ANALYSIS OF FIRM SIZE AND DEBT TO EQUITY RATIO TO RETURN ON ASSETS LISTED ON THE INDONESIA STOCK EXCHANGE

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Abstract

The purpose of this study is to determine and analyze the effect of firm size on return on assets, to determine and analyze the effect of Debt to Equity on return on assets, to determine and analyze the effect of firm size and Debt to Equity on return on assets in property and real estate companies that listed on the Indonesia Stock Exchange for the period 2014-2018. The research approach used in this research is to use a quantitative approach and an associative approach. The sample in this study amounted to 8 companies from 10 Property and Real Estate companies listed on the Indonesia Stock Exchange (IDX) for the 2014-2018 period.

Keywords: *Firm Size, Debt to Equity Ratio, Return on Assets*

1. INTRODUCTION

ROA (Return On Assets) or in Indonesian is often referred to as the rate of return on assets is a profitability ratio that shows the percentage of profit (net income) obtained by the company in relation to overall resources or the average number of assets. In other words, return on assets or often abbreviated as ROA is a ratio that measures how efficiently a company manages its assets to generate profits over a period. ROA is expressed as a percentage. .This ROA ratio or return on assets can help management and investors to see how well a company is able to convert its investment in assets into profits or profits. company because in general capital assets are often the largest investment for most companies. In other words, money or capital is invested into capital assets and the rate of return or yield is measured in terms of profit or profit (profit) obtained.In other words, money or capital is invested into capital assets and the rate of return or yield is measured in the form of profit or profit earned.In other words, money or capital is invested into capital assets and the rate of return or yield is measured in the form of profit or profit earned.

ROA takes into account the company's ability to generate a profit regardless of the funding used (Rina, 2013). In other words, ROA is included in the profitability proxy. ROA shows the company's ability to generate profits from the assets used by the company in a period. The higher the ROA value, the higher the company's profits so that the better the management of a company's assets.

The higher the ROA value, the greater the profit earned by the company. Agency theory will spur agents to increase company profits. When the profit earned increases, the amount of income tax will increase in accordance with the increase in company profits so that the company tends to do tax avoidance (Dewinta, 2016).

Profitability describes the company's ability to earn profits through all existing capabilities and sources such as sales activities, cash, capital, number of employees, number of branches and so on, (Harahap, 2011). Companies that have a high level of profitability are able to run their company's business with various methods in order to avoid taxes, and there are indications that profits from companies are the result of tax avoidance tend to be accepted (Rusydi, 2014).

Large, well-established companies will find it easier to obtain capital in the capital market compared to small companies (Sartono, 2010). Firm Size (FS) or known as company size is one of the things that the company considers in determining its debt policy. Large companies have an activity advantage and are better known to the public compared to small companies. So that the debt needs of large companies will be higher than small companies.

Firm Size(FS) is measured from the total assets of the company, the higher the total assets of the company, the greater the size of the company. Firm Size (FS) which is measured from the company's total assets will directly reflect the level of operating and investment activities of the company. In general, the larger the Firm Size (FS), the greater the operations and investments made by the company.

Debt to Equity Ratio(DER) is a debt ratio used to measure the ratio between total debt and total assets (Kasmir, 2012). The higher this ratio means the greater the amount of loan capital used for investment in assets in order to generate profits for the company.

A financially healthy company is indicated by a DER ratio below 1 or below 100%, the lower the DER ratio, the better. A low DER indicates that the company's debts/liabilities are smaller than all of its assets, so that in an undesirable condition (eg bankruptcy), the company can still pay off all its debts/liabilities.

On the other hand, the higher the DER, the higher the composition of the total debt/liabilities compared to the total net capital it owns, resulting in a large burden on the company to outsiders. The increasing burden of liabilities to outsiders shows that the company's source of capital is highly dependent on outsiders. If the company cannot manage its debt properly and optimally, it will have a negative impact on the company's financial health condition.

The amount of debt burden can reduce the amount of net profit that will be received by the company, which in turn will reduce profits for shareholders. Likewise, the dividend payout ratio (dividend payout ratio) or DPR will decrease, even under certain conditions, for example, the principal and interest on debt/loans that must be paid are greater than the operating profit earned, this will result in losses, so the company does not can distribute cash dividends to its shareholders.

The ideal DER is below 1 or below 100%, however, if you find a company with a DER above 1 or above 100%, which means its debt/liabilities are greater than its net capital, you should investigate further the causes of DER high in the company's financial statements (balance sheet).

The property and real estate sector is one of the most important sectors in a country. This can be used as an indicator to analyze the economic health of a country. The property and real estate industry is one of the sectors that gives a signal of the fall or the rise of a country's economy (Santoso, 2013). This indicates that more and more companies are engaged in the property and real estate sector, indicating the growing economy in Indonesia.

Investments in property and real estate are generally long-term and will grow in line with economic growth and are believed to be one of the promising investments. According to Michael C Thomsett, there are various types of investment in property and real estate which can generally be divided into three, namely, residential property, which includes apartments, housing, and multi-unit buildings; commercial property, namely property designed for business purposes, such as a storage building and parking area, land and industrial property, namely investment in property designed for industrial purposes, for example, factory buildings.

The number of property and real estate companies listed on the IDX is 48 companies, but only 8 companies publish their financial reports regularly every year. Characteristics of property and real estate companies are companies whose assets are considered to have a high investment value, and are considered quite safe and stable. Therefore, a house has the potential to double in price in the next 5-10 years. This is positive information for investors, who then respond by buying shares of property and real estate companies in the capital market.

2. RESEARCH METHODS

The research approach used in this research is to use a quantitative approach and an associative approach. The operational definition in this research is the Dependent Variable (Bound Variable/Y) and Independent Variable (Free Variable). The population in this study were all property and real estate companies listed on the Indonesia Stock Exchange (IDX) for the 2014-2018 period, totaling 10 companies. The data sampled in this study amounted to 8 companies from 10 Property and Real Estate companies listed on the Indonesia Stock Exchange (IDX) for the 2014-2018 period. The data used is external data. The data analysis method used in this research is quantitative data analysis method.

3. RESULTS AND DISCUSSION

Results

Classic assumption test

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

In determining whether the regression model meets the assumption of normality, two methods are used, including the following:

P-Plot Regression

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 data that is normally distributed can be seen through the following p-plot graph:
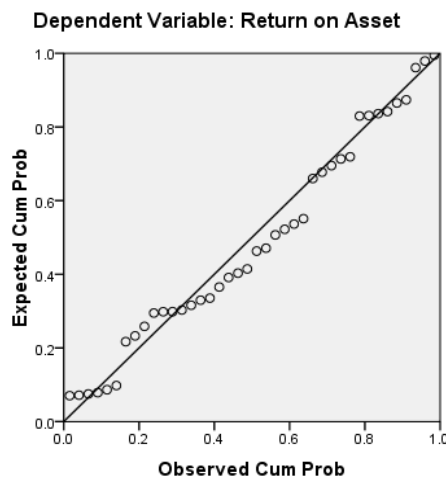

**Figure 1 Normality Test of Normal PP Plot
Regression Standardized Residual**

In Figure 1 the results of the effect of data normality show that on the normal plot graph, the dots spread out close to the diagonal line. So it can be concluded that the regression model is normally distributed, so it is feasible to use.

Kolmogorov Smirnov

Kolmogorov Smirnov has the following test criteria: If the significant value < 0.05 means that the data is not normally distributed. If the value is significant > 0.05, it means that the data is normally distributed.

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

		Firm Size	Debt to Equity Ratio	Return on Assets
N		40	40	40
Normal Parameters	mean	1.1908	.8882	.1110
	Std. Deviation	.02512	.54167	.31207
Most Extreme Differences	Absolute	.174	.209	.477
	Positive	.156	.209	.477
	negative	-174	-148	-.373
Kolmogorov-Smirnov Z		1.101	1.322	1.018
asymp. Sig. (2-tailed)		.177	.061	.290

a. Test distribution is Normal.

Source: SPSS 16 . research results

Based on table 1, it can be seen that the KS value of the Firm Size (FS), Debt To Equity Ratio (DER) and Return On Assets (ROA) variables have been normally distributed. Firm Size (FS) has a value of 0.177, Debt To Equity Ratio (DER) has a value of 0.061 and Return On Assets (ROA) has a value of 0.290 which means it is greater than 0.05. This shows a normally distributed variable.
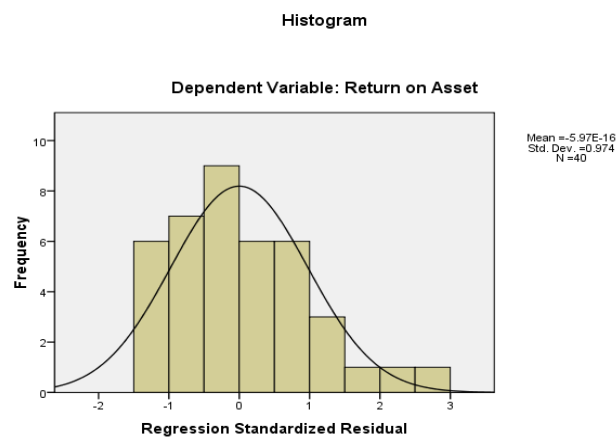

Figure 2 Histogram Graph
Source: SPSS Processing Results (2019)

Multicollinearity Test

The multicollinearity test was used to test whether the linear regression model found a high correlation between the independent variables, with the following conditions: If VIF > 5 then there is a serious multicollinearity problem. If VIF < 5 then there is no serious multicollinearity problem.

Table 2
Multicollinearity Test Results
Coefficients[a]

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Firm Size	.493	2.028
Debt to Equity Ratio	.493	2.028

a. Dependent Variable: Return on Asset

Source: SPSS 16 Research Results

Based on table 2 it can be seen that there is no multicollinearity problem because the VIF (Variable Inflation Fictory) is smaller than 5, namely in VI. Value on *Firm Size* is also smaller than 5 at 2.028, the VIF value in the debt to equity ratio is also smaller than 5 at 2.028.

Heteroscedasticity Test

This test aims to test whether in the regression model, there is an inequality of variance from the residuals of another observation. To find out whether or not there is heteroscedasticity in the regression model of this study, the analysis is carried out using informal methods. The informal method of heteroscedasticity testing is the Scatterplot graph method.
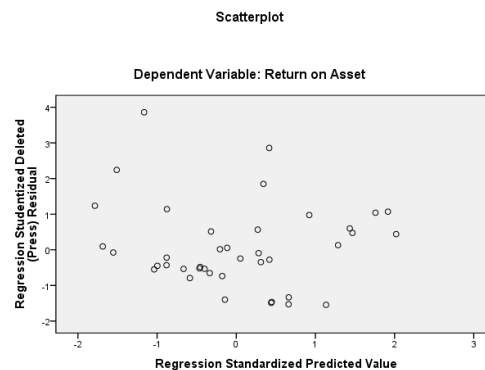

Figure 3
Heteroscedasticity Test Results

Figure 3 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.

Hypothesis test
t test (Partial)

The t test is used to test the regression coefficients individually, this test is carried out to find out whether partially each independent variable has a significant effect or not on the dependent variable. After obtaining t count compared with t table.

For the t statistical test the author uses SPSS for windows version 22 data processing, the results of the t test are as follows:

Table 3
T-Test Results (Partial)
Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	-6,399	3.331		-1.921	.062
Firm Size	5.403	2,729	.435	5.980	.000
Debt to Equity Ratio	.085	.127	.147	.671	.506

a. Dependent Variable: Return on Asset

Source: SPSS 16 Research Results

Based on the table above, it can be seen that the value of the t-test for the relationship between *Firm Size*, Debt to Equity Ratio to Return On Assets. t value$_{table}$ for n = 40-2 = 38 is 1.685.

Based on the test results partially the effect of *Debt to Equity Ratio* 0.671 and t table of 1.685. Thus, tcount is smaller than ttable (0.671 < 1.685) and has a significant number of 0.506 > 0.05. This means that H0 is accepted and Ha is rejected, this shows that partially the Debt to Equity Ratio has no significant effect on Return On Assets. The tcount value of 0.671 with a positive direction of the relationship between Debt to Equity Ratio to Return On Assets shows a tendency to increase Debt to Equity Ratio followed by a decrease in Return On Assets in Property and Real Estate Companies.

F Test (Simultaneous)

The F test is also called the significant test which is jointly included to see the overall ability of the independent variables, namely Firm Size and Deb to Equity Ratio.

Based on the results of data processing with the SPSS version 16 program, the following results were obtained:

Table 4
F-Test Results (Simultaneous)
ANOVA[b]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.454	2	.227	9.513	.005a
Residual	3.344	37	.090		
Total	3.798	39			

a. Predictors: (Constant), Debt to Equity Ratio, Firm Size

b. Dependent Variable: Return on Asset

Source: SPSS 16 Research Results

The value of Ftable for n = 37 is 3.25. Furthermore, the Ftable value of 3.25 is used as a decision-making criterion.

Based on the results of simultaneous testing using Fcount and Ftable tests. The effect of Firm Size and Debt to Equity on the Return On Assets Ratio is obtained by Fcount of 9.513 with Ftable of 3.25 so that Fcount is greater than Ftable (9.513 > 3.25) and has a significant number of 0.005 < 0.05. This means that H0 is rejected and Ha is accepted, this shows that there is a significant influence of Firm Size and Debt to Equity on Return On Assets, in other words Firm Size and Debt to Equity Ratio simultaneously affect the level of Return On Assets directly.

Coefficient of Determination Test (R2)

The coefficient of determination (R^2) serves to see the extent to which the overall 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 statistical test results

Table 5
Coefficient of Determination Test
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.786a	.617	.272	.30063

a. Predictors: (Constant), Debt to Equity Ratio, Firm Size
b. Dependent Variable: Return on Asset

Source: SPSS 16 Research Results

Based on the results of the coefficient of determination in the table above, it shows the value of R Square is 0.617.

R-value *Square* above is 61.7%, this means that 61.7% of the variation in Return on Assets value is determined by the role of variations in Firm Size and Debt to Equity Ratio values. In other words, the contribution of Firm Size and Debt to Equity Ratio in influencing Return on Assets is 61.7% while the remaining 38.3% is influenced by other variables not included in this study such as asset structure and sales growth.

Effect of Firm Size on Return on Assets

Based on the research results obtained regarding the Effect of Firm Size on Return on Assets in Property and Real Estate Companies, it is stated that tcount is greater than ttable (5.980 > 1.685) and has a significant number of 0.000 <0.05. This means that H0 is rejected and Ha is accepted. The results of this hypothesis test show that partially positive and significant Firm Size on Return On Assets in Property and Real Estate Companies listed on the IDX. If the Firm Size increases, the total assets increase then there is an increase in total assets, with the increase in total assets, the company can increase inventory by increasing inventory so production can be increased, with increased production sales can be increased if sales increase it can increase profits.

Firm size which is getting bigger indicates that the company has succeeded in increasing the company's assets so that the company is able to generate profits, (Kasmir, 2012).

In research by (Julita, 2010), states that there is a significant influence between the Debt to Equity Ratio on Return On Assets. (Rambe, 2013) that profitability has an effect on debt policy.

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 in Property and Real Estate Companies, it is stated that tcount is smaller than ttable (0.671 < 1.685) and has a significant number of 0.506> 0.05. This means that H0 is accepted. The results of this hypothesis test indicate that partially there is no effect of Debt to Equity Ratio on Return On Assets in Property and Real Estate Companies listed on the IDX. If debt to equity decreases, the return on assets increases with a decrease in the debt to equity ratio, the total debt decreases, with a decrease in total debt, the interest expense incurred decreases, profit increases with increasing profit, the return on assets increases.

According to Sartono (2010, p. 248) with a large debt level, the company will find it difficult to generate good profits. So it can be concluded that the higher the Debt to Equity Ratio, the smaller the proportion of profits in the company. In research by (Julita, 2010), states that there is a significant influence between the Debt to Equity Ratio on Return On Assets. (Rambe, 2013) that profitability has an effect on debt policy.

Effect of Firm Size, and Debt to Equity Ratio on Return On Assets

The results obtained regarding the effect of Firm Size, and Debt to Equity Ratio on Return On Assets in Property and Real Estate Companies from the ANOVA (Analysis Of Variance) test. In the table above, Fcount is 9.513 with a significant level of 0.005, while Ftable is known to be 3.25. Based on these results, it can be seen that Fcount > Ftable (9.513 > 3.25) so that H0 is rejected and Ha is accepted so it can be concluded that the Firm Size, and Debt to Equity Ratio variables together have a significant influence on Return On Assets in Property Companies and real estate.

4. CONCLUSION

Based on the results of research conducted partially between Firm Sizeon Return on Assets shows a positive relationship and significantly influences Firm Size on Return on Assets in Property and Real Estate Companies for the 2014-2018 period. Based on the results of research conducted partially between Debt to Equity Ratio to Return On Assets shows a negative and no significant effect on Return On Assets in Property and Real Estate Companies for the period 2014-2018. Based on the results of simultaneous research, Firm Size, and Debt to Equity Ratio show a positive relationship and have a significant effect on Return On Assets in Property and Real Estate Companies. . The results of the R-Square value are known to be 61.7%, meaning that it shows that about 61.7% of the Return on Assets (Y) variable is influenced by Firm Size and Debt to Equity and the remaining 38

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