



IMPACT OF FINANCIAL RATIO ON FINANCIAL DISTRESS IN INDONESIA MANUFACTURING COMPANIES

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Abstract

This research is a quantitative research which aims to determine the effect of Current ratio, Return on Assets and Sales Growth on Financial Distress. The analysis in this study uses logistic regression method. Logistic regression is one of the statistical analysis methods used to analyse the relationship of independent variables to the dependent variable with nominal / ordinal data. The data used in this study are secondary data derived from annual reports of manufacturing companies listed on the IDX (Indonesia Stock Exchange) and ICMD (Indonesia Capital Market Directory) for the period of 2013-2016. The results showed that the logistic regression match test was significant, this showed that logistic regression was able to predict financial distress of manufacturing companies in the study period. Hypothesis test results indicate that the variables that influence the company's financial distress are the Current ratio and Return on assets. The results of the classification accuracy of the model is 88.14%, this shows that the model is able to predict precisely the financial distress of manufacturing companies in this study period of 92, 81% or 297 of 320 manufacturing companies.

Introduction

Indonesia has experienced advanced economic growth. One proof that the progress of the Indonesian economy is the existence of free market competition in Southeast Asia which is often called the ASEAN Economic Community (AEC) which emerged at the end of 2015. Consequently, manufacturing companies in Indonesia must be able to make improvements in order to maintain its performance so that it can compete with companies in ASEAN and global. Company performance can be measured by the profit generated, when the company can generate high profits it is possible that the company has a high cash flow so that it can avoid financial difficulties or endanger its business continuity. One sector affected by the AEC is the manufacturing sector which deals with capital, goods, services and labor. The existence of these problems forced the company to maintain its finances in order to anticipate global developments. In this case, companies that are not able to maintain their performance will experience financial distress that will result in bankruptcy.

According to Atamaja [1] financial distress is a condition in which a company experiences financial difficulties and is threatened not to be able to maintain its business continuity. In line with the opinion [2] defining financial distress is a decrease in financial conditions experienced by an entity that occurred before going bankrupt. If the company experiences financial difficulties, it can make stakeholders such as investors (shareholders), prospective investors and creditors will be reluctant to invest or lend to the company. And if the company cannot find a solution, it can be ascertained that the company cannot continue its business or go bankrupt. In this study the company is said to be experiencing financial distress if the company experiences losses in two consecutive periods.

Research on financial distress has been carried out by several previous researchers using financial ratios. Financial ratios are numbers obtained from comparisons of post one financial statements with other posts that have a relevant relationship. Financial ratios are useful in predicting business bankruptcy in the period one to five years before the business is completely bankrupt [3,4] The financial ratios that are often used include liquidity, profitability, activity and sales growth [5,6,7,8,9].



Literature Review

Signaling Theory

Signaling theory is a theory that underlies voluntary adoption where management always wants to show good news to potential investors and shareholders despite their privacy. Management is also interested in showing news of the company's success with the aim of increasing its credibility even though the information is not mandatory. Signal theory suggests how an entity can provide signals to users of financial statements, this signal can be in the form of management achievement in realizing the owner's policy. The company must present a financial report because the company's financial decision making is based on the financial statement establishment [10]. Furthermore, signal theory in the topic of financial distress explains if the financial condition is good and its existence is still stable, managers will carry out liberal accounting. Conversely, if the financial condition is bad and its existence is doubtful, the manager will hold conservative accounting [11,12]. The purpose of confirming is to present information that is considered to influence stakeholder decision making to achieve financial reporting objectives. The preparation of standards regarding what must be disclosed has been determined by regulatory bodies such as the Securities Exchange Act and the Capital Market Supervisory Agency.

Financial Statements

[13,14] Financial statements are an important media for assessing the performance and condition of an entity. In the first stage an analyst will not be able to directly describe the state of the company. And if possible, an analyst will not be able to understand the overall activities of the company. Therefore, financial statements are media used as a basis for making decisions. Financial statements are the accounting process part of financial reporting. Financial statements describe the financial condition and performance of a company from a certain period. As for the financial statements that we often encounter are financial positions, profit / loss, changes in equity, cash flows and notes to financial statements.

Financial Distress

Financial distress is a situation where there is doubt about the existence of a company in the coming period due to financial difficulties. [15] Financial distress is a final process of performance degradation before going bankrupt. According to [7] financial distress occurs because the company's obligations are greater than the wealth (assets), size and profit of the company. A slight cash flow makes the company unable to maximize the company's operations which results in a decrease in profit or loss so that its existence is threatened. [2,10] stated that the main factors causing financial distress came from the entity itself, including:

1. Cash flow difficulties
Occurs when income obtained from operations is less than the expense incurred and management errors in managing the existing cash flow so as to make matters worse.
2. The amount of debt
Occurs when the company owes to cover the company's operational costs in the period of the transaction so that the obligation to pay off the debt in the future period. When the bill is due and the company does not have cash or money to pay, the creditor will probably make a foreclosure to pay off the debt.
3. Company losses
Losses in operational activities for several years resulting in negative cash flows. This is because the operational burden is not balanced with income.



Framework and Research Hypothesis

Based on previous theory and research, the thinking framework and hypothesis in this study are as follows:

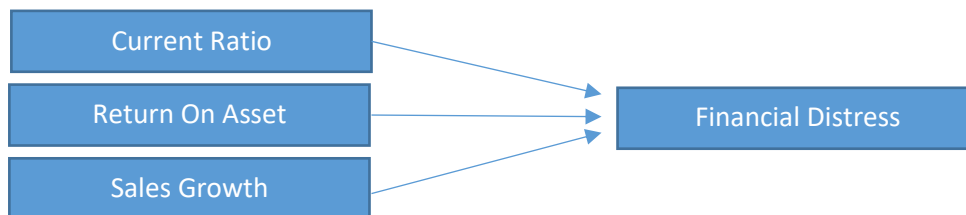


Figure 2. Framework

H1 : There is an effect of Current ratio on financial distress

H2 : There is an effect of Return on asset on financial distress

H3 : There is an effect of Sales growth on financial distress

Research Methods

This research is a quantitative research which aims to determine the effect of Current ratio, Return on assets and Sales growth on financial distress. The analysis in this study uses logistic regression method, where logistic regression is one of the statistical analysis methods used to analyse the relationship of independent variables to the dependent variable with nominal / ordinal data. The data used in this study are secondary data derived from annual reports of manufacturing companies listed on the IDX (Indonesia Stock Exchange) and ICMD (Indonesia Capital Market Directory) for the period of 2013-2016. The sample criteria in this study are as follows:

1. Manufacturing companies listed on the Indonesia Stock Exchange in the period of 2013-2016 and not conducting mergers and acquisitions
2. The company used by the sample is a company that provides information on financial statements regarding the current ratio, return on assets and sales growth served in rupiah

The variables used in this study are two variables, namely the independent variable consisting of the Current ratio, Return on assets and Sales growth while the dependent variable is the company's financial distress.

Financial Distress (Y)

Financial distress is a decrease in financial conditions that can threaten the existence of the company. According to [16] in this study the company is said to be experiencing financial distress if the company experiences losses in two consecutive periods. The measurement of this variable uses dummy variables, as follows:

0 = non-financial distress

1 = financial distress

Current Ratio (X1)

Liquidity is a ratio that can show the extent to which a company can pay off its short-term debt. Liquidity can be measured using the Current ratio. According to [14], the current ratio can be calculated by comparing current assets divided by current debt.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

**Return on Asset (X2)**

Profitability is a ratio that shows the company's ability to generate profits. Profitability ratios can be measured by return on assets. According to [8], this ratio can be calculated by comparing net income divided by total assets.

$$ROA = \frac{\text{Nett Income}}{\text{Total Asset}}$$

Sales Growth (X3)

Sales growth is the company's ability to maintain its performance by increasing sales over time. Referring to research from [16], this ratio can be calculated by the following formula:

$$\text{Sales Growth} = \frac{\text{Current Period Net Sales} - \text{Prior Period Net Sales}}{\text{Prior Period Net Sales}}$$

Results and Discussion

Analysis in the study consisted of descriptive analysis and inferential analysis using logistic regression method. Descriptive analysis in this study consists of the minimum value, maximum value, mean and standard deviation of the independent variables used. The variables in this study are the current ratio, debt ratio, return on assets and sales growth. The results of the descriptive analysis of each independent variable are as follows:

Table 1. Descriptive Independent Variables

	Mean	Std. Deviation
Current Ratio	5.452	27.345
ROA	0.093	0.145
Sales Growth	0.124	0.301

The current ratio describes the company's ability to pay off its short-term debt with current assets. Current ratio of manufacturing companies in the 2013-2016 period is heterogeneous, it can be seen that the standard deviation value is greater than the average value. Return on assets is one of the profitability ratios that is, the company's ability to make a profit. Return on assets is heterogeneous, this can be seen that the standard deviation value is greater than the average value. Sales growth reflects the company's ability to increase sales from time to time and measure how well the company maintains its economic position. Sales growth is heterogeneous, it can be seen that the standard deviation value that is greater than the average value.

Goodness of Fit Test

Test the suitability of the logistic regression model to find out whether the model is suitable for use and further analysis can be carried out. Test of conformity of the logistic regression model in this study uses the Hosmer and Lemeshow's test with the following hypothesis:

H0: Fit model

H1: Not Fit Model

Test criteria, the model is said to be fit if the significance value of Hosmer and Lemeshow's Tets > 0.05. The results of testing the suitability of the model indicate that the model is feasible to use which means that the model is able to predict corporate financial distress, this is shown by the significance value of Hosmer and Lemeshow's Goodness of Fit Test of 0.331 > 0.05.



Hypothesis Testing

This test is used to determine the effect of independent variables on the dependent by using an error tolerance value of 5%. The research hypothesis is accepted if the significance value of the independent variable is less than 0.05. The results of hypothesis testing using logistic regression are presented in the table as follows:

Table 2. Hypothesis Testing

Variable	B	Sig.	Exp(B)
Current ratio	-0.072	0.375	0.830
ROA	-24.278	0.021	0.001
Sales growth	-15.627	0.034	0.053
Constant	-2.734	0.000	.067

The Influence of Current Ratio on Financial Distress

Based on the results of the study, shows that the current ratio has a coefficient of Exp (B) = 0.083 with a significance level of $0.375 > 0.05$, so it can be concluded that the current ratio has no significant effect in predicting financial distress. Furthermore, it can be concluded that H1 is rejected.

The Influence of Return on Assets on Financial Distress

Based on the results of the study, shows that return on assets has a value of exp (B) of 0.001 with a significance level of $0.021 < 0.05$, so it can be concluded that return on assets has a significant effect in predicting financial distress. Furthermore, it can be concluded that H2 is accepted.

The Influence of Sales Growth on Financial Distress

Based on the results of the study, shows that sales growth has a value of exp (B) of 0.053, with a significance level of $0.034 < 0.05$, so it can be concluded in this study that sales growth has no significant effect in predicting financial distress. Furthermore, it can be concluded that H3 is rejected

Accuracy of Model Classification

The accuracy classification of the model shows the accuracy of the model in predicting the company's finances that are are presented in the table as follows:

Table 3. Classification Result

	Non FD	FD	% Correct
Non FD	288	8	97.29
FD	15	9	37.50
Overall %			92,81

The table above informs that the model is able to predict manufacturing companies that do not experience financial distress of $288 / (288 + 8) = 97.29\%$. The model is able to predict manufacturing companies that experience financial distress of $9 / (15 + 9) = 37.50\%$. The accuracy of the model predicts that corporate financial distress as a whole is $(288 + 9) / (288 + 8 + 15 + 9) = 92.81\%$. Thus it can be concluded that the model correctly predicts financial distress of manufacturing companies in the 92.81% research period, namely, 397 out of 320 companies.



Discussion

The Influence of Current Ratio on Financial Distress

The liquidity ratio shows the company's ability to pay off its short-term debt / liabilities. This ratio is calculated from working capital, namely current assets and current debt. Liquidity ratios include the current ratio, quick ratio and cash ratio of current assets. The current ratio describes the company's ability to pay off its short-term debt with current assets. This ratio can be calculated by comparing the current assets divided by current debt. The greater the value of the ratio, the less likely the company will experience financial distress. It because the company has a number of liquid assets such as cash or money to pay off its debts and finance its operational activities either in the transaction period or in the future. Consequently, the company does not experience financial difficulties or endangered business continuity.

The results of this study indicate that the current ratio does not have a significant effect on financial distress. Based on the results of logistic regression and descriptive statistics from the current ratio and financial distress, it shows that the current ratio tends to fluctuate while financial distress increases. The high current ratio indicates the high ability of the company to pay off its current debt using its current assets. The results of this study are in line with the research conducted by [6,12,16,17] which state that the current ratio has no significant effect on financial distress. However, in contrast to research conducted by [19,20] which states the current ratio has a significant effect on financial distress.

The Influence of Return on Assets on Financial Distress

This probability ratio shows the company's ability to generate profits. This ratio is also often called the operating ratio. Profitability ratios include profit margins, return on assets, return on total assets and return on equity. The smaller the value of return on assets, it can be possible that the company's performance is less effective in processing the assets owned to generate profits so that it can cause losses that result in negative cash flow and the company will experience financial distress if it occurs within a few years. This is due to an imbalance between operating expenses and income generated.

The results of this study indicate that return on assets have a significant effect on financial distress. Based on the results of logistic regression and descriptive statistics of return on assets and financial distress, it shows that return on assets tends to decrease while financial distress increases. Return on assets are decreasing due to the relatively small increase in net income earned by the company in each year, not comparable to the relatively high amount of assets in each year. The results of this study are in line with the research conducted [8,16,17,21] which state that return on assets has a significant effect against financial distress. However, in contrast to the research conducted by [18] which stated that return on assets did not have a significant effect on financial distress.

The Influence of Sales Growth on Financial Distress

Sales growth reflects the company's ability to increase sales from time to time and measure how well the company maintains its economic position. The higher the value of the sales growth rate, then it illustrates that the company has successfully carried out its activities. This means that the greater the profit generated, which will increase the company's cash flow, thus affecting the company's financial condition. Companies with good financial conditions can be possible not to experience financial distress.

The results of this study indicate that sales growth variables have a significant effect on financial distress. Sales growth as measured by sales shows fluctuating results in each year while financial distress has increased. The value of fluctuating sales growth was due to the high and low sales values that occurred in the previous year. However, there is an increase in sales in each year indicating that the company has a good profit. If the company experiences sales that are relatively increasing in each year, it can be said that the company does not have a negative profit and will not experience financial distress. However, this movement cannot be supported by the existing movement, where sales that continue to increase are not necessarily avoided by the financial disstress. The results of this study are in line with [5,19,20] which states that sales growth has a significant effect on



financial distress. However, it is different from the research conducted by [21] which states that sales growth does not have a significant effect on financial distress.

Conclusions and Suggestion

The results showed that the logistic regression match test was significant, this showed that logistic regression was able to predict financial distress of manufacturing companies in the study period. Hypothesis test results indicate that the variables that influence the company's financial distress are Sales growth and Return on assets while the variables that do not affect the company's financial distress are Current ratios. The result of the model calcification accuracy is 92.81%, this shows that the model is able to predict precisely the financial distress of manufacturing companies in the study period of 92.81% or 297 of 320 manufacturing companies. Furthermore, future study can add independent variable that are considered capable of predicting corporate financial distress and also use other statistical analysis methods that enable more accurately predict corporate financial distress.

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