

The Role Of Return On Assets And Debt To Equity Ratios As A Basis For Determining Stock Returns

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ABSTRACT

Financial ratios are relative and can provide a more in-depth view of the financial condition of a business entity. The study examines the effect of Return on assets (ROA) and Debt to Equity Ratio (DER) on Stock Returns in Food and Beverage Sub-Sector Manufacturing Companies listed on the Indonesia Stock Exchange. The population in this study were food and beverage sub-sector manufacturing companies listed on the IDX during the 2018-2022 period. Sampling was done by purposive sampling method with a sample of 11 companies. The type of data used is secondary data obtained from company financial reports and annual reports, which can be accessed through the official website of the Indonesia Stock Exchange (www.idx.co.id) or the official website of the company. The data analysis technique used is multiple linear regression. The results show that ROA has an effect on stock returns with coefficient of 0,64, meaning that if ROA increases by 1%, it will increase stock returns by 0.64%. Furthermore, DER has an affect on stock returns with coefficient of -0.057, meaning that if DER increases by 1%, it will decrease stock returns by 0.057% in Food and Beverage Sub-Sector Manufacturing Companies listed on the Indonesia Stock Exchange.

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1. Introduction

In the era of knowledge-base economy has been identified that the success of a company depends on the company's ability to create the uniqueness of intangible assets and convert them into value (Andriessen, 2001 in Purnomo, 2018). Each ratio provides different information and needs to be considered in the context of the company's overall finances. Financial ratio analysis requires comparison with industry standards or similar companies to provide a better understanding of financial performance and position. Financial ratios are relative and can provide a more in-depth view of the financial condition of a business entity. This investment activity means investing some capital. Usually an investor who invests has the hope of getting profits in the future. Someone who has a desire to get a decent life in the future, those who are wise will think about how to improve their standard of living or at least try how to maintain their current income level so that they are not short in the future [1]. This is one of the factors motivating potential investors to invest. In addition, the declining trend of leading stock prices on the Indonesia Stock Exchange is also quite attractive to potential investors who are considered as opportunities. The development of the Indonesia Stock Exchange (IDX) from year to year is increasing, the number of stock investors transacting is getting higher for stock trading volume. This increase cannot be separated from the role of the government which has opened up opportunities and made it easier for investors to invest their capital in Indonesia as well as socialization and education carried out by the Indonesia Stock Exchange (IDX).

One of the companies listed on the Indonesia Stock Exchange (IDX) is a manufacturing company. Manufacturing companies are companies that use machinery and labor in processing raw materials into goods that have value. Food and beverage companies are a sub-sector of manufacturing companies engaged in food and beverages. In Indonesia itself, this company is increasing, seen from the number of companies that join the stock exchange from each period. Food and beverage companies are included in companies whose shares are resistant to any conditions. This is because people will still need food and drinks even in difficult conditions and the majority of Indonesian people are consumptive so that the shares of food and beverage companies are in great demand by potential investors. Shares are one of the investment instruments in the capital market as proof of ownership of a person or business entity in a company or limited liability company.

Shares traded on the stock exchange can be either common stock or preferred stock. Common stock is a certificate that shows proof of ownership of a company. As an owner, a common shareholder in a company also has proportional voting rights on various important decisions taken by the company at the general meeting of shareholders (GMS) [1]. Basically, stock prices fluctuate, sometimes going up and sometimes going down. However, the increase and decrease in stock prices is included in a common thing because, this increase and decrease is driven by the forces of supply and demand. If demand rises, the movement of stock prices will increase and vice versa, if the number of offers is high, the movement of stock prices will decrease.

In addition, the weakening of export activities, the dependence of industrial activities on import activities and the decline in people's purchasing power due to low commodity prices and the weakening rupiah exchange rate are also the causes of the hampering of the industrial activities of food and beverage companies and will affect the share price. This condition is the impact of the global economic order which has a negative impact on economic activities in Indonesia. Not only do these factors affect the industrial activities of food and beverage companies, but there are also internal factors that affect the decline in stock prices such as funding (equity and debt), investment, and company financial statements. Food and beverage companies were chosen in this study because they play an important role in meeting the needs of their consumers. Basic needs such as food and drinks will always be needed by the community. As well as other reasons because food and beverage companies are companies that produce goods from raw materials into finished goods, so they require a lot of capital for their production. One of these capital is obtained by issuing shares on the capital market.

Potential investors who invest their funds in food and beverage companies expect to benefit from rising share prices or a number of dividends. However, in investing there is not only a rate of return or profit but also has risks. So that in investment there is the term high risk high return, which means that the higher the risk, the higher the rate of return. The rate of return or stock return is the income expressed as a percentage of the difference between the selling price of the shares and the purchase price of the shares. Stock returns can be positive (Capital Gain) or negative (Capital Lost). Capital gains can be obtained if the selling price of the stock is higher than the purchase price and vice versa. Although capital gains can be obtained in large amounts in a short time, it is also possible to experience large losses in a short time, along with changes in investor stock prices. For this reason, potential investors need to analyze a company first to ensure the risks they will face. The parameter commonly used to assess company performance is the financial approach of the company's financial statements.

Financial performance can show the level of health of a company so that it can increase investor confidence in investing its capital. A company's performance that is good enough will be more attractive to potential investors. To analyze the financial condition of a company, it requires several benchmarks used such as ratios and indices. In general, financial ratio analysis can be divided into several types including profitability ratio analysis, solvency ratio, liquidity ratio and activity ratio. But in this study will use profitability ratios, liquidity ratios and solvency ratios. Profitability ratio analysis is a ratio used to measure the focus on company profits which generally links the income statement to sales. The profitability ratio that will be used in this study is Return on assets (ROA). ROA is a ratio used to show the percentage of profit earned by a company from all of its assets. There are several previous studies that have different results regarding the effect of ROA on stock returns in manufacturing companies in the food and beverage sub-sector. In the research of [2], [3] the results of their research explain that ROA has no effect on stock returns while in the research of [4], [5] explains that ROA has an influence on stock returns.

Solvency (leverage) is a ratio used to show the company's ability to meet its long-term obligations such as interest payments on debt, final principal payments on debt and other obligations. The solvency ratio that will be used in this study is the Debt to Equity Ratio (DER). Debt to Equity Ratio (DER) is a percentage of the ratio that shows the amount of debt to the amount of equity. There are several previous studies with different results regarding the effect of Debt to Equity Ratio (DER) on stock returns in food and beverage sub-sector manufacturing companies such as research from [5] explaining that the Debt to Equity Ratio (DER) variable has a positive and significant effect on stock returns. In line with the results of research from [6] which states that Debt to Equity Ratio (DER) has an effect on stock returns but is negative and significant. Research from [3], [7] explains that Debt to Equity Ratio (DER) has no effect on stock returns.

There are clear differences in the results of previous studies that used the independent variables Return on assets (ROA), and Debt to Equity Ratio (DER) on stock returns so that this research must be carried out again to make the results clearer. The purpose of the study was to examine the effect of Return on assets (ROA) and Debt to Equity Ratio (DER) on Stock Returns in Food and Beverage Sub-Sector Manufacturing Companies listed on the Indonesia Stock Exchange.

2. Method

The data collection method used in this research is a descriptive method with a quantitative approach, meaning a method of measuring research variables based on numbers that emphasize theory testing by analyzing data on the basis of statistical procedures. The population in this study were food and beverage sub-sector manufacturing companies listed on the IDX during the 2018-2022 period. Sampling was carried out by purposive sampling method with a sample of 11 companies. The type of data used is secondary data obtained through the company's financial statements and annual reports which can be accessed through the official website of the Indonesia Stock Exchange (www.idx.co.id) or the official website of the company. The number of samples from this study is 11 (companies) x 5 (observation years) = 55 observations. To obtain data in this study, researchers used data collection methods in the form of documentation, which is done by collecting, recording, and copying existing documents in the form of company financial reports. The variables in this study are: (1) Independent variables (independent variables), namely: ROA and DER. (2) The dependent variable (dependent variable), namely: stock returns.

In this study, a classic assumption test consisting of normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test was carried out on the data.

2.1 Normality Test

The normality test aims to test whether in a regression, the dependent variable, the independent variable or both are normally distributed or not. Tests to detect data normality can be seen through the normal probability plot by comparing the cumulative distribution and the normal distribution. Normal data will form a straight diagonal line, and data plots will be compared to the diagonal line. If the data distribution is normal, then the line that describes the actual data will follow the diagonal line. If you only look at the histogram graph this can be misleading, especially for small sample sizes. A more reliable method is to look at the normal probability plot [8]. Statistical tests can be carried out using the Kolmogorov-Smirnov (K-S) test and the results of the Zskewness and Zkurtosis calculations. If the Kolmogorov-Smirnov results show a significance value > 0.05 then the residual data is normally distributed and if the significance value is > 0.10 and $VIF < 10$ then there is no multicollinearity.

2.2 Heteroscedasticity Test

The Heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another. The way to detect the presence or absence of heteroscedasticity is the Glejser Test. This test proposes to regress the absolute value of the residuals against the independent variable. If the independent variable statistically significantly affects the dependent variable, then there is an indication of heteroscedasticity. If the probability of significance is above the 5% confidence level, it can be concluded that the regression model does not contain heteroscedasticity. A good regression model is homoscedasticity or no heteroscedasticity [9].

2.3 Autocorrelation Test

This test is conducted to determine whether in the linear regression model there is a correlation between confounding error in period t and with confounding error in period $t-1$ (previous). To test the presence or absence of autocorrelation, the Durbin Watson (DW) test is carried out. After the regression is done, then the DW is calculated. With a certain number of samples and a certain number of variables, the critical values d_l (lower limit) and d_u (upper limit) are obtained in the DW distribution list table with various α values.

2.4 Multiple Linear Regression Method

Hypothesis testing is carried out using multiple regression analysis to predict the strength of the influence of the independent variable on the dependent variable (Sekaran, 1992). The relationship between these variables can be described by the following equation: $SR = \alpha + \beta_1 ROA + \beta_2 DER + e$

Where:

SR = Stock Return

α = constant

β = intercept / slope / regression coefficient

e = error

2.5 Hypothesis Testing

Statistically, the accuracy of the sample regression function in estimating the actual value can be measured by the t statistical value, the F statistical value, and the coefficient of determination. Statistical calculations are called statistically significant if the statistical test value is in the critical area (the area where H_0 is rejected). Conversely, it is called insignificant if the statistical test value is in the area where H_0 is accepted (Ghozali, 2018).

2.6 Coefficient of Determination

The coefficient of determination aims to test the level of closeness or attraction between the dependent variable and the independent variable which can be seen from the magnitude of the coefficient of determination (adjusted R-square). The coefficient of determination is between zero and one. A small coefficient of determination means that the ability of the independent variables to explain the variation in the dependent variable is very limited. A value close to one means that the independent variables provide almost all the information needed to predict the dependent variable (Ghozali, 2018).

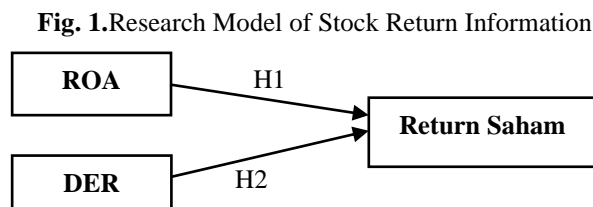
2.7 F Statistical Test

This test aims to show whether all independent or free variables can be included in the model have a joint influence on the dependent variable (Ghozali, 2018).

2.8 Statistical Test t

The t test is conducted to determine how far the influence of one independent variable individually in explaining the variation in the dependent variable (Ghozali, 2018)

2.9 Framework of Research



Based on the above framework, this study will test the hypothesis that ROA affects stock returns and DER affects stock returns in Food and Beverage Sub-Sector Manufacturing Companies listed on the Indonesia Stock Exchange. The population in this study are food and beverage sub-sector manufacturing companies listed on the IDX during the 2018-2022 period.

3. Results and Discussion

Normality Test

Table 1. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		55
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	,28452164
Most Extreme Differences	Absolute	,084
	Positive	,083
	Negative	-,084
Test Statistic		,084
Asymp. Sig. (2-tailed)		,319 ^d

Based on table 1 of the SPSS'26 output, it is known that the Significant value of Asymp. Sig. (2-tailed) of 0.319 > 0.05, then in accordance with the basis for decision making in the Kolmogorov-Smirnov Normality Test, it can be concluded that the data is normally distributed.

Multicollinearity Test

Multicollinearity testing is done using the VIF (Variance Inflation Factor) value. The test results are as follows:

Table 2. Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
ROA	,849	1,177
DER	,970	1,030

From these results, it shows that all independent variables have VIF values below 10 so that all concepts measuring the variables used in this regression model do not contain multicollinearity problems.

Autocorrelation Test

Autocorrelation testing is done with the Durbin Watson test whose results are presented as follows:

Table 3. Uji Autokorelasi

Model	Durbin-Watson
1	1,888

Based on table 3, the Durbin-Watson (DW) value is 1.888. This value is compared with the table value which illustrates a significant value of 5% or 0.05 with a sample size of 60 and a number of variables of 2 ($K = 2$), giving a value of dL (lower limit) and dU (upper limit) of 1.5472, and 1.7462, so that the results obtained $d > dU = 1.888 > 1.7462$ then this regression model is good and no autocorrelation occurs.

Heteroscedasticity Test

Table 4. Graph of Heteroscedasticity

Test Results	
Model	Sig.
1 (Constant)	,656
ROA	,173
DER	,154

Based on the table above, the probability value of profitability, dividend policy, solvency, and company size is above 0.05 or none of them is significant. Based on the results of the heteroscedasticity test analysis, it states that there is no heteroscedasticity so that the regression model in this study is suitable for use in predicting stock returns.

Multiple Regression Analysis

Table 5. Multiple Regression Analysis

Model	Unstandardized Coefficients	
	B	Std. Error
1 (Constant)	-4,961	1,784
ROA	,064	,011
DER	-,057	,122

Based on the results of multiple linear regression analysis in table 5, the multiple linear regression equation model is obtained, as follows: $\text{Stock Return} = 4.961 + 0.64 \text{ ROA} - 0.057 \text{ DER}$ □
e

From the results of the multiple linear regression equation analysis above, it can be interpreted as follows:

1. The value of a (constant) of -4.961 means that if the value of the independent variable is 0, it will decrease the stock return by -4.691%.
2. The regression coefficient of profitability (ROA) is obtained at 0.64, meaning that if profitability (ROA) is increased by 1%, it will increase stock returns by 0.64%.
3. The solvency regression coefficient (DER) is obtained at -0.057, meaning that if solvency (DER) is increased by 1%, it will decrease stock returns by 0.057%.

Hypothesis Test

1) *t test*

Table 6. he t test

Model	t	Sig.
1 (Constant)	-2,782	,007
ROA	5,984	,000
DER	-,463	,645

Table 6 shows the results of hypothesis testing, namely:

- 1) ROA affects Stock Return

The result of the t value analysis is 5,984 with a probability number of 0.000 smaller than the significant level of 5% or 0.05 so that it can be stated that there is a significant and positive influence between ROA on stock returns. Thus, the first hypothesis which states that ROA has a positive effect on stock returns can be accepted.

- 2) DER has an effect on stock returns

The results of the analysis of the t value of -0.463 with a probability number of 0.645 greater than the significant level of 5% or 0.05, so it can be stated that there is no significant effect between DER on stock returns. Thus the second hypothesis which states that DER has a positive effect on stock returns is rejected.

2) *F test*

Table 7. F Statistical Test

Model	df	F	Sig.
1 Regression	2	26,188	,000 ^b
Residual	57		
Total	59		

Table 7 of the F test results can be seen in the column df 1 = 2 and df 2 = 57, then obtained from the F table can be found F table (2; 59) = 3.159. In the calculation, the calculated F value is greater

than the F table value, which is $26.188 > 2.159$. In the sig column = 0.000 ($p < 0.05$) thus (H_0 accepted) means that all independent variables ROA; DER together have a significant influence on stock returns.

Coefficient of Determination (R²)

Table 8. Test Coefficient of Determination

Model	R Square
1	,570

a.

Sumber : Output SPSS 26, 2023

Table 8 shows that the R square value is 0.570 (57%), which means that ROA, DER are able to contribute to influencing stock returns by 57%, while the remaining 43% is influenced by other variables.

Discussion

Effect of Return On Asset (ROA) on Stock Returns

The first hypothesis proposed in this study is that Return On Asset (ROA) has an effect on stock returns. The test result of the Return On Asset (ROA) variable using multiple regression has a coefficient value of 0.64 and a significance value of 0.000 using t test. The significance value is less than or below 0.05 (<5%), thus indicating that the Return On Asset (ROA) variable affects stock returns in food and beverage sub-sector companies in 2015-2019, accepted. This is in accordance with research from [5], [6], [10] showing the results of Return On Asset (ROA) has a positive effect on stock returns. One of the motivations for an investor to invest in a company is to get a return or return. Where Return on Asset (ROA) is a ratio that describes the rate of return or return on investment made by the company from the management of all its assets, so that the higher the Return on Asset (ROA) value, the greater the return expected by investors. An increasing Return on Asset (ROA) value indicates the better performance of a company which has an impact on the company's share price and stock returns are increasing because they are mutually related.

Effect of Debt to Equity Ratio (DER) on Stock Returns

Debt to Equity Ratio (DER) is an indicator of capital structure and financial risk, which is obtained by comparing total debt to total equity. The higher the DER value, the higher the level of debt a company can be described as. With the high value of this ratio, it can increase the risk that will be accepted by potential investors. So that it can affect the decline in stock prices which will then have a decreasing impact on the company's stock return. From the test results above, it shows that the Debt to Equity Ratio (DER) has a coefficient value of -0.057 and a significance value of 0.000 using F test. The results of this test are in accordance with research from [5], [6], [11] which states that Debt to Equity Ratio (DER) affects stock returns. However, these results contradict research from [3], [12] which states that Debt to Equity Ratio (DER) has no effect on stock returns.

4. Conclusion

The results showed that Return on Asset (ROA) has an effect on stock returns in Food and Beverage companies listed on the Indonesia Stock Exchange in 2018-2022. The results showed that Debt to Equity Ratio (DER) affects Stock Returns in Food and Beverage companies listed on the Indonesia Stock Exchange in 2018-2022.

The suggestion is that potential investors and investors on the Indonesia Stock Exchange are advised to conduct fundamental analysis and technical analysis before investing in order to have an idea of the extent to which the company is developing. In addition, investors also need to pay attention to other external factors such as mass media coverage, political conditions, currency exchange rates etc. This is done so that investors can predict the situation of the company. This is done so that investors can predict the condition of a company and as a consideration for decision making. For company management, in order to increase investor confidence, the company needs to show good company performance, especially in generating profits. In addition, the company also needs to improve capital and stabilize the financial system so that the share price becomes higher

and the impact on company profits will also increase. So that potential investors are interested in investing in the company.

It is hoped that future research can increase the number of independent variables so that more information about stock returns is obtained. The number of samples and research periods also play an important role more accurate.

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