www.bircu-journal.com/index.php/birci
Budapest International Research and Critics Institute-Journal (BIRCI-Journal)
Humanities and Social Sciences
ISSN 2615-3076 Online)
ISSN 2615-1715 (Print)
Budapest Institute

The Effect of Profitability on Financial Distress with Leverage as a Moderating Variable in Pharmaceutical Sub-Sector Companies Listed on the IDX from 2018-2020

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Abstract

Financial distress is a condition where management is unable to overcome financial problems that cause a decrease in financial performance successively before the company is declared bankrupt. This research has something to be achieved. This study aims to determine the effect of profitability on financial distress with the moderating variable leverage, and to determine whether the company went bankrupt. The sample used in this study were 12 pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange (IDX) 2018-2020. The analytical method used is descriptive statistical method with the Moderated Regression Analyze analysis tool. The results of this study indicate that there is a significant negative effect of the ROA variable on bankruptcy prediction. The DAR variable is able to moderate the relationship between ROA and bankruptcy. By using the Altman Z-Score model. The solution that companies can take to anticipate a decline in financial performance is discipline in paying short-term debt and efficiently using debt capacity to get very large profits from their obligations to avoid financial difficulties.

Keywords
Profitability; leverage; bankruptcy prediction; financial distress

I. Introduction

Development is a systematic and continuous effort made to realize something that is aspired. Development is a change towards improvement. Changes towards improvement require the mobilization of all human resources and reason to realize what is aspired. In addition, development is also very dependent on the availability of natural resource wealth. The availability of natural resources is one of the keys to economic growth in an area. (Shah, M. et al. 2020)

The development of technology is currently growing rapidly which can affect various fields, one of which is technology within the company. The development of increasingly sophisticated technology can facilitate business activities ranging from the production process to product marketing. This can lead to better business performance. However, the fact is that technological developments generally do not trigger an increase in business performance. With bad business conditions can lead to financial difficulties. A financial crisis is a worsening of the company's financial situation. If a company experiences financial difficulties without taking additional steps to fix it it can go bankrupt, liquidate, and even be expelled from the IDX. Companies that tend not to improve their financial performance tend to experience financial difficulties that can lead to bankruptcy (Manika et al., 2017). Andre & Taqwa (2014) stated that the first stage of a company's financial decline before going bankrupt was due to financial distress. Fauzia (2015) found that most of the bankruptcies suffered by companies were caused by the use of inappropriate or inefficient capital structures, professional qualifications, and inappropriate accounting

DOI: *https://doi.org/10.33258/birci.v5i2.4769*

reports, both internally and externally. It is undeniable that the crisis situation and intense competition will also affect the business to operational efficiency to achieve maximum profit. This exposes the company to the possibility of financial distress and bankruptcy so as a predictive step it is necessary to conduct an initial analysis of the possibility of financial distress. Where signs of business failure can be seen and measured through financial reports and of course also must be found and investigated. As we know that the financial statements issued by a company is a source of financial information that is useful for making business decisions. Factors that can affect financial distress include profitability and leverage. Profitability is the ability of a company to generate profits by using the company's resources (Yusuf & Suherman, 2021). Khotimah & Yuliana (2020) explains that there is an effect of profitability on the prediction of business failure. Research Christine et al (2019) shows that there is a positive and significant influence between profitability and financial distress. The results of the study Saputra & Salim (2020) show that companies with high profitability will not necessarily avoid financial distress. The results of this study are different from research conducted by Sutra & Mais (2019) that there is a negative relationship between profitability and financial distress. The results of this study are supported by (Indrayani & Herawaty, 2019), (Bakhri & Nurbaiti, 2012) and (Fatmawati & Wahidahwati, 2017) that profitability has a negative effect on financial difficulties. This means that the higher the profit, the better the company's performance to avoid financial difficulties.

Therefore, this study complements the combination of variables by adding a moderator, with the hope that the correlation between these variables can more accurately predict financial distress. The leverage variable will act as a moderating variable and whether leverage reduces the effect of profitability on financial distress. Therefore, this study wanted to determine the effect of leverage and profitability variables on financial distress.

II. Review of Literature

2.1 Financial Distress

Financial distress is a problematic financial condition in a company that shows a decline in business activity, often bankruptcy. When the company is in financial difficulty, it can improve its financial position so that it does not experience financial difficulties. Companies that face financial problems will have an impact on decreasing the level of conservatism and increasing the risk of investors demanding higher returns, so that with these requirements managers commit fraudulent actions that can affect the correctness of financial statements. Aryani's research (2016) obtained negative results on the correctness of financial statements because the higher the level of honesty of financial statements, the lower the level of truthfulness of financial statements. The level of prudence is very important to avoid fraud, so the reduction can affect the integrity of financial statements. According to Yolanda (2019), financial distress is a situation where a company experiences financial difficulties and is therefore liquidated. According to (Nagar & Sen, 2016) financial distress is a situation where a company faces financial difficulties due to poor cash flow and profitability. The financial crisis is bad news for companies, which causes companies to try hard to adjust their annual financial statements, which results in the submission of audited financial statements taking longer (Chandra Kusuma & Bawono, 2018)

The Altman Zscore bankruptcy prediction model provides a formula for determining when a company will go bankrupt. The formula contains the financial ratios, then called averages, to predict that the business will close. In Altman Z Score can be known by the following formula (Barry, 2019):

$$\textbf{\textit{Z – Score}} \mathbf{= 1{,}2\ X_1 + 1{,}4\ X_2 + 3{,}3\ X_3 + 0{,}6\ X_4 + 0{,}99\ X_5}$$

$$X_1 = \frac{Working\ Capital}{Total\ Aset} \qquad X_4 = \frac{Total\ Ekuitas}{Total\ Hutang}$$

$$X_2 = \frac{Laba\ Ditahan}{Total\ Aset} \qquad X_5 = \frac{Total\ Pendapatan}{Total\ Aset}$$

$$X_3 = \frac{Laba\ Sebelum\ Pajak}{Total\ Aset}$$

2.2 Profitabilitas

Profitability is a ratio that measures and provides a measure of the effectiveness of business management. This profitability can affect the value of the business by measuring the ability of the business to generate profits. The higher the profitability of a company, the more effective it is in increasing its profits (Kasmir, 2016). If the company's profits continue to increase, the share price will also increase. As a result, profitability has a huge impact on investors and for this reason, companies are constantly trying to increase their expected returns to maximize shareholder wealth and firm value. Profitability itself aims to determine the net profit generated by the company during its business activities (Nurhayati, 2013; Yusuf & Suherman, 2021). If the company generates relatively high profits, it shows that the quality of the earnings reflected by the company is also high, besides that there will be many investors involved in the company. It can be said that the company can show a level of efficiency by using its assets quite well, so that it can produce optimal quality returns (Aryanti & Sisdyani, 2016) profitability can be measured using ROA.

$$\text{ROA} = \frac{Laba\ Bersih\ Setelah\ Pajak}{Total\ Aset}$$

2.3 Leverage

Leverage ratio is a ratio used to assess the amount of company assets financed by debt (Hery, 2017). The higher the leverage ratio of a company, which can have an impact on the risk of greater losses, but also the opportunity to generate large profits. According to Kasmir (2016), leverage describes the use of assets where the company is obliged to cover fixed costs. Leverage measures how much funds the owner of the fund spends relative to what creditors spend on financing assets and business needs. Leverage uses the following formula:

$$\text{DAR} = \frac{Total\ Utang}{Total\ Aset}$$

2.4 The Effect of Profitability on Financial Distress

Financial ratios can be used to predict the probability of a company's bankruptcy showing early signs of financial distress (Andre & Taqwa, 2014). Kasmir (2016) states that each financial ratio has a specific purpose, function and meaning which can then be interpreted so that it can be used to evaluate the financial performance of a company. One of the financial ratios that can be used to measure the level of bankruptcy is the level of bankruptcy. Wahyu (2019) said that profitability shows the efficiency and effectiveness of the use of company assets because it measures the company's ability to generate profits from the assets used. According to Hanafi & Halim (2007), profitability is a ratio that measures the company's ability to generate net profit from sales, assets, and a certain

amount of capital. The success or failure of a business over a certain period of time can be measured by profitability (Sari and Wulan, 2009). Jaya (2017), Bakhri & Nurbaiti (2012) show that profit margin or profitability ability has a negative effect on predictions of bankruptcy or financial difficulties. Based on the explanation of this research, the first hypothesis of this research can be put forward, as follows:

H_1 : Profitability ratios have a significant negative effect on financial distress

2.5 Leverage Moderation on Profitability and Financial Distress

According to Fahmi (2012), the financial leverage ratio is a measure of a company's ability to finance with debt. While Febrianty (2011) explains that the leverage ratio is the ability of a company to fulfill its obligations, if a company has a high leverage ratio, the risk of company losses will increase. Errors in making leverage decisions will result in financial distress or even bankruptcy (Alima, 2015). Leverage and profitability are interrelated and when a company is able to increase profits it will affect the sustainability of the company.

H_2 : Leverage moderates the effect of profitability on financial distress

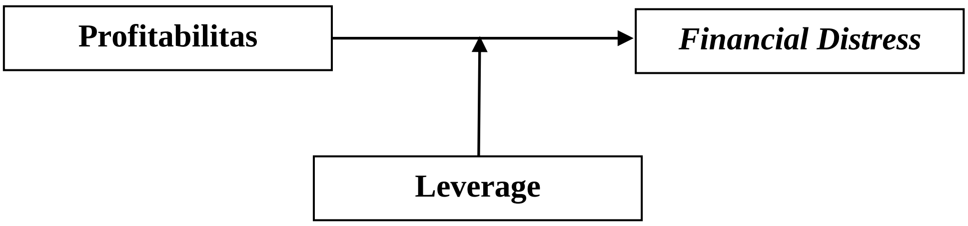

Figure 1. *Thinking Framework*

III. Research Method

This study uses a descriptive method that describes the nature of something that is happening at the time the research is conducted and sees the cause of a certain symptom (Husein, 2013). This study aims to provide a systematic and accurate description of the problem under study, where the data obtained are collected and then collected, processed and analyzed. This study uses financial reports from pharmaceutical sub-sector companies listed on the IDX from 2018-2020. The data collection method used is purposive sampling. This study includes the following criteria:

1. Pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange in 2018-2020
2. The company reports audited financial statements and
3. Having data for the necessary variables, regression analysis is used to process data that is processed using SPSS

III. Result and Discussion

The data described in the table shows that the survey data consists of 36 observations for each variable. The data also shows that the variability of the survey data is very good. Descriptive analysis is used to describe and analyze the data. "This analysis is carried out by considering the maximum, minimum, mean and standard deviation values" (Ghozali, 2014).

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	36	-,02	,24	,0731	,06337
DAR	36	,13	,81	,4669	,20399
ROA*DAR	36	-,01	,07	,0233	,01586
Z-Score	36	1,09	6,83	3,3361	1,59273
Valid N (listwise)	36				

Based on Table 1, it can be seen that the minimum, maximum, mean and standard deviation of the profitability, leverage, and financial distress variables, where the amount of data used is 36. Financial distress using the Z-score has a minimum value of 1.09 the maximum value, 6, 83, the mean value is 3.3361 with a standard deviation of 1.59273. The profitability variable measured using ROA has a minimum value of -0.02, a maximum value of 0.24, an average value of 0.0731 with a standard deviation of 0.06337. Furthermore, the moderating variable or leverage measured using DAR has a minimum value of 0.13, a maximum value of 0.81, an average value of 0.20399 with a standard deviation of 0.20399.

3.1 Data Feasibility Test

The classical assumption test was first carried out to determine whether the panel data in this study was feasible to use. Thus, the classical assumption test of this study includes multicollinearity, heteroscedasticity, and autocorrelation tests. The results of the multicollinearity test prove that the value of the variance inflation factor (VIF) ROA is 5.216 or <10 and Tolerance is 0.192 > 0.100, the variance inflation factor (VIF) DAR is 3.406 or <10 and Tolerance 0.294 > 0.100 indicates the data used in this study does not have a multicollinearity problem. The results of the heteroscedasticity test show a significance value of ROA 0.000, DAR 0.011 or <0.05, so the data has a heteroscedasticity problem. The results of the autocorrelation test also showed that the Durbin Watson test had a d value of 0.868. The data is 36 and the independent variable is 2. The dU value is 1.5872, because the d value is 0.868 smaller than the dU value 1.5872 and 4-dU 2.4128 is simply written 0.8680 < 1.5872 < 2.4128 thus showing that the data has autocorrelation.

3.2 Coefficient of Determination Test (R2)

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,930[a]	,865	,853	,61167	,868

The results of Table p2 show that the R Square value with the ROA variable is p0.865, this indicates that the magnitude of the effect of ROA on bankruptcy prediction is 86.5% and 13.5% is caused by other factors outside the research conducted.

3.3 Significant Test t

Table 3. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	3,504	,616		5,685	,000	
	ROA	18,279	3,726	,727	4,906	,000	,192
	DAR	-2,535	,935	-,325	-2,710	,011	,294
	ROA*DAR	-13,681	9,452	-,136	-1,447	,157	,476

The results in Table 2 show that the profitability variable that uses ROA has a positive effect on financial distress with a significance level of 0.000 or less than 0.05, which means this variable has a significant effect. While the effect of ROA on financial distress is moderated by the DER variable having a significance level of 0.157 or greater than 0.05, this means that this variable has a positive influence on the relationship between ROA and financial distress. The coefficient of determination on the ROA variable moderated by DAR of -13,681 can be said to have a significant negative effect on financial distress.

3.4 Significant Test F

Table 4. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76,815	3	25,605	68,438	,000[b]
	Residual	11,972	32	,374		
	Total	88,787	35			

The "Anova test is used to test the effect of profitability, leverage variables on financial distress. The table shows that the calculated F-number is 68.438 with a significance level of 0.05, and a significance value of 0.000 and it can be concluded that profitability and leverage have a significant effect on financial distress.

3.5 The Effect of Profitability on Financial Distress

ROA shows the company's net income from all assets owned (Jatmiko et al., 2017). Profitability is a determinant of the efficiency and effectiveness of the use of a business's assets by measuring the ability of the business to generate profits from the assets used. A high ratio also indicates high efficiency, therefore profit is often used as a determinant of the success or failure of a business within a certain period of time (Farah, 2018). This study found that profitability using the ROA variable had a significant effect on bankruptcy prediction. These results are in line with research conducted by Rohmadini (2018) which states that ROA has a significant negative effect on forecasting financial distress. This study also supports research conducted by (Andre & Taqwa, 2014) , Orina Andre (2013), (Jaya, 2017), (Bakhri & Nurbaiti, 2012) The results show that profitability has a negative effect on predicting bankruptcy or financial distress.

3.6. The Effect of Moderating Leverage on Profitability and Financial Distress

The results of this study indicate that the existence of leverage can strengthen the effect of profitability in predicting financial distress. These results indicate that the existence of good leverage can affect the company's profitability. Bad leverage in the company can cause high cost of capital which in turn affects the company's financial condition. The company's ability to pay its obligations or debts can be described by its asset ratio where the lower the DAR ratio, the better the company's ability to pay its obligations. The results presented by SPSS through the coefficient of determination have significant differences, which indicate that good debt financial management has the ability to influence company profitability and predict bankruptcy. Prediction of bankruptcy in pharmaceutical sub-sector companies using the Altman Z-Score model.

IV. Conclusion

The conclusion of this study is that profitability has an effect on financial distress for companies in the pharmaceutical sub-sector. Furthermore, efficient leverage in firms can moderate the relationship between profitability and expectations of bankruptcy or financial distress. The existence of effective debt management has the potential to affect the company's profitability so that it has an impact on the company's financial distress. The results of this study also show that the leverage that uses the DAR variable in the company continues to increase, which indicates that it has more obligations or obligations that must be borne by the business so that it affects the company's profit. The limitation of this research is that the measurement of profitability, bankruptcy and leverage is still simple. Recommendations for further research are adding a measure for each variable, namely adding ROE and NPM to the profitability variable and adding the DER variable to the leverage variable and using other methods to predict bankruptcy that are considered more accurate, such as the Grove GScore, Zminjewski and Springate methods. In addition, this research should be carried out on other sectors and sub-sectors in Indonesia.

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