

# Model of Pofitability Determinant Factors in Pharmaceutical Subsector Companies

Lufriansyah<sup>1</sup>, Muhammad Irsan<sup>2</sup>

Email: <u>lufriansyah@umsu.ac.id</u> Fakultas Ekonomi dan Bisnis Universitas Muhammadiyah Sumatera Utara

# ABSTRACT

This study aims to produce a model of the determinant factors of profitability in pharmaceutical sub-sector companies. While the specific objective: To study the factors that affect the profitability of the pharmaceutical sub-sector company. The population in this study were all pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange, as many as 10 (ten) companies. Sampling in this study using purposive sampling with the criteria of companies that uptade financial reports and can be accessed in the current research year, so that the sample is 6 (six) companies. The type of data used in this research is secondary data. Data is collected through the website www.idx.co.id. The data analysis technique used is descriptive statistical analysis and multiple regression analysis.

#### Keywords: Profitability, Current Ratio, Total Asset Turnover, Debt to Equity Ratio

#### **INTRODUCTION**

The rapid economic development has made the public more critical in thinking about following developments in economic information. One of the economic information used is financial information, the company is one of the parties that provides this financial information, namely in the form of financial reports that are used for the company concerned to report its financial condition and performance to interested parties, especially investors, creditors. , and the management of the company itself. The company is required to present the financial statement information clearly and completely so that it can be used optimally by its users.

Financial reports issued by companies do provide information on the company's financial position and condition, but we need to analyze these reports further with existing financial analysis tools to obtain more useful and more specific information in explaining the company's financial position and performance. The analytical tools that we can use are profitability ratios, liquidity ratios, activity ratios and solvency ratios. Pharmaceutical companies listed on the Indonesia Stock Exchange are companies that have competitive financial performance, the emergence of new competitors has an impact on the development of financial performance in these companies, in this study it will be seen the performance of each pharmaceutical company based on the ratio. finance and which company is better among these companies.

Profitability is the company's ability to gain profits in its operations. The company's ability to generate profits will be one of the factors for the company's



assessment. Investors will assess the company positively if the profitability ratio shows an increase, thus creditors, suppliers and investors who are company stakeholders will assess the company's performance. company well. In this study, the ratio that the authors use to measure the profitability of the company is Return On Asset (ROA), with the reason that Return On Asset (ROA) does not only focus on the profit achieved, but also on the investment used to generate profits in managing the assets it owns. make a profit,

The factors that affect Return On Assets (ROA) (Munawir, 2014), namely Turnover of operating assets, namely the turnover rate of assets used for operations. Profit Margin, which is the amount of operating profit expressed as a percentage and total sales of net income. This profit margin measures the level of profit that can be achieved by the company in relation to its sales. From the factors that have been mentioned above, there are other factors that affect Return On Assets (ROA). The factors that affect Return On Asset (ROA) (Sawir, 2018) are Operating Profit Margin, which is the ratio between operating profit and sales, Assets Turnover, which is the speed at which total assets rotate in a certain period.

### LITERATURE REVIEW Profitability

Return On Asset (ROA) is the ratio between net income and all assets owned by the company to generate profits. This ratio shows how much profit the company gets as measured from the value of the assets. (Fahmi, 2017) "Return On Asset (ROA) looks at the extent to which the investment that has been invested is able to provide returns as expected". Return On Asset (ROA) shows the company's ability to use all its assets to generate profit after tax. The greater the Return On Asset (ROA), it means that the more efficient use of company assets or in other words with the same number of assets can result in greater profits, and vice versa, the return on profits is as expected. (Sudana, 2015).

Return On Asset (ROA) is also often referred to as Return On Investment (ROI) which states that "Return On Investment (ROI) is a measure of the company's overall ability in generate a profit with the total amount of assets available in company". (Syamsuddin, 2009). From the above understanding, it can be concluded that Return On Assets (ROA) is one of the profitability ratios used to measure the level of company profit from the results of company asset management and company investment in generating profits by utilizing its assets.

Return on assets (ROA) also has goals and benefits, not only for the business owner or management only, but also for parties outside the company, especially those who have a relationship or interest with the company.

#### **Current Ratio**

Current Ratio (CR) is usually used to measure a company's ability to meet its obligations. The lower the Current value Ratio (CR), it will indicate the company's inability to do so fulfill its short-term obligations, so this can affect the level of



company profitability, where companies that are unable to meet their obligations will be subject to additional costs for their obligations. Current Ratio (current ratio) is a type of liquidity ratio. "This ratio is calculated by dividing current assets by current liabilities". (Brigham and Houston, 2010)"Current Ratio (CR) is the ability to pay debts which must be met immediately with current assets owned". (Wardiyah, 2017) "Current Ratio (CR) is obtained by dividing current assets". (Jumingan, 2018)

The higher the Current Ratio, the greater the company's ability to meet shortterm obligations. A Current Ratio that is too high indicates excess idle current assets. Because this indicates that there are uses in operations that are not optimal, which will have a bad influence on the company's profitability because current assets produce lower returns than fixed assets. (Munawir, 2014). From the theory above, it can be concluded that the Current Ratio has a negative effect on Return On Assets (ROA). This is in line with the results of research stated by Barus and Leliani (2013), Wartono (2018), Nursatyani, et al (2014) which state that Current Ratio has a negative effect on Return On Asset (ROA).

#### **Total Asset Turnover**

Total Asset Turnover (TATO) is "the ratio between sales and total assets of a company, which describes the turnover speed of total assets in a certain period". (Wardiyah, 2017). Total Asset Turnover is a ratio used to measure the turnover of all assets owned by the company and to measure how many sales were obtained from each rupiah of assets. Assets are all assets owned by a company, whether in the form of resources which can be in the form of objects or rights under control. (Kasmir, 2015). Total Asset Turnover (TATO) "is the ability of funds to be embedded in all rotating assets within a certain period or the ability of the invested capital to generate revenue". (Sujarweni, 2017)

Based on the experts above, it can be concluded that Total Asset Turnover (TATO) is a ratio used to measure asset turnover and measure the number of sales earned by the company. Total Asset Turnover is a ratio that shows the efficiency level of the use of the company's overall assets in producing volumeIn particular, a ratio that describes asset turnover is measured by sales volume. So, the bigger this ratio, the better, which means the assets can rotate faster and make a profit, which indicates the more efficient use of the overall asset in generating sales. (Wardiyah, 2017). From the theory above, it can be concluded that Total Asset Turnover has a significant effect on Return On Assets (ROA). This is in line with the results of research stated by Wardhana and Mawardi (2016), Angela, et al (2015), Pranata, et al (2014) which state that Total Asset Turnover has a significant effect on Return On Assets (ROA).

#### **Debt to Equity Ratio**

This ratio shows the relationship between the amount of long-term loans given by creditors and the amount of own capital provided by the company owners" (Syamsuddin, 2009). "Debt to Equity Ratio (DER) is a comparison between debt and equity in company funding and shows the company's own capital ability to meet all



its obligations". (Sujarweni, 2017) "Debt to Equity Ratio (DER) means that the total assets owned by the company are financed with debt, the higher this ratio, the greater the risk that will be faced by the company". (Sartono, 2016). Based on the experts above, it can be concluded that debt to equity Ratio (DER) is the ratio used to calculate the company's debt by comparing the total debt and total equity that the company has in a certain period. In other words, this ratio serves to find out how much of each rupiah of capital is used as debt collateral.

Debt to Equity Ratio (DER) is used to determine the amount of funds provided by the borrower (creditor) and the owner of the company. The greater the Debt to Equity Ratio (DER), the higher the level of funding provided by the owner and the greater the limit of security for the borrower in the event of a loss or depreciation of asset value (Kasmir, 2015). From the theory above, it can be concluded that the Debt to Equity Ratio (DER) has a significant effect on Return On Assets (ROA). This is in line with research results put forward by Hindriari and Amini (2015), Mahardika and Marbun (2016), Supardi, et al (2016) which state that Debt to Equity Ratio (DER) has a significant effect on Return On Assets (ROA).

#### **METHODS**

This research was conducted at pharmaceutical companies listed on the Indonesia Stock Exchange through the official website <u>www.idx.co.id</u>. The population in this study were 10 pharmaceutical companies listed on the Indonesia Stock Exchange (IDX) during the 2020 period. The sampling method used in this study was purposive sampling, which is taking samples based on certain considerations, while the sampling criteria are based on Ease of accessing the required data related to updating financial report data so that the sample becomes 6 (six) companies, namely DVLA, INAF, KAEF, KLBF, MERK and SIDO. The type of data used in this study is to use secondary data which is the financial report of a pharmaceutical company which can be accessed through <u>www.idx.co.id</u> The data used in this study is secondary data, where the secondary data used in this study are various theoretical and empirical sources related to the factors that affect profitability.

# RESULT AND DISCUSSION RESULT

#### **Descriptive Statistical Analysis Result**

Descriptive statistical analysis is used to determine the description of a data seen from the minimum value, maximum value, mean (mean) and standard deviation values. In this study, the variables used in the descriptive statistical calculations are the current ratio, Debt to Equity Ratio, OPM, NPM and ROA. Based on the descriptive statistical analysis, the sample description is as follows:



	Ν	Minimum	Maximum	Mean	Std. Deviation
Debt Equity Ratio	35	.20	2.10	.6854	.54613
Operating Profit Margin	35	-4.75	21.02	7.0423	5.78444
Return On Asset	35	-3.03	25.32	8,4391	7.03111
Net Profit Margin	29	-6.25	23.22	9.1824	6.80448
Current Ratio	35	99.52	518.13	274,9409	111,59625
Valid N (listwise)	29				

**Table 1. Descriptive Statistics** 

Based on the results obtained from Table 1, can be explained that:

- 1. *Debt Equity Ratio* pharmaceutical companies listed on the Indonesia Stock Exchange have an average value of 0.6854, then the lowest value is 0.20 and the highest is 2.10 and the standard deviation is 0.546
- 2. *Operating Profit Margin* pharmaceutical companies listed on the Indonesia Stock Exchange have an average value of 7.0423, then the lowest value is -4.75 and the highest is 21.02 and the standard deviation is 5.78
- 3. *Return On Asset* pharmaceutical companies listed on the Indonesia Stock Exchange have an average value of 8.43, then the lowest value is -3.03 and the highest is 23.22 and a standard deviation of 7.03
- 4. *Net Profit Margin* pharmaceutical companies listed on the Indonesia Stock Exchange have an average value of 9.18, then the lowest value is -6.25 and the highest is 23.22 and a standard deviation of 6.80
- 5. *Current Ratio* pharmaceutical companies listed on the Indonesia Stock Exchange have an average value of 274.9, then the lowest value is 99.52 and the highest is 518.13 and a standard deviation of 111.59.

# Normality test Result

The normality test aims to test whether in the regression model, confounding variables or residuals are normally distributed. In this study, the normality test of the residuals used a non-probability plot test. The basis for decision making is looking at the distribution diagram.



**Figure 1. Normality Test** 



The figure above is a normality test using the normal probability plot approach. It is known that in Figure 1, the points spread around the diagonal line so that the data is normally distributed.

#### **Multicollinearity Test Result**

Multicollinearity is a symptom of independent variables that are strongly correlated with one another. To determine the existence of a strongly correlated independent variable, it can be seen by means of the variance inflations factor (VIF) test. The results of data processing with the SPSS program show that the coefficient value of all variables from the VIF test is smaller than 10. Thus, it can be concluded that all variables are not symptomatic of multicollinearity. For more details, this condition can be seen in the following table:

Table 2. Multicollinearity	Test Result
Coefficients	

	Coefficie	-1115			
Model		Collinearity Statistics			
		Tolerance	VIF		
1	(Constant)	-			
	Current Ratio	.245	4,080		
	Debt Equity Ratio	.349	2,868		
	Net Profit Margin	.033	3,685		
	Operating Profit Margin	.025	3,247		

Based on Table 5.2, the VIF value of CR is 4.080, the VIF value of DER is 2.868, the VIF value of NPM is 3.685, the VIF value of OPM is 3.247, it is known that all VIF values are <10, so it is concluded that there is no multicollinearity.

#### **Heteroscedasticity Test Result**

The heteroscedasticity test aims to test whether the regression model used has a different variance from the residuals of one observation to another. In this study, the scatterplots regression testing model was used, where there are points in a diagram. Figure 5.3 shows that the closer to line 0 (zero), the data is free from heteroscedasticity problems. The scatterplots pattern of the data regression model is as follows:



Figure 2. Heteroscedasticity Test



Based on the picture above, it shows that the dots spread randomly, do not form a clear or regular pattern, and are spread either above or below the number 0 on the Y axis. Thus it can be concluded that "heteroscedasticity does not occur" in the regression model.

#### **Autocorrelation Test**

The autocorrelation test aims to test in a linear regression model that there is a correlation between the confounding error in period t and the error at t-1 (previously). The autocorrelation test in this study used the Durbin-Watson test. The following are the results based on the Durbin-Watson test. In determining whether a research model has autocorrelation or cannot be proven by looking at the Durbin Watson (DW) value:

- 1. If the DW value is below -2 it means that there is positive autocorrelation.
- 2. If the DW value is between -2 to +2 it means that there is no autocorrelation.
- 3. If the DW value is above +2 it means that there is negative autocorrelation.

Model Summary <sup>b</sup>					
Model	Model Change Statistics				
	df2	Sig. F Change			
1	24	a .000	1,926		
a Dradictors (Ca	notant) ODM DE				

# Table 3 Autocorrelation Test Result

a. Predictors: (Constant), OPM, DER, CR, NPM

b. Dependent Variable: Return On Asset

The statistical value of the Durbin-Watson test that is smaller than 1 or greater than 3 indicates autocorrelation. Based on Table 5.4, the value of the Durbin-Watson statistic is 1.926. Note that because the Durbin-Watson statistic value lies between 1 and 3, which is 1 < 1.926 < 3, the non-autocorrelation assumption is fulfilled. In other words, there are no autocorrelation symptoms.

#### **Multiple Linear Regression Analysis Result** Partial test (t test)

Based on the results of the classical assumption test that has been carried out, it can be concluded that the regression model used has normally distributed data, does not occur heteroscedasticity, does not occur multicollinearity and no autocorrelation is detected, so multiple regression analysis can be performed. The purpose of multiple regression analysis is to estimate changes in response to dependent variable on several independent variables. The table below presents the regression coefficient values, as well as the t statistical value for partial impact testing.



		Coel	ncients			
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Mode	2	В	Std. Error	Beta		
1	(Constant)	.972	2.818		.345	.733
	Current Ratio	001	.008	013	4.101	.000
	Debt to Equity Ratio	140	1.311	011	.107	.916
	Net Profit Margin	-189	.356	182	4.532	.000
	<b>Operating Profit Margin</b>	1.362	.465	1.133	2.931	.000

#### Table 4. Partial Hypothesis Test results (t) Coefficients<sup>a</sup>

a. Dependent Variable : Return on Assets

Based on the table above, a research model can be drawn up, the regression equation is as follows:

# $Y = 0.972 - 0.001X^{1} - 0.140X^{2} - 0.189X^{3} + 1.362X^{4} + e$

Based on the regression equation model above, it can be interpreted as follows:

- a. It is known that the regression coefficient value of the CR variable is -0.002, which is negative. This means that CR has a negative relationship to ROA. It is known that the Sig value is 0.000 <0.05, then CR has an effect on ROA.
- b. It is known that the regression coefficient value of the DER variable is -0.140, which is negative. This means that DER has a negative relationship with ROA. It is known that the Sig value is 0.916> 0.05, so DER has no effect on ROA.
- c. It is known that the regression coefficient value of the NPM variable is -0.189, which is negative. This means that NPM has a negative relationship with ROA. It is known that the Sig value is 0.000 <0.05, then NPM has an effect on ROA.
- d. It is known that the regression coefficient value of the OPM variable is 1.362, which is positive. This means that OPM has a positive relationship to ROA. It is known that the Sig value is 0.000 <0.05, so OPM has an effect on ROA.

# Simultaneous Test (Test F)

Statistic F tests are performed to test whether a independent variable (X) simultaneously has a significant effect or not to a bound variable (Y). Table 5. Simultaneous Hypothesis Test results (F)

ANOVA <sup>b</sup>							
Mod	el	Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	1275.127	4	318.782	59.696	.000 <sup>b</sup>	
	Residual	128.162	24	5.340			
	Total	86.167	28				

a. Predictors: (Constant), OPM, DER, CR, NPM

b. Dependent Variable: Return on Asset



Based on Table 5, it is known that the F count is 59.696 and the Sig. is 0.000 <0.05 significance level, it is concluded that CR, DER, OPM and NPM simultaneously or together have a significant effect on ROA.

#### **Determination Coefficient**

To find out the amount of contribution to corporate image, trust and word of mouth on purchasing decisions simultaneously, it can be seen based on the R-Square value in the following table:

Model Summary <sup>®</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.953ª	.909	.893	2.31086

# Table 6. Determination Coefficient Test ResultModel Summaryb

a. Predictors: (Constant), OPM, DER, CR, NPM

b. Dependent Variable: Return on Asset

Based on Table 5.8, it is known that the coefficient of determination (R-Square) is 0.909. This value can be interpreted that the CR, DER, OPM and NPM variables together or simultaneously are able to influence ROA by 90.9%, the remaining 9.1% is explained by other variables or factors.

# CONCLUSION

Based on the results of the research and discussion in the previous chapter, the conclusion as follows:

- 1. It is known that the regression coefficient value of the CR variable is -0.002, which is negative. This means that CR has a negative relationship to ROA. It is known that the Sig value is 0.000 <0.05, then CR has an effect on ROA.
- 2. It is known that the regression coefficient value of the DER variable is -0.140, which is negative. This means that DER has a negative relationship with ROA. It is known that the Sig value is 0.916> 0.05, so DER has no effect on ROA.
- 3. It is known that the regression coefficient value of the NPM variable is -0.189, which is negative. This means that NPM has a negative relationship with ROA. It is known that the Sig value is 0.000 <0.05, then NPM has an effect on ROA.
- 4. It is known that the regression coefficient value of the OPM variable is 1.362, which is positive. This means that OPM has a positive relationship to ROA. It is known that the Sig value is 0.000 <0.05, so OPM has an effect on ROA.

# REFERENCES

Al-Faruqy, AF (2016). The Effect of Current Ratio, Debt to Equity Ratio and Total Asset Turnover on Return On Investment (study on manufacturing sector companies listed in JII 2011-2014. Journal of SCIENTICA, 3 (1): 38-52.



- Alpi, MF, & Gunawan, A. (2018). The Effect of Current Ratio and Total Asset Turnover on Return On Assets in Plastics and Packaging Companies. Journal of Economic and Business Accounting Research, 17 (2): 1-36.
- Angela, M., Widayanti, R., & Colline, F. (2015). The Influence of Current Ratio, Total Assset Turnover and Debt to Asset Ratio on Return On Assets at LQ45 Companies on the Indonesia Stock Exchange 2011-2013). Scientific Journal of Business Management, 15 (1): 15-25.
- Barus, AC, & Leliani. (2013). Analysis of Factors Affecting Profitability in Manufacturing Companies Listed on the Indonesia Stock Exchange. Journal of Micro-Skills Entrepreneurial Economics, 3 (02): 111-121. Brigham, &
- Devi Sri. (2012). Factors affecting profitability in chemical companies 2008-2011. FEB Maritime Journal. Tanjung Pinang.
- Dewi, NK, Cipta, W., & Kirya, IK (2015). Effect of LDR, LAR, DER and CR on ROA. Journal of Bhishma, 3 (1): 5-15.
- Fahmi, I. (2017). Financial Statement Analysis. Bandung: Alfabeta. Fauziah, Ulfa.,
- Ghozali, I. (Application of Multivariate Analysis with the SPSS Program). Semarang: UNDIP.
- Harahap, SS (2018). Critical Analysis of Financial Statements. Jakarta: Raja Grafindo Persada.
- Hery. (2018). Financial Statement Analysis. Jakarta: PT. Grasindo.
- Hindriari, R., & Amini, N. (2015). The Influence of Growth and Debt to Equity Ratio Against Return On Assets at PT. Cipta Diamond Proferty. Scientific Journal 3 (1): 143-153.
- Hidayat, RR, & Nuzula, NF (2014). The Influence of Total Asset Turnover, Non Performing Loans, and Net Profit Margin on Return On Assets (Study on Foreign Exchange Private Commercial Banks Registered at Bank Indonesia in 2010-2012. Journal of Business Administration (JAB), 11 (1): 11-24.
- Jumingan. (2018). Financial Statement Analysis. Jakarta: PT. Earth Literacy.
- Cashmere. (2015). Financial Statement Analysis. Jakarta: Raja Grafindo Persada.
- Marbun, M. d. (2016). The Influence of Current Ratio and Debt to Equity Ratio on Return On Assets. Widyakala Journal., 3 (1): 23-28.
- Mardiyani. (2017). Comparative Analysis of the Financial Performance of State-Owned and Private Pharmaceutical Companies. Journal of Business Inspiration and Management, 1 (1): 19-30.
- Munawir. (Yogyakarta). Financial Statement Analysis. 2014: Liberty Yogyakarta.
- Nursatyani, A., Wahyudi, S., & Syaichu, M. (2014). Analysis of the Effect of Current Ratio, Firm Size, and Asset Tangibility on Return On Assets with Debt to Total Asset as an Intervening Variable (Studies on Mining Companies Listed on the IDX 2008-2011). Journal of Business Strategy, 23 (2): 97-124.



- Putry, NA, & Erawati, T. (2013). The Effect of Current Ratio, Total Assets Turnover, and Net Profit Margin on Return On Assets. Journal of Accounting, 1 (2): 1-13.
- Rachmawati, Windasari., & Kridasusila, Andy. (2016) Analysis of the Effect of Current Ratio, Inventory Turnover and Debt to Equity Ratio in Automotive Companies and their Components on the Indonesia Stock Exchange (2010-2013). Journal of Socio-Cultural Dynamics, 18 (1): 7-22
- Cover, GT (2013). Comparison of the Financial Performance of State-Owned and Private-Owned Pharmaceutical Companies Listed on the Indonesia Stock Exchange. EMBA Journal, 1 (4): 355-361.
- Purnawati, Hilda., & Leviany, Tevi. (2017). The Effect of Current Ratio and Debt to Capital Ratio on Return On Assets. Journal of Attitudes, 2 (1): 63-69.
- Sari, Ni Made Veronika., & Budiasih, I GAN (2014). Effect of Debt to Equity Ratio, Firm Size, Total Asset Turnover and Current Ratio on Profitability. Udayana University Accounting E-Journal, 6 (2): 261-273.
- Sartono, A. (2016). Financial Management Theory and Applications. Yogyakarta: BPFE.
- Sawir, A. (2018). Financial Performance Analysis and Corporate Financial Planning. Jakarta: PT Gramedia Pustaka Utama.
- Surpandi (2014). Factors affecting the profitability of finance companies in Indonesia. Journal of Management Insights. Vo.2, Number 1.
- Sudana, IM (2015). Corporate Financial Management. Jakarta: Erlangga.
- Sujarweni, VW (2017). Financial Statement Analysis. Yogyakarta: New Library Press.
- Supardi, H., Suratno, & Suyanto. (2016). The Influence of Current Ratio, Debt to Equity Ratio, Total Asset Turnover, and Inflation on Return On Assets. Scientific Journal of Accounting, Faculty of Economics, 2 (2): 16-27.
- Syamsuddin, L. (2009). Corporate Financial Management. Jakarta: PT Raja Grafindo Persada.
- Utama, AC, & Muid, A. (2014). The Influence of Current Ratio, Debt to Equity Ratio, Debt to Asset Ratio and Working Capital Turnover on Return On Assets in Manufacturing Companies Listed on the Indonesia Stock Exchange 2010-2012. Dipenogoro Journal Of Accuounting, 3 (02): 1-13.
- Wardhana, IB, & Mawardi, W. (2016). Analysis of Asset Structure Factors, Asset Turnover, Growth on Profitability through Capital Structure as an Intervening Variable. Dipenogoro Journal Of Management, 5 (02): 1-14.
- Wardiyah, ML (2017). Financial Statement Analysis. Bandung: CV Pustaka Setia.
- Wartono, T. (2018). The Influence of Current Ratio and Debt to Equity Ratio on Return On Assets (Study at PT. Astra Indonesia, Tbk). Creative Journal, 6 (2): 78-97.