total assets ratio) as independent variables and 179 companies as sample. The results prove that four independent variables (return on capital employed, operating margin, quick ratio, and debt to equity ratio) have been found to be significant. (Gilbert Mbanwie, Financial Ratios as Bankruptcy Indicators: The case of Financially Distressed Firms in Sweden, 2009).

Shuk-Wen Ong (2011) tried to develop a model that can predict financial distress amongst public listed companies in Malaysia using the logistic regression analysis. Shuk-Wen Ong (2011) used eleven financial ratios (quick asset turnover, current asset turnover, asset turnover, days sales in receivable, sales to fixed assets, cash flow to assets, cash flow to total debt, total liabilities to total assets, debt to equity, current ratio, and return on equity) as independent variables, and 105 companies as sample. The results prove that five financial ratios (current asset turnover, asset turnover, day's sales in receivables, cash flow to total debt, and total liabilities to total assets) have been found to be significant and useful for corporate failure prediction in Malaysia. The overall predictive accuracy is 91.5 percent and it shows that the logistic regression analysis is a reliable technique for financial

distress prediction. (Shuk-Wern Ong, A corporate failure prediction: a study of public listed companies in Malaysia, 2011)

Table 1
Summary of Previous Studies

Author & Journal	Variables	Method	Result
Yuanita, Prediksi Financial Distress Dalam Industri Textile dan Garment (2009)	There are four independent variables: CA/CL, NI/Sales, CL/TA, NI/TA	Logistic Regression Analysis	All four variables have been found significant to predict financial distress; the accuracy of the model is 75 percent.
Gilbert Mbanwie, Financial Ratios as Bankruptcy Indicators; The case of Financial Distressed Firms in Sweden (2009)	There are eight independent variables: current ratio, quick ratio, debt to equity ratio, gearing ratio, operating margin, return on capital employed, days receivable outstanding, and sales-total assets ratio	Cross Sectional Analysis	return on capital employed, operating margin, quick ratio, and debt to equity ratio have been found to be significant. Unfortunately this study did not give information about the percentage accuracy for the model.
Shuk-Wern Ong, A corporate failure prediction: a study of public listed companies in Malaysia (2011)	There are eleven independent variables: quick asset turnover, current asset turnover, asset turnover, days sales in receivable, sales to fixed assets, cash flow to assets, cash flow to total debt, total liabilities to total assets, debt to equity, current ratio, and return on equity	Logistic Regression Analysis	There are five financial ratios (current asset turnover, asset turnover, days sales in receivables, cash flow to total debt, and total liabilities to total assets) have found to be significant. Accuracy the model to predict financial distress is 91.5 percent.

Therefore, the objective of this paper is to develop a model that can predict failure amongst listed companies in the Jakarta Stock Exchange (IDX) accurately.



2.3 Hypotheses

In conducting research about failure prediction, Author is immediately confronted with one hypothesis:

Logistic Regression Analysis can be used to predict financial distress amongst public listed companies in Indonesia Stock Exchange (IDX) accurately.

