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STUDY RETURN ON ASSET: THE EFFECT OF DEBT TO EQUITY RATIO AND LONGTERM DEBT TO EQUITY RATIO

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Abstract

The objectives to be achieved in this study are to determine and analyze the effect of Debt to Equity Ratio (DER) on Return On Assets (ROA), to determine and analyze the effect of Long-term Debt to Equity Ratio (LTDER) on Return On Assets (ROA) and to knowing and analyzing the effect of Debt to Equity Ratio (DER) and Long-term Debt to Equity Ratio (LTDER) on Return On Assets (ROA) at PT. Kemasindo Rapid Medan. This study uses an associative approach. Data collection techniques in this study were carried out using documentation techniques. The data used in this study is quantitative data sourced from secondary data obtained by taking data obtained directly to PT. Kemasindo Rapid Medan. The analysis technique is carried out using multiple linear analysis techniques, classical assumption test, partial and simultaneous hypothesis testing and determination test. Based on the results of research conducted partially between Debt to Equity Ratio to Return on Assets shows a positive relationship but has no effect on Return On Assets at PT. Kemasindo Period 2010-2019. Based on the results of research conducted partially between Long Term Debt to Equity ratio to Debt to Equity Ratio there is no effect on Return On Assets at PT. Kemasindo Period 2010-2019. Based on the results of simultaneous research, Debt to Equity Ratio and Term Debt to Equity Ratio show a positive relationship and have a significant effect on Return On Assets at PT. Kemasindo Period 2010-2019

Keywords: Debt to Equity Ratio (DER), Long-term Debt to Equity Ratio (LTDER), Return On Assets (ROA).

1. INTRODUCTION

A company founded generally aims to obtain maximum profit for the survival of the company and be able to develop the company well. All companies including PT. Kemasindo Rapid Medan basically carries out various activities both operational and non-operational in order to gain profit. Without obtaining profits the company cannot fulfill its goal of continuous growth. This goal is absolute for every company regardless of the type of business. Therefore, companies are required to be able to carry out their operational activities effectively and efficiently, so that companies that can manage their assets more effectively and efficiently will get better profits as well.

With the increase in the size of the company, the company develops to be able to follow and meet changing market needs and compete for obtain the best capable management. Every publicly listed company is required to obtain an annual financial report. For companies, financial reports are an important mechanism for managers to communicate with outside investors. This report is used for various purposes. Analysis of a company's financial statements basically wants to know the level of profitability (profit) and the level of company health. Companies can maximize their profits if the financial manager knows the factors that have a major influence on the company's profitability. By knowing the effect of each factor on profitability, companies can determine steps to overcome problems and minimize negative impacts that will arise.

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According to (Kasmir, Financial Statement Analysis, 2012) profitability is "a ratio to assess the company's ability to seek profit". Profitability is a factor that should receive special attention because to be able to sustain a company's life, the company must be in a favorable condition. Without profit, it will be difficult for a company to attract capital from outside.

Profitability often used to measure the efficiency of the use of capital in a company by comparing the achieved capital with its operating profit (Fahmi, 2012).

For companies, the problem of profitability is very important to maintain the viability of the company in the long term, because profitability shows whether the company has good prospects in the future. That way every company will always try to increase its profitability, because the higher the level of profitability of a company, the survival of the company will be more guaranteed and vice versa. For company leaders, profitability is used as a benchmark for the success or failure of the company they lead, while for company employees the higher the profitability obtained by the company, then there is an opportunity to increase employee salaries. Profit can be measured by knowing how big the company's profitability ratio is.

The indicators in measuring profitability according to (Harmono, 2011) are "Net Profit Margin, Gross Profit Margin, Return On Investment (ROI), Return On Equity (ROE), Return On Assets (ROA) and Earning Per Share (earnings per share). shares)". However, in this study, the measurement of profitability is only limited to the use of Return On Assets (ROA).

ROA is used as an indicator of the company's financial performance because this variable in previous studies showed better performance measurements, (Harris, 2015). ROA is also considered to be more representative of the interests of shareholders. The greater the ROA value, the better the company's performance. Investors like profitable companies because of high returns.

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Return On Assets is the company's ability to generate profits from every one rupiah of assets used, (Darsono, 2012). By knowing this ratio, we can assess whether this company is efficient in utilizing its assets in the company's operational activities. This ratio also provides a better measure of the company's profitability because it shows the effectiveness of management in using assets to earn income.

Thus, ROA shows the relationship between company profits with all existing resources and company assets. The higher the company's profit, the higher the ROA, the size of the company's profit is also influenced by several factors such as Debt To Equity (DER) and Longterm Debt To Equity (LTDER).

According to (Harmono, 2011) a common indicator used to determine the composition of the capital structure is the Debt to Assets Ratio (DAR). Long-term Debt to Equity (LTDER) and Debt to Equity Ratio (DER). However, in this study, the measurement of capital structure is only limited to the use of the Debt to Equity Ratio and the Long-term Debt to Equity Ratio.

According to (Kasmir, 2012) Debt to Equity Ratio (DER) is the ratio used to assess debt to equity. The high debt compared to capital will increase the risk of the company, namely through an increase in interest rates. The following table compares total debt with capital (Equity).

*Long-term Debt to Equity Ratio (LTDER) or*Long-term debt is an obligation to certain parties that must be repaid in more than one accounting period, payments are made in cash but can be replaced with certain assets (Kasmir, 2012). In the normal operations of the company, long-term accounts payable are never subject to cash disbursements transactions. At the end of the accounting period a certain portion of long-term debt turns into short-term debt. For this reason, adjustments must be made to move the portion of long-term debt that matures into short-term debt. The use of long-term debt is usually used for investments that are also more than one year.

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Components that exist in long-term debt are bonds, mortgages, bank loans that are more than one year and other long-term debt.

2. RESEARCH METHODS

This research uses an associative approach. In this study the authors used quantitative research. Sources of data used in this study is the company's financial statements PT. Kemasindo Rapid Medan issued by the company from 2010-2019 which is obtained directly from the company's finance department. Data collection techniques in this study were carried out using documentation techniques. In this study the models and techniques of data analysis used multiple linear regression approach and regression with moderating variables.

3. RESULTS AND DISCUSSION

Classical Assumption Test Research Results

The classical assumption test was carried out in order to obtain valid analysis results. The following is a test to determine whether the two classical assumptions are met or not, there are several criteria for the classical assumption requirements that must be met, namely as follows:

Normality Test

This test aims to test whether in the regression model, the dependent variable (bound) and the independent variable (free) both have a normal distribution or not. The normally distributed data can be seen through the following p-plot graph:

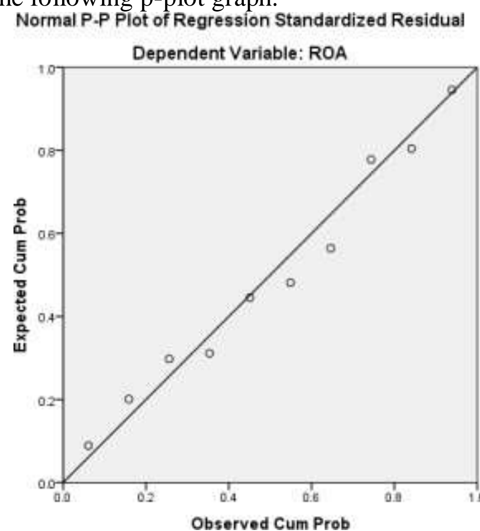

Figure 1. Normality Test of Normal PP Plot Regression Standardized Residual

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Table 1.
Kolmogorov Smirnov Test Results One-Sample Kolmogorov-Smirnov Test

		DER	LTDER	ROA
N		10	10	10
Normal Parameters, b	mean	.2090	.5590	1.0860
	Std. Deviation	.06887	.27449	.65327
	Absolute	.180	.242	.264
Most Extreme Differences	Positive	.180	.242	.264
	negative	-.106	-.232	-189
Kolmogorov-Smirnov Z		.570	.765	.836
asymp. Sig. (2-tailed)		.901	.601	.486

a. Test distribution is Normal.
b. Calculated from data.
Source: SPSS 22 research results

Based on table 1, it can be seen that the KS value of the Debt to Equity Ratio (DER), Long-term Debt to Equity Ratio (LTDER) and Return On Assets (ROA) variables are normally distributed because each variable has a value greater than 0.05.
The value of each variable has met the standards that have been set, and can be seen in the Asym line. Sig. (2-tailed). From that line the Asym value. Sig. (2-tailed) > 0.05. This shows the variables are normally distributed

Multicollinearity Test

Table 2. Multicollinearity Test

Model		95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
	(Constant)	-1.402	1,380					
1	DER	-4.997	5.430	-.026	.037	.023	.996	1.004
	LTDER	.573	3.189	.789	.789	.789	.996	1.004

Based on table 4.3, it can be seen that there is no multicollinearity problem because the VIF (Variable Inflation Fictory) is smaller than 5, namely the VIF DER of 1.004 which is smaller than 5. The value on and the value on LTDER is also smaller than 5 which is 1.004.

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Heteroscedasticity Test

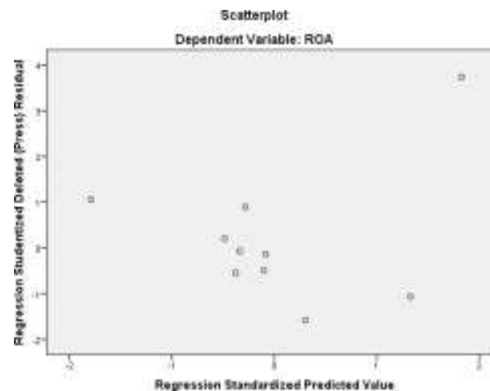

Figure 2. Heteroscedasticity Test Results

Figure 2 shows the circles forming an irregular pattern, where the points spread above and below the number 0 on the Y axis. Thus, there is no heteroscedasticity.

Autocorrelation Test

Table 3. Autocorrelation Test

Model	Change Statistics					Durbin - Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.623	5.788	2	7	.033	1.472

From the table above, it is known that the Durbin-Watson value obtained is 1.472, which means the DW value is between -2 to +2, so it can be concluded that there is no autocorrelation from Durbin Watson's figure.

Multiple Linear Regression

Multiple linear regression method relates one dependent variable with several independent variables in one model. Multiple linear regression test was used to test the effect of Debt to Equity Ratio and Long Term Debt to Equity Ratio on Return On Assets.
Then the multiple linear regression model that will be used in this study is as follows:

ROA= + b1X1 + b2X2 + e

ROA = Predicted value X1 = Debt to Equity Ratio
 = Constant X_2 = Long Term Debt to Equity Ratio
b = Slope or regression coefficient

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Table 4. Multiple Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	9.011	.588	
	DER	.217	2.205	.023
	LTDER	1,881	.553	.790

Based on table 4.5 above, the multiple linear regression equation is formulated as follows:
Y= 9.011 + 0.217 DER + 1.881 LTDER
The interpretation of the regression above is as follows:

1) The constant value (a) of 9.011 with a positive direction indicates that if all the independent variables, namely the Debt to Equity Ratio (X1), and the Long Term Debt to Equity Ratio (X2) are zero, then the Return On Assets Ratio at PT. Kemasindo Rapid Medan is still worth 9,011.
2) The value of the Debt to Equity Ratio (X1) is 0.217. With a positive direction, it shows that if the Debt to Equity Ratio is increased by 100%, the Return On Assets will increase by 0.217 with the assumption that the other independent variables are constant.
3) The value of Long Term Debt to Equity Ratio (X2) is 1.881. With a positive direction, it shows that if the Long Term Debt to Equity Ratio is increased by 100%, the Long Term Debt to Equity Ratio will increase by 1.881 with the assumption that the other independent variables are constant.

Hypotesis Test
t-test

Table 5. t-test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.011	.588		9.019	.000
	DER	.217	2.205	.023	.098	.925
	LTDER	1,881	.553	.790	3,401	.011

Based on the table above, it can be seen the value of the t-test acquisition for the relationship between Debt to Equity Ratio, Long Term Debt to Equity Ratio to Return On Assets. The t table value for n = 10-2 = 8 is 1.859.

F-test

Table 6. F-test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,394	2	1.197	5.788	.033b
	Residual	1.447	7	.207		
	Total	3,841	9			

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Based on the results of simultaneous testing using Fcount and Ftable tests. The effect of Debt to Equity Ratio and Long Term Debt to Equity Ratio on Return On Assets is obtained by Fcount of 5.778 with Ftable of 4.76 so that Fcount is greater than Ftable (5.778 > 4.76) and has a significant number of 0.03 < 0, 05 . This means that H0 is rejected and Ha is accepted, this shows that there is an effect of Debt to Equity Ratio and Long Term Debt to Equity Ratio together on Return On Assets, in other words Debt to Equity Ratio and Long Term Debt to Equity Ratio simultaneously affect Return On Assets rate directly.

Coefficient of Determination Test (R2)

The coefficient of determination (R2) serves to see the extent to which the entire independent variable can explain the dependent variable. If the coefficient of determination is getting stronger, it means that the independent variables provide almost all the information needed to predict the variation of the dependent variable. While the small value of the coefficient of determination (adjusted R2) means that the ability of the independent variables to explain the dependent variation is limited. Here are the results of the statistical test

Table 7. Coefficient of Determination Test (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.789a	.623	.516	.45470	.623	5.788	2	7	.033	1.472

Based on the results of the coefficient of determination in the table above, it shows the value of R Square is 0.623. To find out the extent of the influence of the Debt to Equity Ratio and Long Term Debt to Equity Ratio variables together on Return On Assets.

The R-Square value above is 62.3%, this means that 62.3% of the variation in the Return On Assets value is determined by the role of the variation in the Debt to Equity Ratio and Long Term Debt to Equity Ratio values. In other words, the contribution of Debt to Equity Ratio and Long Term Debt *to Equity Ratio* in influencing Return On Assets is 62.3% while the remaining 37.7% is influenced by other variables not included in this study such as asset structure and sales growth.

Discussion

The Effect of Debt to Equity Ratio on Return on Assets

Based on the research results obtained regarding the Debt to Equity Ratio to Return on Assets at PT. Kemasindo Rapid Medan for the 2010-2019 period stated that tcount was greater than ttable (0.098 > 1.859) and had a significant number of 0.925 > 0.05. This means that H0 is accepted and Ha is rejected. The results of this hypothesis test indicate that partially there is no significant effect of Debt to Equity Ratio on Return on Assets at PT. Kemasindo Rapid Medan 2010-2019 Period.

The results of this study are in line with the results of research (Setyaningsih & Cunengsih, 2018) which states that partially the debt to equity variable partially has no effect on return on assets at PT. Kemasindo Rapid Medan 2010-2019 Period.

Based on the results of research conducted, the authors conclude that companies that have a high level of DER will have an unfavorable effect on the return on assets of the company.

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Effect of Long Term Debt to Equity Ratio on Return On Assets

Based on the research results obtained regarding the Long Term Debt to Equity Ratio to Return On Assets at PT. Kemasindo Rapid Medan for the 2010-2019 period stated that tcount was greater than ttable (3.401 > 1.859) and had a significant number of 0.011 > 0.05. This means that H0 is rejected and Ha is accepted. The results of this hypothesis test indicate that partially there is an effect of Long Term Debt to Equity Ratio on Return on Assets at PT. Kemasindo Rapid Medan 2010-2019 Period.

The use of greater debt in the company by the owners of capital is seen as an increase in the risk of the company. This means that if the company increases debt, the shareholders will get smaller profits. The greater this ratio indicates the high ability of the company's own capital to guarantee long-term debt.

The results of the study (Sari, Jufrizen, & Al-Attas, 2019) that partially Debt to Equity Ratio does not have a significant effect on Stock Prices in Retail Trading Sub-Sector Companies listed on the Indonesia Stock Exchange for the period 2013-2017. The results of the study (Julita, 2014) show that*long term debt to equity ratio*affect the company's profitability.

Based on the results of research conducted, the authors conclude that. The higher the LTDER obtained by the company, the more likely the company will get a good profit, so it can be said that LTDER has an effect on Return On Assets at PT. Kemasindo Rapid Medan Period 2010-2019.

Effect of Debt to Equity Ratio, and Long Term Debt to Equity Ratio to Return On Assets

The results obtained regarding the effect of Debt to Equity Ratio, and Long Term Debt to Equity Ratio to Return On Assets at PT. Kemasindo Period 2010-2019 from the ANOVA (Analysis Of Variance) test. In the table above, Fcount is 5.778 with a significant level of 0.033, while Ftable is known to be 4.76. Based on these results, it can be seen that Fcount > Ftable (5.778 > 4.76) so that H0 is rejected and Ha is accepted so it can be concluded that the variable Debt to Equity Ratio, and Long Term Debt to *Equity Ratio*together have a significant influence on the Return On Assets at PT. Kemasindo Period 2010-2019.

The results of this study are in line with research conducted by (Jufrizen, Putri, Sari, Radiman, & Muslih, 2019), showing that simultaneously Debt Ratio, Long Term Debt to Equity Ratio, and Institutional Ownership have no significant effect on Return On Assets in companies Food and Beverage Sub-Sector listed on the Indonesia Stock Exchange for the period 2013-2017.

4. CONCLUSION

Based on the results of research and discussion that have been stated previously, conclusions can be drawn from research on the effect of Debt to Equity Ratio, and Long Term Debt to Equity Ratio on Return On Assets at PT. Kemasindo Period 2010-2019, the authors conclude 1) Based on the results of research conducted partially between the Debt to Equity Ratio to Return on Assets, it shows a positive relationship but has no effect on Return On Assets at PT. Kemasindo Period 2010-2019. 2) Based on the results of research conducted partially between Long Term Debt to Equity ratio to Debt to Equity Ratio there is no effect on Return On Assets at PT. Kemasindo Period 2010-2019. 3) Based on the results of simultaneous research, Debt to Equity Ratio and Term Debt to Equity Ratio show a positive relationship and have a significant effect on Return On Assets at PT. Kemasindo Period 2010-2019. The results of the R-Square value are known to be 62.3%, meaning that it shows that about 24% of the Return on Assets (Y) variable is influenced by the Debt to Equity Ratio and Long Term Debt to Equity ratio and the remaining

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37.7% Return on Assets is influenced by the variable others that were not investigated in this study.

Based on the conclusions above, in this case the author can suggest things - 1) It is better for the company to increase its assets every year, so that it is easier for the company to gain the trust of investors. 2) The company should optimize the rate of return on investment by using relatively small amounts of debt. This will have a good impact because it can reduce the total debt that must be paid by the company. With a decrease in total debt, the income received by the company will increase. 3) The company should be more effective and efficient in using cash and assets so that long-term debt can be controlled so that the profit generated will be maximized.

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