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The Effect of Debt to Equity Ratio (DER) on Return on Equity at PT Astra Agro Lestari Tbk

[1]Linda Saradillah, [2]Alwi, [3]Nurul Huda
[1,2,3] Management Study Program, Sekolah Tinggi Ilmu Ekonomi Bima, Nusa Tenggara Barat, Indonesia

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Email :
lindasaradillahstiebima21@gmail.com

ABSTRACT

This study investigates the effect of the Debt to Equity Ratio (DER) on Return on Equity (ROE) at PT Astra Agro Lestari Tbk. DER represents the proportion of debt to equity in a company's capital structure, whereas ROE reflects the company's ability to generate profits from its shareholders' equity. The research employs a quantitative approach using secondary data derived from the company's annual financial statements for the period 2012–2023. A simple linear regression analysis is conducted to assess the relationship between the variables. The findings reveal that DER does not have a statistically significant effect on ROE. This indicates that changes in the company's capital structure, particularly in terms of debt utilization, do not substantially impact the returns earned by shareholders. The study suggests that other factors—such as operational efficiency, asset utilization, and strategic financial management—may play a more prominent role in influencing ROE. These results provide valuable insights for investors and corporate decision-makers regarding the relative importance of capital structure in shaping financial performance.

INTRODUCTION

In today's increasingly competitive business environment, companies are required not only to maintain their operations but also to enhance their value through effective financial management. One of the key challenges faced by growing companies is securing and efficiently utilizing financial resources. In this context, capital structure decisions—particularly regarding the balance between debt and equity—play a critical role in shaping financial performance.

Profitability is often used as an indicator of a company's success and financial sustainability. It reflects the firm's ability to generate earnings and is crucial for attracting investors and ensuring long-term growth. Among various profitability indicators, Return on Equity (ROE) is widely used as it measures the efficiency with which a company generates profit from shareholders' equity (Hantono, 2015). However, profitability may also be influenced by a company's solvency position, represented by the Debt to Equity Ratio (DER), which indicates the proportion of external debt relative to internal equity (Herry, 2016). A high DER implies higher financial leverage, which may increase risk, while a low DER indicates stronger reliance on internal funding.

PT Astra Agro Lestari Tbk, one of Indonesia's largest palm oil companies, operates in a sector that is highly exposed to commodity price fluctuations, policy changes, and environmental regulations. These challenges make capital structure decisions particularly critical for maintaining financial stability and delivering attractive returns to shareholders.

This study seeks to analyze the effect of DER on ROE at PT Astra Agro Lestari Tbk. While several studies have examined the relationship between leverage and profitability, the results have been mixed and context-dependent. Therefore, this research aims to provide further empirical evidence by focusing on a leading Indonesian agribusiness firm. The findings are expected to inform financial decision-making within the company and contribute to the broader academic discourse on capital structure and profitability in the agribusiness sector.

METHODS

This study employs a quantitative approach with an associative research design to examine the effect of the Debt to Equity Ratio (DER) on Return on Equity (ROE) at PT Astra Agro Lestari Tbk. The research uses secondary data derived from the company's audited annual financial statements.

The population of this study includes all financial statement data of PT Astra Agro Lestari Tbk from 2011 to 2022. The sample was selected using a purposive sampling technique based on the following criteria: (1) the financial statements must be published annually and audited, and (2) the statements must report both DER and ROE data completely. Based on these criteria, a total of 12 financial reports from the years 2011 to 2022 were selected as the research sample.

The data were obtained from the official website of the Indonesia Stock Exchange (IDX) and the company's official site. The data were processed using Microsoft Excel and SPSS version 25.

The statistical analysis techniques used in this study include descriptive analysis, simple linear regression analysis, and Pearson correlation analysis to test the relationship between the independent variable (DER) and the dependent variable (ROE). In addition, classical assumption tests were carried out, including normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test to ensure the validity of the regression model.

RESULTS AND DISCUSSION

A. Normality Test

The normality test in this study was conducted to determine whether the residuals from the regression model are normally distributed. The test employed was the One-Sample Kolmogorov-Smirnov Test, and the results are presented in Table 1 below:

Table 1. Results of Normality Test (Kolmogorov-Smirnov Test)

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		12
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	7.68943578
Most Extreme Differences	Absolute	.210
	Positive	.210
	Negative	-.109
Test Statistic		.210
Asymp. Sig. (2-tailed)		.150[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Based on the results of the Kolmogorov-Smirnov test above, the Asymp. Sig. value is 0.150. Since this significance value is greater than 0.05, it can be concluded that the residuals are normally distributed. Therefore, the assumption of normality in the regression model is met, indicating that the model is suitable for further analysis.

B. Coefficient of Determination (R^2)

The coefficient of determination test aims to determine the extent to which the independent variable, Debt to Equity Ratio (DER), can explain the variation in the dependent variable, Return on Equity (ROE). The test results are presented in Table 2 below:

Table 2. Results of the Coefficient of Determination Test

Model Summary

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.051[a]	.003	-.097	8.06475

a. Predictors: (Constant), DER

Based on Table 2, the R Square value is 0.003, which indicates that the independent variable DER contributes only 0.3% to explaining the variability in the dependent variable ROE. In other words, the regression model can account for only 0.3% of the variation in ROE, while the remaining 99.7% is explained by other variables not included in this model.

The negative Adjusted R Square value (-0.097) further suggests that the model is not adequate for explaining the relationship between the variables in the general population, particularly considering the relatively small sample size. This indicates that the regression model used in this study has limitations in accurately explaining the dependent variable.

C. Hypothesis Testing (t-Test)

The t-test is conducted to determine whether the Debt to Equity Ratio (DER) has a statistically significant partial effect on Return on Equity (ROE). The results of the test are presented in Table 3.

Table 3. t-Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.228	7.388		1.655	.129
	DER	-.026	.162	-.051	-.160	.876

a. Dependent Variable: ROE

The t-test results show that the calculated t-value = -0.160 is less than the critical t-table value = 2.228, and the significance value is 0.876, which is greater than the 0.05 threshold. Therefore, it can be concluded that DER does not have a significant effect on ROE. Thus, the alternative hypothesis (H_1) is rejected.

These findings indicate a negative but statistically insignificant relationship between DER and ROE. This suggests that an increase in DER tends to be followed by a decrease in ROE; however, this relationship is not strong enough to be considered statistically meaningful. It implies that a high debt burden does not necessarily have a direct impact on the company's profitability.

This result is consistent with previous studies by Argananta & Hidayat (2017) and Juni (2016), which also found that DER does not have a partially significant influence on Return on Equity.

CONCLUSION

Based on the results of the analysis and hypothesis testing conducted in this study, it can be concluded that the Debt to Equity Ratio (DER) does not have a statistically significant effect on the Return on Equity (ROE) at PT Astra Agro Lestari Tbk. This finding is supported by the results of the t-test, which showed that the DER variable had a t-value lower than the critical value and a significance level (p-value) greater than 0.05. Additionally, the coefficient of determination (R^2) was only 0.003, indicating that DER accounts for merely 0.3% of the variation in ROE, while the remaining 99.7% is influenced by other factors not included in this model.

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