



# The Effect of Leverage and Operating Capacity on Financial Distress with Profitability as a Moderating Variable

<sup>1</sup>Risal Rinofah<sup>2</sup>Alfiatul Maulida<sup>3</sup>Chintya Anggraini Puspasari

<sup>1,2,3</sup>Tamanasiswa Yogyakarta Undergraduate University

Email : [risalrinofah@ustjogja.ac.id](mailto:risalrinofah@ustjogja.ac.id)

Email : [Alifatulmaulida@ustjogja.ac.id](mailto:Alifatulmaulida@ustjogja.ac.id)

Email : [Chintyaanggraini2499@gmail.com](mailto:Chintyaanggraini2499@gmail.com)

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## Abstract

Financial distress is where the stage of a decline in the financial condition experienced by the company before bankruptcy occurred. This research aims to examine the effect of leverage and operating capacity on financial distress with profitability as a moderating variable. The population in this study are companies engaged in the pharmaceutical goods and consumption industry sector which are already listed on the Indonesia Stock Exchange. The sample in this study totaled 10 companies during the period 2015 to 2019. The sampling technique was carried out using a purposive sampling method. The analytical tool used in this study is Moderated Regression Analysis (MRA). Based on the results of research that has been done shows the conclusion that leverage has a negative and significant effect on financial distress, operating capacity has a positive and significant effect on financial distress and profitability is not able to moderate the leverage variable, operating capacity on financial distress.

## 1. INTRODUCTION

In the current era of globalization, competition in the industrial world is getting stronger. This is caused by the influence of economic development conditions at the national and international levels (Janna , 2018 ). If the company does not have the ability to deal with development problems in the era of globalization, it is likely that the company will go bankrupt (Kusuma , 2017).

Bankruptcy is one of the problems that every company should be aware of, therefore it is better for the company to carry out various bankruptcy analyzes as early as possible (Kurniasari, 2009). According to Toto (2011) , " bankruptcy is a condition in which a company is unable to pay both short-term and long-term obligations". Companies that will experience early signs are usually identified by analyzing financial statements. Financial statements are used as a reference when the company will make decisions and as a consideration tool for creditors when giving loans. Good financial reports support users

to read when they are going to do a financial distress analysis which later these results can help overcome bankruptcy that will occur in companies (Kusuma , 2017).

According to Tjahjono and Novitasari (2016), financial distress is also influenced by internal factors and external factors. Internal factors are cash flow difficulties, large amounts of debt to be paid, and operating losses in recent years. Meanwhile, external factors are more macroeconomic in nature, such as an increase in loan interest.

According to Riska et.al, (2019) operating capacity risk is the ratio used to measure the level of sales generated by the company from the total assets used. When a company can make good use of total assets, the lower the risk of financial distress . the next variable is profitability as a moderating variable because all the profits the company gets from production will increase and add to the total assets of the company. In this study, return on assets (ROA), or net income divided by total assets, is used as a proxy for profitability. The measure of a company's



profitability is its ability to effectively generate profits or profit from the assets owned by the company.

Suryanto (2017: 102) research entitled "The effect of leverage, liquidity, and managerial ownership on financial distress with profitability as a moderating variable". The results show that leverage affects financial distress, whereas liquidity and managerial ownership have no effect on financial distress. Profitability is able to moderate leverage on financial distress and profitability is not able to moderate liquidity, managerial leadership on financial distress. In Indonesia, many studies on financial distress in business have been conducted. However, research on financial distress compares financial distress from a company's perspective in managing its assets (operating capacity) and from a company's perspective in predicting leverage with profitability as a moderator. Therefore, researchers are interested in examining this problem into a study.

Based on the description above, the formulation of the problem in this study is whether the leverage ratio and operating capacity can affect financial distress and whether profitability is able to moderate the leverage variable, operating capacity on financial distress.

## **2. LITERATURE REVIEW**

### **2.1 Financial statements**

According to Kamaludin (2011: 34) says financial reports are the end result of the recording process or a summary of every company's financial transactions that occur every year. The financial reports contain information about the company's assets, profits, liabilities, and predictions about the company's condition every year.

### **2.2 Financial ratios**

Financial ratios, namely a number obtained by comparison results from financial statements that have a significant

relationship (Harahap, 1998:279). This is clarified by Intan's opinion (2017: 2) stating that financial ratios have the aim of simplifying the relationship between items so that report users are easier to understand. Examples of financial ratios are current assets, debit ratio, return on assets and sales growth.

### **2.3 leverage**

leverage ratio refers to solvency, which is a financial ratio that is used as a measure of the ability to meet long-term obligations." The leverage ratio shows how much the company's total assets are funded by debt. When debt is higher than income, companies are required to earn higher income so they can pay off debt and interest that has been borrowed (Yeni, 2015).

### **2.4 Operating Capacity**

According to Riska and Any (2019) states "operating capacity is a ratio used to measure the level of sales obtained from the total assets that have been used by the company". The operating capacity ratio is assessed from the total asset turnover ratio (TATO). When the total sales are divided by the total assets owned by the company (Simanjuntak, 2017).

### **2.5 Profitability**

Profitability describes the ability of companies that have benefited from this ability and from other sources such as sales activities, cash, number of branches and capital (Harahap, 1998:34).

### **2.6 Financial Distress**

A situation known as financial difficulty occurs when a company experiences difficulty or is unable to recognize its obligations to creditors. When a company's fixed costs are high, its assets are liquid, or its earnings are sensitive to economic reviews, the likelihood of financial distress increases. According to



Kholiq et al. (2014), this condition forces business actors to lend money to other parties.

## 2.7 Hypothesis Development

### a. The effect of leverage on financial distress

Leverage ratios are referred to as solvency, namely financial ratios used as a measure of the ability to meet long-term obligations". The leverage ratio shows how much the company's total assets are funded from debt. When debt is higher than income, companies are required to earn higher income so they can pay off debt and interest borrowed (Yeni, 2015). Research conducted by Fitdini and Kurniasari (2009) is in line which states that the leverage ratio has a positive effect on the possibility of a company's financial difficulties or is called financial distress.

H1 = Leverage has a positive effect on financial distress

### b. Effect of operating capacity on financial distress

operating capacity is its capacity to use its assets to generate sales. (Eminingtyas, 2017). The operating capacity that has been proxied can be known for the effectiveness of using assets to generate sales. Companies with low levels of operating capacity will experience financial distress. The above research concludes that operating capacity influences the occurrence of financial distress

H2 = Operating capacity has a positive effect on financial distress

### c. The influence of leverage on financial distress with profitability as a moderation

leverage ratio measures the company's ability to fulfill obligations (Adhinda, 2017: 141). Companies that are not said to be solvable are companies that

have higher debt compared to the total ASSETS (Hanafi, 2003:81).

According to NiLuh Made (2016) states that the effect of leverage on financial distress with profitability as a moderation has a positive effect. The positive sign obtained from the profitability value is that any profit that has been obtained by the company is not used to pay the company's debt. The use of debt will affect the risk as well as returns. The debt ratio can be used to assess how much financial risk the company has (financial risk). This causes the company to experience financial distress.

H3 = effect of leverage on financial distress with profitability as moderation

### d. Effect of operating capacity on financial distress with profitability as a moderation

According to sSari and Putri (2016) states that companies that have large assets can use operational expenses that use internal funding that is greater than external funding, so that the risk of financial distress is getting smaller.

With profitability moderating operating capacity According to the elements of financial statements, profitability is a profit moderated by operating capacity and is defined as the profit earned from sales and investments. The level of cash flow and income of the company can be seen as evidence of high levels. efficiency and profitability if profitability is considered high. The previous statement is the basis for this hypothesis.

H4 = Profitability moderates operating capacity against financial distress

## 3. RESEARCH METHODS

### 3.1 Population and Research Sample

The population used in this study is the Pharmaceutical sub-sector which has been listed on the Indonesia Stock Exchange



and with 5 years of research from 2015 to 2019.

The sampling technique was carried out using a purposive sampling technique. This technique is carried out by selecting samples based on certain criteria (Sugiyono, 2011: 122). The criteria for researchers who are categorized as financial distress are as follows:

1. Companies in the consumer goods industry sector on the Indonesian Feel Stock Exchange from 2015 to 2019
2. Companies in the consumer goods industry sector that have complete financial report results for the period 2015 to 2019
3. Companies in the consumer goods industry sector in the Pharmaceutical industry sub-sector that have experienced losses in the period 2015 to 2019

### **3.2 Operational Definition and Variable Measurement**

#### **a. Financial distress**

Financial distress is defined as an imbalance in cash flows before the company experiences bankruptcy (Metha and Dwija, 2016). The occurrence of financial distress if the company experiences a continuous decline in operating profit for 2 consecutive years while the company does not experience a continuous decline or is called a negative operating profit, then it is included in the category of companies that do not experience financial distress (Andre and Taqwa, 2014).

#### **b. leverage**

leverage ratio prioritizes debt financing by telling the percentage of assets in a company that is done with debt financing.

According to Agusti (2013) the leverage ratio is measured by comparing total liabilities with total assets of the company. When the ratio is higher, the greater the debt used to finance assets and risk for the company (Janna, 2018).

#### **c. Operating capacity**

Operating capacity, namely the ratio used to measure the ability to use assets owned by the company to generate company sales. In addition, operating capacity is proxied to be total asset turnover, so it can be seen the effectiveness in using assets when generating company sales (Kasmir, 2010).

#### **d. Profitability**

According to Wahyu (2009) "Profitability shows the effectiveness and efficiency used in assets, because this ratio measures ability and generates profits based on how much the company's assets are used. When a company is effective in using assets, it will experience a reduction in costs incurred resulting in savings and also having sufficient funds. This creates the possibility of financial distress.

The profitability ratio that is often used in analyzing a company's finances is Return On Assets (ROA). According to Murhadi (2013: 64) ROA describes how much rupiah is stored in the form of assets.

## **4. RESULTS AND DISCUSSION**

### **4.1 Research Result**

#### **a. Descriptive Statistics**

This analysis uses the SPSS data processing program resulting from descriptive statistics presented in the following table:



**Table 4.5**

Descriptive Statistics					
	N	Minimum	Maximum	Means	std. Deviation
DAR	45	.070	.933	.40960	.225424
TATTOO	45	.262	2,314	1.08389	.401635
FINANCIAL DISTRESS	45	.406	3,610	1.78716	.942083
ROA	45	003	.985	.19571	.250914
Valid N (listwise)	45				

1) leverage

Leverage using DAR calculations . The average value (mean) obtained in 2015-2019 was 0.40960 . then the maximum value obtained is 0.933 and the minimum value obtained is 0.070. Furthermore, the value of the standard deviation of the DAR is 0.225424.

2) OperatingCapacity

Operating capacity uses calculations with TATO ( total asset turnover ). the average value ( mean ) obtained from 2015-2019 is 1.08389. While the maximum value obtained is 2.314 and the minimum value obtained is 0.262. Then the standard deviation value of TATO is 0.401635.

3) Financial Distress

Financial distress uses a calculation method, namely springate. The average (mean) obtained from 2015-2019 is 1.78716 . The maximum value of the springate method obtained is 3,610 and the minimum value is 0.406. Meanwhile, the standard deviation value obtained by the Springate method is 0.942083.

4) Profitability

Profitability is proxied by return on assets (ROA). The average value of ROA for 2015-2019 is 0.19571 . The maximum value obtained is 0.985 and the minimum value is 0.003. Then for the standard deviation value of 0.250914.

**Classic assumption test**

Table 4.6

Kolmogorov-Smirnov Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residuals
	N	45
Normal Parameters <sup>a,b</sup>	Means	.000000
	std. Deviation	.73596101
Most Extreme Differences	absolute	.220
	Positive	.220
	Negative	-.128
Test Statistics		.220
asyp. Sig. (2-tailed)		.000 <sup>c</sup>
Exact Sig. (2-tailed)		.022
Point Probability		.000
a. Test distribution is Normal.		
b. Calculated from data.		
c . Lilliefors Significance Correction.		



Based on the results of the SPSS test output above, a significant value was obtained of  $0.022 > 0.05$ . It was concluded in this study that the above data was normally distributed, which means that the classical assumption test was fulfilled. Apart

from using the Kolmogorov-Smirnov test, it can be tested using the normal probability plot graph. Normal or not the data can be seen from the distribution of points on the diagonal axis of the graph.

**b. Autocorrelation Test**

Table 4.7  
 Autocorrelation Test Results

Summary Model <sup>b</sup>					
Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Durbin-Watson
1	.624 <sup>a</sup>	.390	.345	.762411	.731
a. Predictors: (Constant), ROA, DAR, TATO					
b. Dependent Variable: FINANCIAL DISTRESS					

From the SPSS output above, it can be concluded that the DW value obtained is equal to 0.731, the value is around -2 to 2,

so it can be said that there is no autocorrelation.

**c. Coefficient of Determination**

Determination Coefficient Results

Summary Model <sup>b</sup>				
Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	.624 <sup>a</sup>	.390	.345	.762411
a. Predictors: (Constant), ROA, DAR, TATO				
b. Dependent Variable: FINANCIAL DISTRESS				

From the table above, it can be seen that the value of the Adjusted R Square is used as a measuring tool for how far the ability of the model is when explaining variations in the dependent variable. The rest is explained by other variables outside the model. Based on the analysis that has been done, the Adjusted R Square value is 0.345 or 34.5%. This means that 34.5% of

the financial distress variable using the Springate method can be explained by leverage (DAR) and operating capacity (TATO) and the remaining 65.5% is explained by other variables outside the independent variables that have been included in the model.

**d. Test T-test**

**Ujo t-Test results**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	std. Error	Betas		
1	(Constant)	2042	.430		4,749	.000
	DAR	-2,408	.515	-.576	-4,677	.000
	TATTOO	.586	.298	.250	1965	.056
	ROA	.495	.480	.132	1,032	.308
a. Dependent Variable: FINANCIAL DISTRESS						



In the table above it can be explained as follows :

1) leverage

H1 : leverage has an effect on financial distress

The first hypothesis test has the objective of whether leverage ( debt to total asset ratio) has an effect on financial distress or has no effect. The regression coefficient value for the debit to total asset ratio obtained in the SPSS table above is - 2.408 and the t count is -4.677 with a profitability significance level of 0.000 less than the expected level (0.000 <0.05). So it is concluded that the debit to total asset ratio has a negative influence and significance on financial distress in pharmaceutical sub-sector companies in the

2015-2019 period, meaning that H1 is accepted.

2) OperatingCapacity

H2 : Operating Capacity affects Financial Distress

This second hypothesis test aims to examine the effect of operating capacity ( total asset turnover ) on financial distress. the regression coefficient value obtained in the table above is 0.586 and the t count is 1.965 with a profitability significance level of 0.056 greater than the significance level (0.056 > 0.05). So it can be concluded that total asset turnover (TATO) has a positive and significant effect on financial distress in pharmaceutical sub-sector companies for the 2015-2019 period, meaning that H2 is rejected.

**MRA test**

Table 4.10

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	std. Error	Betas		
1	(Constant)	.548	.300		
	LN_DAR	-.180	.310	-.193	.565
	LN_ROA	.301	.120	.590	.016
	moderation01	.166	.155	.348	.292

a. Dependent Variable: LN\_FN

Debt to Asset Ratio Variable Moderation Test Results The results of the moderation test above show that the effect of ROA ( Return on Assets) is significant with a sig value of 0.016 < 0.05 . Then the moderating variable and the interaction between Debt to Asset Ratio and Return on

Assets are not significant with a sig value of 0.292 > 0.05. So it was concluded that the results of the study stated that this research was included in the moderating predictor, meaning that the ROA variable only acts as a moderating predictor, so H3 is rejected.

Table 4.11

Total Asset Trunover Variable Moderation Test Results

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	std. Error	Betas		
1	(Constant)	1.157	.161		
	LN_TATO	.677	.400	.438	.099
	LN_ROA	.329	.062	.645	.000
	moderation02	.051	.195	.066	.795

a. Dependent Variable: LN\_FN



The results of the moderation test above show that the effect of total asset turnover is significant with a sig value of  $0.000 < 0.05$ . While the moderating and interaction variables (total asset turnover) and return on assets are not significant with a sig value of  $0.795 > 0.05$ . Then the results of the analysis are included in the moderating predictor category means that it acts as a predictor (independent) variable in the relationship model formed, so H4 is rejected.

## 4.2 Discussion

### a. The effect of leverage on financial distress

The average debit to asset ratio for pharmaceutical sub-sector companies in 2015-2019 in chart 4.1 shows a decline in KALBE companies for other companies which did not experience successive declines. The decrease in 2015 was 0.208, 2016 was 0.181, 2017 was 0.163, 2018 was 0.157 and in 2019 it had increased by 0.411. This study has the same opinion as Jannah (2018) and Yustika (2013) stating that the leverage variable has a positive and significant effect on financial distress, which means that the higher the leverage ratio, the company will be prone to experiencing financial distress.

### b. Effect of operating capacity on financial distress

The development of the total asset turnover of pharmaceutical sub-sector companies in 2015-2019 in chart 4.2 shows a decline every year starting from 2015 of 1.016, 2016 of 0.924, 2017 of 0.852, 2018 of 0.547, 2019 of 0.527. From the research results obtained stated that a low level of operating capacity indicates the company does not generate sufficient sales compared to the assets owned by the company, so it is considered that the company is less effective in making sales.

This research agrees with what was done by Tazkia (2019), Idawati (2020), Lisiantara and Lilik (2018), and Ginanjar (2018) who state that operating capacity has an effect on the occurrence of financial distress. This is because the company does not generate enough sales, causing the company to experience financial distress.

### c. The moderating effect of the profitability variable on the leverage relationship to financial distress

The results of the moderation test above show that the effect of ROA (Return on Assets) is significant with a sig value of  $0.016 < 0.05$ . Then the moderating variable and the interaction between Debt to Asset Ratio and Return on Assets are not significant with a sig value of  $0.292 > 0.05$ . So it was concluded that the results of the study stated that this research was included in the moderating predictor, meaning that the ROA variable only acts as a moderating predictor. This research is in line with Putri and Merkusiwati (2014) and Widhiari and Merkusiwati (2015) which state that the profitability variable is not able to moderate the leverage relationship to financial distress. When the company's debt is getting bigger, an error occurs when the agent makes a decision regarding asset funding. Because if the agent spends too much money, then greater obligations will arise in the future and will be vulnerable to the possibility of financial distress.

### d. The effect of moderating variables on the relationship between operating capacity and financial distress

The results of the moderation test above show that the effect of total asset turnover is significant with a sig value of  $0.000 < 0.05$ . While the moderating and interaction variables (total asset turnover) and return on assets are not significant with a sig value of  $0.795 > 0.05$ . Then the results of the analysis are included in the





moderating predictor category means acting as a predictor variable (independent) in the relationship model formed. The results of the tests carried out concur with the research conducted by Handayani et.al (2019) stating that profitability describes the profit obtained from investment and also sales which can be seen from the financial statements.

## 5. CONCLUSION

Based on the research above, it can be concluded that the leverage variable has a negative and significant effect on financial distress. The operating capacity variable has a positive and significant effect on financial distress. The profitability variable is not able to moderate the leverage and operating capacity variables on financial distress.

The next researcher should add the research period and also add a sample of companies, because it is possible that by adding the research time it is expected to be able to obtain information about research variables and good results. In addition, further researchers can add variables to financial ratios or can replace these variables but are still related and have an effect on financial distress.

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