

The Effect of Debt To Asset Ratio, Long Term Debt To Equity Ratio and Time Interest Earned Ratio on Profitability

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Article History

Received: April 9, 2021 Revised: April 15, 2021 Accepted: April 30, 2021

Abstract

This study's purpose is to analyse the influence of DAR, LDER, and TIER on Profitability. Populations of data are taken food and beverage companies listed in BEI from 2009-2011. Samples taken using purposive sampling method and total of samples used during study period is 39 samples. Hypothesis used in this study is multiple linear regression. Based on F test, the results indicated DAR, LDER, and TIER have a significant effect on Profitability. DAR, LDER, and TIER partial effect on Profitability was evaluated using T test. DAR have a negative and non-significant effect on ROE at -0,252. LDER have a negative and significant effect on ROE at -0,437 and TIER have a positive but non-significant effect on ROE at 0,00020.

Keywords: Debt To Asset Ratio (DAR), Long Term Debt To Equity Ratio (LDER), Time Interest Earned Ratio (TIER), Profitability

JEL Classification : M21

Type of paper: Research Paper

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DOI:
10.46306/bbijbm.v1i1.8

Web:
<http://bbijbm.lppmbinabangsa.id/index.php/home>

Citation:

Farah, I., Amin, C., & Pramudianto. (2021). The Effect of Debt To Asset Ratio, Long Term Debt To Equity Ratio and Time Interest Earned Ratio on Profitability. *Bina Bangsa International Journal of Business and Management (BBIJBM)*, 1(1), 68-78. DOI: 10.46306/bbijbm.v1i1.8

I. Introduction

The company's goal that shareholders want is to maximize firm value (Brealey et al, 2011). One of the ways to improve financial performance is by optimizing existing financial resources, namely how the company is able to meet funding needs and manage the sources of meeting funding needs to run and develop its business or better known as the capital structure. According to Kamaludin (2011), the capital structure is a combination or mixture of long-term financing sources.

According to Brigham and Houston (2011), the optimal capital structure of a company is defined as a structure that will maximize its share price. Harmono (2009) describes the general indicators used to determine the optimal composition of the capital structure are Debt to Assets Ratio (DAR), Long Term Debt to Equity Ratio (LDER) and Time Interest Earned Ratio (TIER). DAR, which is also often referred to as the debt ratio, describes the strategy for using funds originating from debt to finance company assets. LDER reflects the company's ability to meet long-term debt through its own capital. TIER shows measuring the amount of guaranteed profit to pay long-term debt interest.

Company profits are obtained by carrying out its activities in order to obtain sufficient funds so that the company's operations can run smoothly. Judging from the origin, sources of capital consist of internal sources and external resources. Capital generated from within the company as an internal source can be in the form of retained earnings and accumulated depreciation. Meanwhile, external sources of funds are sources of company funds that come from outside the company, namely funds obtained from creditors or shareholders, for example debt.

Accounts payable is an obligation to deliver money, goods, or services to other parties in the future as a result of transactions that have occurred in the past or before. In terms of the period of repayment or debt repayment tools, it can be divided into two groups, namely short-term debt (current debt) and long-term debt.

Companies that choose to finance their business from debt must be careful, because debt has risks, one of which is interest costs. Interest costs affect the profits earned by the company. This is in accordance with Hartono's (2008) statement that debt has a risk, the higher the risk of the company, the higher the level of profitability that is expected in return for the high risk, and vice versa.

II. Literature Review

2.1. Food and Beverage Companies

Food and beverage companies are manufacturing companies, namely processing industrial companies that process raw materials into semi-finished or finished goods. Manufacturing companies are synonymous with factories that apply machines, tools, engineering techniques and labor. This term can be used for human activities ranging from handicrafts to high-tech production. However, this term is more often used for the industrial world, where raw materials are converted into finished goods on a large scale.

Food and beverage companies are one of the business sectors that continue to experience growth. In line with the increasing population growth in Indonesia, the volume of demand for food and beverages continues to increase as well. The tendency of Indonesian people to enjoy ready-to-eat food has led to the emergence of many new companies in the food and beverage sector because they consider the food and beverages industry sector to have favorable prospects both now and in the future (Nur, 2016).

2.2. Profitability

Profitability can be defined as the ability of a company to earn profits related to sales, total assets, and long-term debt (Syamsuddin, 2009). Meanwhile, according to Umar (2001), profitability is the company's ability to generate profits from every sale made. According to Kasmir (2012), the profitability ratio is a ratio to assess a company's ability to seek profit.

The ratio provides a measure of the level of management effectiveness of a company. This is addressed by the profit generated from sales and investment income (Yana, 2016). The point is that the use of this ratio shows the efficiency of the company. The use of profitability ratios can be done by using comparisons between the various components in the financial statements, especially the balance sheet financial statements and the income statement.

So, profitability is the ability of a company to carry out its activities to generate profits through all the resources owned by the company. To increase this, the company must make a larger investment in assets that are profitable and actually provide results for the company. Profits are also often compared to other financial conditions, such as sales, assets and equity. This comparison is often called the profitability ratio. According to Subramanyam and Wild (2010), there are ratios that are part of the capital structure ratio, namely Debt to Asset Ratio (DAR), Longterm Debt to Equity Ratio (LDER) and Time Interest Earned Ratio (TIER).

Factors that affect profitability include:

1) DAR

According to Brigham and Houston (2011), Debt to Asset Ratio (DAR) states that the ratio of total debt to total assets, commonly known as the debt ratio, measures the percentage of funds provided by creditors. The ratio of total debt to assets is calculated as follows:

$$\text{DAR} = \frac{\text{Total Debt}}{\text{Total Asset}}$$

This ratio measures the overall need for funds or assets used to guarantee debt. A high ratio means that the company uses high debt / financial leverage. The use of high debt will increase profitability, on the other hand, high debt will also increase risk. If sales are high, then the company can get high profits (because it on-

ly pays fixed interest). Conversely, if sales fall, the company is forced to suffer losses, because of the interest that must be paid.

2) LDER

Long Term Debt to Equity Ratio (LDER) according to Hery (2016) states that the ratio of long-term debt to equity is a ratio used to measure the proportion of long-term debt to capital. This ratio is used to measure how much long-term debt is guaranteed by equity / equity. A ratio that exceeds 1: 1 indicates debt financing to existing capital. The ratio of total long-term debt to equity is calculated as follows:

$$\text{LDER} = \frac{\text{Total Long Term Debt}}{\text{Total Equity}}$$

This ratio measures the amount of equity that is used as collateral for long-term debt.

3) TIER

Time Interest Earned Ratio (TIER) is the resulting interest rate ratio showing how far or how many times the company's ability to pay interest. The company's ability here is measured by the amount of profit before interest and tax (Hery, 2016). The time interest income ratio can be calculated by the formula:

$$\text{TIER} = \frac{\text{Earning Before Interest Tax}}{\text{Interest Expense}}$$

This ratio measures the amount of guaranteed profit to pay long-term debt interest. The ratio calculates how much profit before interest and tax is available to cover fixed interest expenses. A high ratio indicates a safe situation, because there are larger funds available to cover interest payments.

2.3. Factors Affecting Company Profitability

2.3.1. The effect of the DAR variable on profitability

Debt to Assets Ratio (DAR) or also known as debt ratio, which shows how much the company's assets are financed through debt. Thus, the greater the debt in asset financing, the greater the company's liability burden to external parties. The increased responsibility burden may result in the company being unable to pay. The results of research by Setiana and Rahayu (2012), Purwitasari (2013), Kodongo et.al (2014), Effendi (2017) Thi Phuong & Nguyet Phan (2017) prove that DAR has a negative effect on company profitability.

2.3.2. The effect of the LDER variable on profitability

Long Term Debt Equity Ratio is used to measure how much long-term debt is guaranteed by equity / equity. A ratio that exceeds 1: 1 indicates debt financing exceeds existing capital, and of course illustrates what is not good for the company. Conversely, if the company can manage its funding through long-term debt, it will

make financial conditions better. The effect of Long Term Debt Equity Ratio on company profitability is shown in research conducted by Odongo Kodongo and Thabang Mokoaleli-Mokoteli and Leonard Maina (2014), Varun Dawar (2014) Suandini & Suzan (2015) Agum Sulistio and Muhammad Saifi (2017)). The negative relationship between LDER and company profitability is evidenced by Kodongo et.al (2014) and Suandini & Suzan (2015).

2.3.3. The effect of the TIER variable on profitability

Time Interest Earned Ratio (TIER) is also called the coverage ratio, which measures the extent to which income can decrease without sacrificing the company's ability to pay interest costs. The greater the company's debt, the greater the interest on its debt and the greater the reduction in company profits. Decreasing profits will affect firm value. Conversely, if the debt interest expense is not large, the company can cover it well.

This exposure shows that the Time Interest Earned Ratio affects the company's profitability and value. The results showed the influence of TIER on company profitability was shown by Suandini and Suzan (2015), Agum Sulistio and Muhammad Saifi (2017).

According to Nasution (2008), the hypothesis is a tentative statement which is a guess or conjecture about what we observe in an attempt to understand it. The function of the hypothesis is to test the truth of a theory, give ideas to develop a theory, expand knowledge about the symptoms learned. Based on the framework that has been submitted, the authors draw the hypothesis or the provisional allegation as follows:

- H1 : Debt to Asset Ratio (DAR) has a significant effect on profitability in food and beverage sector companies.
- H2 : *Long term Debt to Equity Ratio* (LDER) has a significant effect on profitability in food and beverage sector companies.
- H3 : *Time Interest Earned Ratio* (TIER) has a significant effect on profitability in food and beverage sector companies.
- H4 : *Debt to Asset Ratio* (DAR), *Long term Debt to Equity Ratio* (LDER), *Time Interest Earned Ratio* (TIER) simultaneously have an significant effect on profitability in the food and beverage sector companies.

III. Methodology

This type of research is a type of explanatory research with a quantitative approach. The purpose of this study was to determine the effect of DAR, LDER and TIER on profitability. Explanatory research is research that aims to test a theory or hypothesis in order to strengthen or even reject existing theories or research hypotheses. The independent variables in this study are Debt to Asset Ratio (DAR) (X1), Longterm Debt to Equity Ratio (LDER) (X2), Time Interest Earned Ratio (TIER) (X3) to profitability (Y) in food and beverage sector companies. listed on the IDX for the period 2009-2011.

3.1. Population and Sample

Population is a generalization consisting of objects or subjects that have certain qualities and characteristics that are determined by the researcher to study and then draw conclusions. (Sugiyono, 2016). The population in this study were food and beverage companies listed on the IDX in 2009-2011. According to Soehartono (2004), the sample is a part of the population to be studied and which is considered to describe the population. The samples in this study were 39 food and beverage companies. This study uses purposive sampling technique, namely the sampling technique not based on random, regional or strata, but based on the existence of considerations that focus on certain objectives (Arikunto, 2006).

3.2. Data Collection

The data used in this study is secondary data, namely data obtained or collected by researchers from various existing sources with panel data (pool data), namely data consisting of several data objects with several research periods. Sources of data in this study were obtained from financial reports of finance companies listed on the Indonesia Stock Exchange for the period 2009-2011.

IV. Results and Discussion

4.1. Results

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

		Unstandardized Residual
N		39
Normal Parameters a,b	Mean	.0000000
	Std. Deviation	.15982221
Most Extreme Differences	Absolute	.116
	Positive	.116
	Negative	-.108
Kolmogorov -Smirnov Z		.722
Asy mp. Sig. (2-tailed)		.674

a. Test distribution is Normal.

b. Calculated from data.

Source: Processed data

From the calculation, the sig value is obtained. 0.674 (can be seen in Table 3) or the results of the normality test on the regression residual value yields a value of A. Significance > 5%; then the H0 requirement is accepted, namely that the normality assumption is met.

Table 2. Multicollinearity Test

Model	Tolerance	VIF
DAR	0.702	1.425
LDER	0.774	1.292
TIER	0.972	1.029

Source: Processed data

From the test results, it can be concluded that there is no multicollinearity between the independent variables. Thus the assumption test for the absence of multicollinearity can be fulfilled.

Table 3. Multiple Panel Data Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.11458	.066		1.737	.091
X1	-.25216	.128	-.125	-1.962	.058
X2	-.43695	.069	-.385	-6.353	.000
X3	.00020	.000	.069	1.274	.211

Source: Processed data

Based on the above interpretation, it can be seen that the contribution of the independent variables to the dependent variable, including DAR is -0.252, LDER is -0.4369, and TIER is 0.00020. So it can be denied that TIER has a positive effect on profitability. In other words, increasing TIER will increase profitability.

Table 3. Correlation and Determination Coefficients

Model	R	R Square	Adjusted R Square
1	.950	.903	.892

Source: Processed data

The coefficient of determination is used to calculate the magnitude of the influence or contribution of the independent variable to the dependent variable. From the above analysis, the R² (coefficient of determination) is 0.903. This means that 90.3% of the ROE variable will be influenced by the independent variables, namely DAR (X1), LDER (X2), and TIER (X3). While the remaining 9.7% of the ROE variable will be influenced by other variables which are not discussed in this study.

4.2. Discussion

4.2.1. Effect of Debt to Asset Ratio on Profitability

Debt to Assets Ratio (DAR) shows the share of total needs that is financed by debt. The greater the DAR indicates that many funds are financed with debt. The re-

gression coefficient for the DAR variable is (0.252). This shows that an increase in DAR of 1 rupiah will cause a decrease in Return On Equity (ROE) of 0.252 rupiah. The results of this test indicate a significant negative effect of DAR on ROE.

4.2.2. Effect of Longterm Debt to Equity Ratio (LDER) on Profitability

Based on the results of simultaneous testing of ROE, this study found a negative effect of Longterm Debt to Equity Ratio (LDER) on Return On Equity (ROE). From the results of the t test that has been conducted, it can be concluded that the company's ability to meet long-term debt through its own capital has an effect on ROE.

4.2.3. Effect of Time Interest Earned Ratio (TIER) on Profitability

The Time Interest Earned Ratio (TIER) regression coefficient which is positive at 0.00020 explains that there is a direct relationship with ROE. This explains that every 1 rupiah increase from operating profit to interest expense (TIER) contributes to an ROE of 0.00020 rupiah.

V. Conclusion and Recommendation

5.1. Conclusion

From the overall results it can be concluded that the independent variables (DAR, LDER, and TIER) have a significant effect on profitability simultaneously and partially is LDER. And from here it can be seen that the three independent variables that have the most dominant influence on profitability are LDER because they have the largest beta coefficient and t count.

5.2. Recommendation

Based on the results of this study, there are several suggestions, namely as follows:

1. Based on the R-squared value, it shows that the ratio of DAR, LDER and TIER only affects firm value, therefore for further research it is necessary to add other variables that have a big influence.
2. Future research can use sample research in different industries or can be developed using samples from other groups or indexes listed on the Indonesia Stock Exchange.
3. For investors, if they are going to invest in a Food and Beverage company, they must evaluate the value of the company, if the value of the company is in a good position or increases gradually then investors have the opportunity to benefit from their investment and the company will not feel disadvantaged.

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