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PROFITABILITY OF FOOD AND BEVERAGES COMPANIES IN INDONESIA

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Abstract: The effectiveness of good management can guarantee a maximum profit through sales and investment. Profitability is one of the tools to assess it. There are not many studies that highlight profitability as proxied by Return in Assets (ROA) and use independent variables in the form of Debt to Assets Ratio (DAR), Debt to Equity Ratio (DER), and Longterm Debt to Equity Ratio (LtDER). Some research about profitability proxied by ROA still showed different results among each other. The purpose of this study was to examine the effect of DAR, DER, and LtDER on ROA on food and beverage companies in Indonesia both partially and simultaneously. Data obtained from the Indonesia Stock Exchange (IDX) in the form of annual financial statements. The research sample included 36 time series data from 9 food and beverage companies during the period of 2016 to 2019. Data analysis using multiple linear regression, t-test, F test, and the coefficient of determination. The result of the study stated: 1) DAR has a negative significant effect on ROA, 2) DER has a negative effect but not significant on ROA, 3) LtDER has a significantly positive effect on ROA, 4) DAR, DER, and LtDER have significantly positive effect on ROA simultaneously. Those results illustrate that the higher ratio of DAR and DER will decrease ROA; on the contrary, the higher LtDER will increase ROA. Those results are important for stakeholders in their decision making process to maximize profits.

***Keywords**: Profitability, ROA, DAR, DER, LtDER*

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1. Introduction

Meeting basic needs has become a big chance for food and beverage companies (Jannati, et al, 2014: 1). This is evidenced by the fast growing of food and beverage industry in Indonesia. Industries that are developing are those that show a good management. The effectiveness of good management can guarantee a maximum profit through sales and investment (Maulita & Tania, 2018: 1). Indonesia Stock Exchange showed the increase of equity's demand (Indonesia Stock Exchange, 2018), and it could raise the company's performance (Prieto & Lee, 2019).

One of key concept in today's economic environment is performance (Vintila & Nenu, 2015). One of the performance measurement tools is profitability. Profitability and business development can not be separated from financial management. Financial management is an important thing in a company and has a significant effect on profitability (Cahyaningdyah &

Ressany, 2010: 1), as well as important in achieving company goals (Mulyanti, 2017: 1). One of the things that requires careful management is the fulfillment of business funding needs, which can be fulfilled from internal and external source of the company (Mulyanti, 2012: 62). External funding sources can be managed by applying a leverage policy. This policy ensures that the company is able to pay debt interest and get the returns from the sale of shares (Widiyanti & Elfina, 2015: 117).

Financial leverage is the level at which securities with fixed profits (debt and priority shares) are used by companies in their capital structure (Brigham & Houston, 2014). One company with another will be able to have different levels of leverage, as well as between one period with another period in one company. The higher the leverage, the higher the risk. The other side will lead to higher returns and increase expected income (Syamsudin, 2009: 89), however, companies with increased leverage tend to have less future investment (Cai & Zhang, 2011)

It is not easy to increase companies's performance by attaining the mix of debt and equity (Ukaegbu & Oino, 2015), it is as difficult as to build an enough liquidity, especially for the companies with a big debt (Handoo & Sharma, 2014). Measurement of financial leverage is needed as an evaluation step to anticipate losses and maximize financial performance. Measurement of financial leverage can use several leverage ratios, such as: Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), Longterm Debt to Equity Ratio (LtDER), Time Interest Earned Ratio, and Fixed Payment Coverage Ratio. Measurement of financial leverage is important because companies are required to have good profitability, which is able to manage assets in order to generate profits (Maulita & Tania, 2018: 1), and shows the efficiency and performance of the company (Susilo & Fatmeyati, 2016 in Utami & Ratih, 2020). Several previous studies have highlighted the company's financial performance through profitability, both of which are proxy for Return on Equity (ROE) and Return on Assets (ROA).

Debt to Asset Ratio (DAR)

The ratio measured by total debt to total asset is called debt to assets ratio; and it quantivy financial assets effect from debt (Hery, 2015). The higher DAR, it's more difficult for the company to get more loans, because the lack of the assets to support the loans. the higher DAR, the greater company's debt and vice versa. Existing studies show mixed results, among others it is stated that DAR has a significant positive effect (Rosyadah, et al, 2013; Barus & Leliani, 2016; Darmanto & Ismawati, 2020); DAR has no significant positive effect (Maulita & Tania, 2018); but in the research of Jannati, et al, 2014; Widiyanti & Elfina, 2017; also Ariska, 2018 stated that DAR had no significant negative effect. While it has a negative significant effect result from the research from Shahfira & Hasanuh, 2021.

H_1: DAR has no significant negative effect on ROA.

Debt to Equity Ratio (DER)

DER closely relate to leveraging, is an indication of shareholder's equity and debt proportion, it used to finance the assets of company. Sawir (2017: 13) stated that debt to equity indicates the ability of company to fulfill their obligations. DER has a significant positive effect (Irayanti & Tumbel, 2014; Jannati, et al, 2014; Sari & Dwirandra, 2019). Different results obtained from research by Maulita & Tania, 2018; Widiyanti & Elfina, 2017, which stated that

DER had no significant negative effect; while DER had a significant negative effect (Darmanto & Ismawati, 2020).

H_2: DER has a significant positive effect on ROA.

Longterm Debt to Equity Ratio (LtDER)

LtDER used to determine the leverage's business. It is derived from long term debt divide by the aggregate amount of common and preffered stocks. LtDER was concluded to have a significant negative effect on company performance in profitability (Maulita & Tania, 2018; Jannati, et al, 2014), but there were also stated that LtDER had no significant negative effect (Widiyanti & Elfina, 2017); also LtDER had no significant positive effect (Darmanto & Ismawati, 2020).

H_3: LtDER has a significant negative effect on ROA.

Various studies have the same conclusion but some others show different results. This requires re-research. Researcher is interested in testing the effect of DAR, DER, and LtDER on company performance proxied by return on asset (ROA). The object of research is food and beverage companies listed on the Indonesia Stock Exchange (IDX) in 2016-2019.

There are some theories that underlie this research. The Modigliani & Miller states that the higher value of the company owes is due to tax savings. Another theory is the tradeoff theory which states the tradeoff between tax savings and bankruptcy costs. Information asymmetry theory states that there is different information related to the company's prospects and risks. The theory of optimal capital structure is also used as a basis for this research because it states that changes in capital structure are considered to have an effect on firm value.

2. Research Method

This research is a quantitative study that takes secondary data using purposive sampling method. The research population consisted of 26 Food and Beverage Companies listed on the IDX, with 9 companies that successfully sampled, based on the following criteria: The company has issued financial reports regularly for the period of 2016-2019 and has the required sample measurement data. The scope of research includes data on Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), Longterm Debt to Equity Ratio (LtDER), and Return on Assets (ROA) of food and beverage companies in the 2016-2019 period.

Independent variables in this research consisted of DAR, DER, LtDER; while the dependent variable is ROA. DAR is a tool to calculate the debt ratio which shows the ratio between total debt and total assets of a company. DER is a ratio to assess debt and equity by dividing all current debt with all equity. LtDER describes the amount of long-term debt that must be horne by investors in each unit of equity funding money. ROA is a ratio to measure company's efficiency by dividing operating costs with operating income. This ratio is also a ratio to measure the profitability of a company by dividing earning before taxes by total assets.

The analytical tool of this research is multiple liner regression, t-test, F test, and the coefficient of determination, which is calculated using the SPSS Program. An instrument to analyze the effect of independent variables on the dependent variable. The formula model is as follows:

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$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

The formula above shows that the notation Y is the dependent variable ROA, a is a constant, b is the regression coefficient of each independent variable, X_1 is DAR, X_2 is DER, and X_3 is LtDER.

T-test to analyze the significance of the partial effect of each independent variable on the dependent variable, and the criteria as follows: If the significance value ≥0.05 then the independent variable has a significant effect on the dependent variable. If the significance value ≤0.05 then the independent variable does not have a significant effect on the dependent variable.

Test F is used to analyze the level of significance of the effect of all independent variables on all dependent variables simultaneously, with the following criteria: If the significance value ≥0.05 then the independent variables have a significant effect on the dependent variable. If the significance value ≤0.05 then the independent variables do not have a significant effect on the dependent varable.

The coeffisien determination is used to analyze how deep the dependent variable influenced by independent variables. It is in percentage. The remaining percentage shows the ability of other variables outside the model that are considered to affect the dependent variable.

3. Result and Discussion

This study examines the effect of DAR, DER, LtDER, on ROA in food and beverage companies in Indonesia borh partially and simultaneously. Samples were taken in the form of a ratio of 36 time series data from the Indonesia Exchange for the period of 2016 to 2019. Multiple linear regression analysis was used in this study. Data collected and analyzed are normally distributed, free from multicollinearity, heterocedasticity, and autocorrelation. Hypothesis testing is preceded by testing classic assumptions. This test is to determine and test the feasibility of research regression model data, as follows:

Independent variables and dependent variables can be known whether distributed normally or not by using the normality test. The probability plot graph shows the result of the normality test for the Return on Asset (ROA) variable.

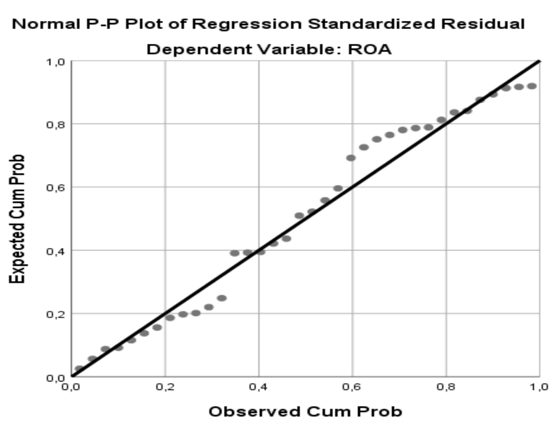

Figure 1 Normal P-P Plot

The picture above has a normal chart pattern. The distribution follows a diagonal line. The assumption of normality is fulfilled by the regression model, so it is feasible to use.

Multicollinearity test is used to find out whether the variables have more than one linear relationship (influence). The result of the multicollinearity test are presented in the following table:

Table 1. The Result of Multicolinearity Test

Coefficients[a]		
	Collinearity Statistics	
Model	Tolerance	VIF
1 (Constant)		
DAR	0.302	3.317
DER	0.470	2.129
LtDER	0.409	2.448
a. Dependent Variable: ROA		

The tolerance value of the three independent variables is greater than 0.10 and VIF is smaller than 10. The regression model is considered to have no multicollinearity problem and is suitable for use. The purpose of the autocorrelation test is to test whether there is a residual correlation in the t period with the previous period (t-1). Durbin Watson was used to test it. The result is as follows:

Table 2. The Result of Autocorrelation Test

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.812[a]	0.659	0.627	0.04570	1.244
a. Predictors: (Constant), LtDER, DER, DAR					
b. Dependent Variable: ROA					

The output shows that the DW value is 1.244, which is below the dL value (lower limit value) of 1.2953 and dU (upper limit value) of 1.6539. This concludes that the test has autocorrelation and will be overcome by a Run Test.

Table 3. The Result of Runs Test

Runs Test	
	Unstandardized Residual
Test Value[a]	0.00179
Cases < Test Value	18
Cases >= Test Value	18
Total Cases	36
Number of Runs	13
Z	-1.860
Asymp. Sig. (2-tailed)	0.063
a. Median	

Runs test result showed that there are no symptoms of autocorrelation. The autocorrelation problem was successfully overcome with this test, so the researcher can continue the linear regression analysis.

The partial effect of DAR, DER, and LtDER on ROA is known from the result of the t test in the following table:

Table 4. The Result of t-test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	0,239	0.022		11.033	0.000
	DAR	-0,475	0.083	-1.081	-5.750	0.000
	DER	-0,027	0.050	-0.081	-0.539	0.594
	LtDER	0,148	0.046	0.521	3.227	0.003

a. Dependent Variable: ROA

The result show that individually, the DAR variable has a coefficient of -0.475 and a significance probability of 0.000 (<0.005). the DER variable gives a coefficient of -0.027 with a significance probability of 0.594 (>0.05). the LtDER variable has a coefficient value of 0.148 with a significance probability of 0.003 (<0.05).

These findings indicate that the DAR and LtDER variables partially have a significant effect on ROA, while DER partially has no significant effect on ROA.

Testing the effect of independent variables on the dependent variable simultaneously, is carried out using the F test. The result of the F test are as follows:

Table 5. The Result of F-test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.129	3	0.043	20.632	0.000[b]
	Residual	0.607	32	0.002		
	Total	0.196	35			

a. Dependent Variable: ROA

b. Predictors: (Constant), LtDER, DER, DAR

Table 5 shows the calculated F value of 20.632 and a significance of 0.000 which means that the DAR, DER, and LtDER variables have a significant effect on ROA simultaneously.

The coefficient of determination (R^2) is between 0 (zero) and 1 (one), indicating the magnitude of the influence of the independent variables on the variation of dependent variable.

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Table 6
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.812[a]	0.659	0.627	0.04570

a. Predictors: (Constant), LtDER, DAR, DER
b. Dependent Variable: ROA

The coefficient of determination (R^2) is 0.659 and the correlation coefficient (R) is 0.812. The table shows that the correlation coefficient (R) that occurs between DAR, DER, and LtDER affect 65.9%, while the remaining 34% is influenced by other variables outside.

Discussion of the research's results as follows: The result of data processing indicate that DAR has no significant negative effect on ROA. This supports the first hypothesis and is accordance with research by Jannati, et al (2014), and Widiyanti and Elfina (2015). The higher ratio means the greater the amount of loan capital used to invest in assets in order to generate profits for the company. If the company add more liabilities guaranteed by its assets, the profitability will reduce significantly, so manager must be carefull to make any decisions about financial strategies.

The research finding shows that DER has a negative not significant effect on ROA. These result reject the second hypothesis, but is in accordance with research result by Widiyanti & Elfina (2015), also Maulita & Tania (2018). The implication is, the higher ratio does not indicate the greater amount of equity involved in generating company profits. If the company add more liability guaranteed by its equity, the profitability will reduce although the reduction is not very significant. It's more

The research result showed that LtDER had a significant positive effect on ROA. It supports the third hypothesis in terms of significance, but refused in terms of the direction of influence, and does not support previous studies. The assumption of the results of this study is that the greater the amount of longterm debt, determines the higher role of equity in generating profits for the company. The result of the study differ from previous researchs cited by the author. The underlying assumptions are the fact that longterm debt has a role in increasing public trust in buying shares which is the company's equity, thereby ensuring the availability of funds for company activities in generating profits. The result showed that DAR, DER, and LtDER had a significant positive effect on ROA. This is in accordance with the hypothesis.

4. Conclusions

The result of this study accept the first hypothesis that DAR has a significant negative effect on ROA. The research result stated that the DER had no significant negative effect on ROA, so the second hypothesis was rejected. The result of the study stated that LtDER had a significant positive effect on ROA, thus accepting the third hypothesis in significance, and rejecting in the direction of influence. The fourth hypothesis is accepted by the result of the study which states that simultaneous DAR, DER, and LtDER significantly influence ROA. The author suggests further research that discusses profitability using other independent variables such as BOPO, CAR, NIM, and so on; so that the result of the next research will further strengthen the result of previous studies, or actually be able to get new findings.

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