



## FINANCIAL RATIO AS A DETERMINANT IN PREDICTING FINANCIAL DISTRESS IN TRADE, SERVICE AND INVESTMENT SECTOR COMPANIES ON THE IDX 2016-2018

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### Abstract

This research was conducted to determine how much financial distress in a company can be predicted by using a liquidity ratio (Current Ratio), profitability (Operating Profit Margin), solvency (Debt to Equity Ratio) and activity (Total Asset Turnover) with a target of 30 companies listed on the Indonesia Stock Exchange (IDX) and which publishes complete financial reports for the period 2016 - 2018 in the trade, services and investment sectors. This research method uses logistic regression analysis with dichotomous dependent variables with 2 (two) categories based on the presence or absence of negative operating profits in the period 2016-2018, where 0 is a healthy company and 1 is a company that is experiencing financial difficulties.

The results of this study indicate that the current ratio (CR) and operating profit margin (OPM) have a significant effect on the company's financial distress with a significance value of 0.007 and 0.009, respectively. Meanwhile, the debt to equity ratio (DER) and total asset turnover (TATO) had no significant effect on financial distress with a significance value of 0.082 and 0.173, respectively.

**Keywords:** Current Ratio (CR), Debt to Equity Ratio (DER), Operating Profit Margin (OPM), Total Asset Turnover (TATO) and Financial Distress.



## INTRODUCTION

Financial performance is a description of the achievement of the company's success. It can be interpreted as the results that have been achieved for the various activities that have been carried out. It can be explained that financial performance is an analysis carried out to see the extent to which a company has implemented proper and correct financial implementation rules (Fahmi, 2012: 2). Management of a company is mandatory for every company. Companies must apply good corporate governance in their management, because with that, the possibility of companies experiencing a healthy condition or being in good condition will be even greater. If a company fails to overcome financial difficulties, it can be said that the company has bad corporate governance.

The condition of the company can be seen from the financial statements made at the end of the period, in that way we can see how the company carries out its business activities including the effectiveness of assets, distribution of assets, operating results, short-term and long-term liabilities that must be repaid and potential bankruptcies that will occur. The definition of financial statements according to IAI (Indonesian Accounting Association) is a structure that presents the financial position and financial performance of an entity. The general purpose of this financial report for the public interest is the presentation of information regarding the financial position, financial performance and cash flow of an entity which is very useful for making economic decisions for its users. According to Munawir (2010: 5), financial statements are two lists compiled by an accountant at the end of the period for a company. The two lists are a list of a balance sheet and a list of financial positions and a list of income or profit and loss lists.

Here, researchers using financial ratios will use liquidity ratios which are proxied by Current Ratio (CR), leverage ratios proxied by Debt to Equity Ratio (DER), profitability ratios proxied by Operating Profit Margin (OPM), and activity ratios proxied by Total Asset Turnover (TATO) because researchers want to continue previous research. The purpose of this study is to determine the role of Financial Ratio analysis in predicting the Financial Distress condition of trading, service and investment companies listed on the Indonesia Stock Exchange.

## RESEARCH METHODOLOGY

Research This research uses a quantitative method. This study aims to obtain evidence of a cause-and-effect relationship (causal relationship), namely identifying the effect of Current Ratio (CR), Debt to Equity Ratio (DER), Operating Profit Margin (OPM), Total Asset Turnover (TATO) on Financial Distress.

The population of this study is companies in the trade, service and investment sectors listed on the IDX for the period 2016 - 2018 because the trade, service and investment sector is ranked in the top four sectors dominating the IDX market capitalization in 2018. Researchers took samples from the trade sector, services and investment due to the fact that the number of companies in the sector is quite large and aims to facilitate data processing and minimize corrupted data due to incomplete companies in publishing their financial reports.

The data taken in this study were obtained by using purposive sampling method that had been determined previously based on the aims and objectives of the study with the following criteria:

1. Obtained from a list of companies in the trade, service and investment sector that are still listed on the IDX during the 2016 - 2018 period.
2. Companies that publish financial reports for the period 2016 - 2018.

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Data retrieval is sourced from the annual financial statements of each company listed on the IDX which can be downloaded from the official IDX website. From the above criteria, the companies that can be the sample of this study are forty (30) companies.

### **Financial Distress (Y)**

Financial Distress is a company's financial condition that is experiencing a decline, which increases the possibility of the company going into liquidation. This variable is the dependent variable which is a dummy variable which has two conditions, namely the variable with the number 0 is a company with the category of non-financial distress or a healthy company. The variable with number 1 is a company with a category that experiences financial distress or an unhealthy company. In this study, companies that are in the category of companies experiencing financial distress are companies that experience losses before tax for at least 1 (one) year from a period of 3 (three) years. ( 0 = non financial distress, 1 = financial distress)

### **Current Ratio (X1)**

The current ratio is the most commonly used measure to determine the ability to meet short-term obligations, because this ratio shows how far the demands of short-term creditors are met by assets that are estimated to be cash in the same period as the debt is due, Sawir (2003: 8)

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

### **Debt to Equity Ratio (X2)**

According to Kasmir (2013: 151), Debt to Equity Ratio (DER) is a ratio used to assess debt to equity. This ratio is found by comparing all debt to all equity. This ratio is useful for knowing the amount of funds provided by the borrower and the owner of the company. This ratio serves to find out each individual capital that is used as collateral for debt.

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liability}}{\text{Total Equity}}$$

### **Operating Profit Margin (X3)**

Operating Profit Margin is a comparison between operating profit and total sales, the higher the OPM value the better the company will generate profits.

$$\text{OPM ratio} = \frac{\text{Operating Profit}}{\text{Sales}} \times 100\%$$

### **Total Asset Turnover (X4)**

Total Asset Turn Over (TATO) shows a company's ability to manage its asset turnover by making sales. The higher the TATO value, the better the company's ability to manage its asset turnover.

$$\text{TATO Ratio} = \frac{\text{Sales}}{\text{Average Total Asset}}$$

## **ANALYSIS AND INTERPRETATIONS**

The data used in the method of estimating the regression model with logistic regression. Logistic regression is an approach to creating predictive models such as linear regression or what is commonly referred to as Ordinary Least Squares (OLS) regression. The difference is in logistic regression, the researcher predicts the dependent variable which has a dichotomy scale. The dichotomy scale referred to is a nominal data scale with two categories, for example: Yes and

No, Good and Bad or High and Low. If the OLS requires a condition or assumption that the variance error (residual) is normally distributed. On the other hand, this regression does not require this assumption because in this type of logistic regression it follows a logistic distribution. Basically logistic regression (logistic regression) is the same as discriminant analysis, the difference is in the type of data from the dependent variable. If in discriminant analysis the dependent variable is a ratio, then in logistic regression the dependent variable is nominal data. Nominal data here is more specifically binary data (Singgih, 2012: 205).

Hypothesis testing in this study uses Statistics Package For Social Science (SPSS) 24 and panel data processing with Microsoft Excel.

### **Descriptive statistics**

The following are the results of descriptive statistics from all samples consisting of companies registered in the trade, service and investment sector on the IDX in 2016 – 2018

<b>Descriptive Statistic Tabel</b>						
	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Current Ratio	120	.15	9.09	1.9791	.15239	1.66932
Debt to Equity	120	-4.31	7.82	1.3227	.13773	1.50880
Operating Profit Margin	120	-374.78	54.29	5.1918	3.53130	38.68341
Total Asset Turn Over	120	.07	4.87	1.1100	.08035	.88022
Valid N (listwise)	120					

The results of the descriptive statistical calculations using SPSS 24 are as follows:

1. Current Ratio (CR) is a liquidity ratio that measures a company's ability to pay off short-term debt with current assets. The table above indicates that the minimum value of the current ratio is 0.15, namely PT. Modern Internasional Tbk (MDRN), this shows that the lowest ability of the company to finance current assets with current debt is compared to other companies. The maximum current ratio value is 9.09, namely at PT. Mitra Keluarga Kary Saran Tbk (MIKA) which shows that the company has the highest ability to finance current assets using its current debt compared to other companies. Current Ratio in companies in the service trade and investment sector in the 2016-2018 period is homogeneous, which means that the variance of two or more data from the population is the same, this is indicated by the standard deviation value which is smaller than the average value.

2. Debt to Equity Ratio (DER) is a solvency ratio used to assess the percentage of debt and equity use of a company. This ratio is determined by comparing all debt to all equity. This ratio is useful for knowing the amount of funds provided by the borrower or debtor and the company owner. This ratio serves to find out each individual capital that is used as collateral for debt. The

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table above indicates the minimum Debt to Equity Ratio value of -4.31 (minus), namely at PT. Explosion of Energy Indonesia Tbk (CNKO), which shows that the company has the lowest ability to use its debt to finance all company activities compared to using its own capital. The maximum Debt to equity ratio value is 7.82 which occurs at PT. Expl exploitation of Energy Indonesia Tbk (CNKO) which shows that the company has the highest ability to finance all company activities using its own capital compared to debt. Debt to equity ratio in trading, service, and investment sector companies in the 2016-2018 period is heterogeneous, which means that the variance of two or more data from the population has a different nature, it can be seen that the standard deviation value is greater than the average value.

3. Operating Profit Margin (OPM) is one of the profitability ratios used to measure the extent to which a company is able to generate operating profit from net sales earned in a certain period (Latief, 2018). This OPM is calculated from the percentage comparison between operating income and total sales earned in that period. The level of OPM in a company has an impact on the level of investor confidence in the company. A high OPM value in the company indicates that the company is able to generate a significant operating profit on total sales in that period so that investors trust more in a higher OPM value than companies that have a low OPM value. The minimum operating profit margin in the table above is -374.78 (minus) at PT. Modern Internasional Tbk (MDRN), which indicates that the company has the ability to produce a low percentage of operating profit compared to total sales with other companies. The maximum operating profit margin in the table above is 54.29, namely at PT. Kresna Graha Investama Tbk (KREN), which shows that the company has the greatest ability to generate a percentage of operating profit compared to total sales in that period. Operating profit margin in trading, service, and investment sector companies for the period 2016 - 2018 is heterogeneous, which means that the variance of two or more data from the population has a different nature, it can be seen that the standard deviation value is greater than the average value.

4. Total Asset Turn Over (TATO) is one of the activity ratios that shows the company's ability to use all of its assets to generate sales or how many rupiah net sales each rupiah invested in company assets can generate. the company uses all of its assets to generate sales. The minimum value of TATO in the table above is 0.07 at PT. Modern Internasional Tbk (MDRN), which shows that the company has a low ability to use all of its assets to generate sales compared to other companies. The maximum value of TATO in the table above is 4.87 at PT. Trikomsel Oke Tbk (TRIO), which shows that the company has a high ability to use its assets to generate sales. TATO in companies in the trade, service and sector sectors investment for the 2016 - 2018 period is homogeneous because of its value.

Model Classification Model			Predicted		
Observed			Y		Percentage Correct
			non distress	distress	
Step 1	Y	non financial distress	88	2	97.8
		Financial distress	17	13	43.3
	Overall Percentage				84.2

### **Model Classification Test**

The classification table above shows that the model is able to predict companies in the trade, service and investment sectors that do not experience financial distress by 97.8%. The model is able to predict companies in the trade, service and investment sectors that experience distress by 43.3% and the accuracy of the model can predict as a whole of 84.2%, so it can be concluded that the model can accurately predict the overall model of companies experiencing financial distress for 84.2% or a total of 101 samples .

### **RESULT**

#### **H1: There is an effect of the Current ratio on financial distress.**

Based on the research results, it shows that the current ratio has a regression coefficient of -1.991 with a significance level of  $0.007 < 0.05$ , so it can be concluded in this study that the current ratio has a negative effect in predicting financial distress conditions. Furthermore, it can be concluded that H1 is accepted. This study supports research conducted by Atika (2012) using the Current Ratio which affects the company's financial distress. However, it does not support the research conducted by Setiawan (2009) that CR has no effect on the company's financial distress.

#### **H2: There is an effect of Debt to Equity Ratio on financial distress.**

Based on the research results, it shows that the debt ratio has a regression coefficient of 0.385 with a significance level of  $0.082 > 0.05$ , so it can be concluded in this study that the debt to equity ratio has no significant effect in predicting financial distress. Furthermore, it can be concluded that H2 is rejected. This study supports research conducted by Maulidina (2014) using the Debt to Equity Ratio which does not affect the company's financial distress conditions. However, it is different from Noviandri's (2014) research which shows that DER has an effect on the company's financial distress.

#### **H3: There is an effect of Operating Profit Margin on financial distress.**

Based on the research results, it shows that the operating profit margin has a regression coefficient of -0.069 with a significance level of  $0.009 < 0.05$ , so it can be concluded in this study that the operating profit margin has a significant effect in predicting financial distress conditions. Furthermore, it can be concluded that H3 is accepted. This study does not support research conducted by Noviandri (2014) using OPM to affect financial distress conditions.

#### **H4: There is an effect of Total Asset Turn Over on financial distress.**

Based on the research results, it shows that total asset turnover has a regression coefficient of -0.436 with a significance level of  $0.173 > 0.05$ , so it can be concluded in this study that total asset

turnover has no significant effect in predicting financial distress. Furthermore, it can be concluded that H4 is rejected. This research supports research conducted by Wigati (2016) which shows that TATO has no effect and cannot be used to predict financial distress in a company.

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 <sup>a</sup>	CR	-1.991	.737	7.289	1	.007	.137	.032	.580
	DER	.385	.222	3.018	1	.082	.680	.440	1.051
	OPM	-.069	.026	6.909	1	.009	.934	.887	.983
	TATO	-.436	.321	1.854	1	.173	.646	.345	1.212
	Constant	3.188	1.220	6.828	1	.009	24.232		

a. Variable(s) entered on step 1: x1, x2, x3, x4.

## CONCLUSIONS

From the description of the discussion it can be concluded that:

1. The liquidity ratio as measured by the current ratio (CR) has an effect on the company's financial distress, it can be seen from the hypothesis that the variable has a significant effect with a negative regression coefficient.
2. There is no effect of the solvency ratio as measured by the debt to equity ratio (DER) on the company's financial distress, this can be seen from the results of the hypothesis which shows that the variable does not have a significant effect with a positive regression coefficient.
3. The profitability ratio as measured by the operating profit margin ratio (OPM) has an effect on the company's financial distress, this can be seen from the results of the hypothesis which show that the variable has a significant effect with a negative regression coefficient.
4. There is no effect of the activity ratio as measured by total asset turnover (TATO) on the financial distress condition of the company, this can be seen from the results of the hypothesis which shows that the variable has no significant effect with a negative regression coefficient.
5. The classification table calculated by the Model Classification Power Test shows that the model is able to predict companies in the trade, service and investment sectors that do not experience financial distress by 97.8%. The model is able to predict companies in the trade, service and investment sectors that experience financial distress of 43.3% and the accuracy of the model can predict as a whole of 84.2%, so it can be concluded that the model can accurately predict the overall model of companies experiencing financial distress of 84.2% or a total of 101 data.

This study still has several research limitations including the following:

1. This study only uses 4 (four) variables consisting of the liquidity ratio using the current ratio (CR), the solvency ratio using the debt to equity ratio (DER), the profitability ratio using the operating profit margin (OPM) and the activity ratio using total asset turnover (TATO). There are still many variables that can be used with other financial ratios that can test their effect on the company's financial distress.
2. This study only examines company data with a period of 3 (three) years (2016 - 2018) in the trade, services and investment sector on the Indonesia Stock Exchange (BEI) and only uses data totaling 30 (thirty) companies to produce 120 (one hundred and twenty) data samples.



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