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The Influence of Return on Assets (ROA) and Debt to Equity Ratio (DER) on Firm Value at PT. Indosat Tbk for the 2014-2023 Period

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ABSTRACT

The sustainability of a company depends on the effectiveness of financial management, particularly profitability and capital structure. Return on Assets (ROA) measures a company's efficiency in generating profit from its assets, while the Debt to Equity Ratio (DER) indicates the balance between equity and debt. The balance between these two factors plays a crucial role in financial stability and the company's competitiveness. This study aims to determine the effect of Return on Assets (ROA) and Debt to Equity Ratio (DER) on firm value, both partially and simultaneously. The research sample consists of PT Indosat Tbk's financial reports for the 2014-2023 period, using a saturated sampling method. This study employs a descriptive quantitative research method. The analytical method used is multiple linear regression analysis. The results indicate that, partially, ROA has no significant effect on firm value, and DER also has no significant effect on firm value. Simultaneously, ROA and DER do not have a significant effect on firm value.

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1. INTRODUCTION

The rapid development of technology and increasingly intense competition require companies to have full awareness in management to maintain the existence of their business, enabling them to survive and compete. Improving company performance and innovation has become essential, given the high level of competition, to enhance public recognition (Wijaya, 2019). In this regard, the role of operational management is crucial in keeping up with technological advancements to avoid difficulties in handling and managing company operations (Wahjono, 2021). Effective operational management influences business sustainability in an increasingly competitive environment by ensuring efficiency, quality, and customer satisfaction (Hananto et al., 2024) (Damanik & Ramadhani, 2024). Consequently, companies can enhance customer satisfaction, which ultimately plays a role in building customer loyalty. Customer loyalty becomes a key factor in a company's success, not only in the short term but also as a long-term competitive advantage. Loyal customers are less likely to be easily influenced or switch to competitors (Saputra & Suwarti, 2021).

The primary goal of a company is to maximize its corporate value or shareholder wealth, which can be achieved through an increase in firm value (Fajriah, Idris, & Nadhiroh, 2022) (Faridah & Kurnia, 2016).

A high firm value boosts market confidence, not only in the company's current performance but also in its future growth prospects (Irawan & Kusuma, 2019). Firm value is often used as a tool to shape investors' perceptions of a company's condition, as it is considered to reflect the company's true state (Sari & Wahidahwati, 2018). The higher the firm value, the more investors believe that the company is performing well, making them more inclined to invest in it (Dwiastuti & Dillak, 2019). A high firm value reflects strong financial performance and promising growth prospects. In assessing firm value, various financial factors influence it, including return on assets (ROA) and the debt-to-equity ratio (DER) in this study.

Return on Assets (ROA) is a ratio that indicates how effectively a company generates net profit after taxes from the total assets used in its operations (Pangestuti, D. C. 2018). ROA reflects a company's ability to manage its assets to generate profit (Amrah & Elwisam, 2018). The higher the ROA, the more attractive the company is to investors, as it demonstrates the company's capability to manage its assets efficiently and generate returns.

The Debt-to-Equity Ratio (DER) is a financial ratio used to assess a company's ability to meet its long-term obligations (Azzahra, 2021). A high DER indicates that the company relies more on debt than equity. If the debt is not managed properly, it can pose a risk to the company. Conversely, a low DER suggests that a company relies more on its own capital than debt for operations, which may indicate financial stability but also low leverage utilization. According to the study by (Dwiastuti & Dillak, 2019), profitability (ROA) has a significant positive effect on firm value, while DER does not have a significant positive effect on firm value. Similarly, the research by (Mumtazah & Purwanto, 2020) found that ROA has a positive and significant effect on firm value. Meanwhile, (Nafisah, Halim, & Sari, 2018) found that ROA has a positive and significant effect on Tobin's Q, whereas DER has a negative and significant effect on Tobin's Q.

Based on the explanation above, this study will examine the effect of ROA and DER on the firm value of PT Indosat Tbk., aiming to assess the company's financial performance for investor decision-making.

2. METHODS

The population in this study is based on the annual financial reports over a 10-year period from 2014 to 2023 at PT Indosat Tbk. The sampling technique used in this research is a saturated sample, in which all members of the population are used as samples (Dumilah, Sunarsi, Suwanto, Nurjaya, & Waskita, 2021). Thus, the sample in this study consists of financial reports spanning 10 years (2014–2023). This study employs a descriptive quantitative method, meaning the data collected is secondary data. Secondary data refers to data that is already available from other sources and can be obtained through books, websites, or other documents (Anshori & Iswati, 2019; Purwanza, 2022; Sri Anjarwati et al., 2024). The secondary data for this study was retrieved from the company's official website: https://ioh.co.id/portal/en/iohindex.

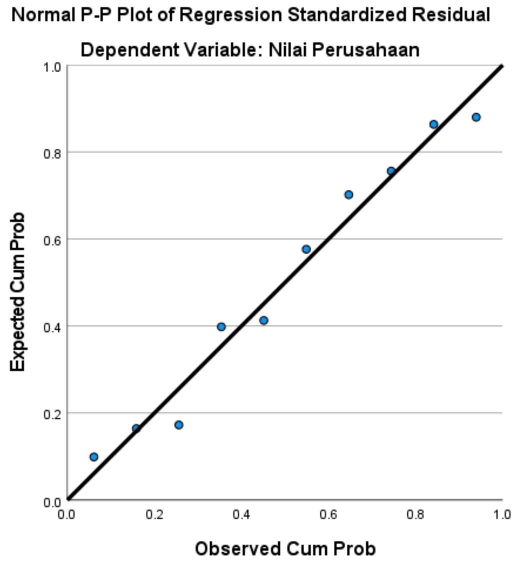
The data analysis technique used in this research is descriptive statistical analysis. The analytical method applied is multiple linear regression analysis. Before conducting multiple linear regression analysis, classical assumption tests are performed. A multiple linear regression model can be considered good if it meets the BLUE (Best Linear Unbiased Estimator) criteria. To achieve BLUE, the model must satisfy the Classical Assumption(Anshori & Iswati, 2019; Moleong, 2005; Wada et al., 2024) (Sholihah, Aditiya, Evani, & Maghfiroh, 2023).

3. FINDINGS AND DISCUSSION

Classic Assumption Test

The classic assumption test in this study includes the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. Classic assumptions are conditions that must be met in an Ordinary Least Squares (OLS) linear regression model to ensure its validity as a predictive tool (Sholihah, S. M., et al., 2023).

Normality Test (P-P Plot)



Source: Data processed from SPSS 27 output.
Figure 1. Normality Test P-P Plot

The graph above shows that the plotted points are positioned around the diagonal line, following its direction and displaying a pattern that appears normal. To further confirm the normality observed in the graph, the Kolmogorov-Smirnov test will be conducted.

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		10
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.12836334
Most Extreme Differences	Absolute	.158
	Positive	.158
	Negative	-.126
Test Statistic		.158
Asymp. Sig. (2-tailed)[c]		.200[d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Source: Data processed from SPSS 27 output.
Figure 2. Kolmogorov-Smirnov

Based on the output, the Asymp. Sig. (2-tailed) value is 0.200, which is greater than 0.05. Therefore, it can be concluded that the tested data follows a normal distribution.

Multicollinearity Test

Table 1. Multicollinearity Test Results

Coefficients[a]

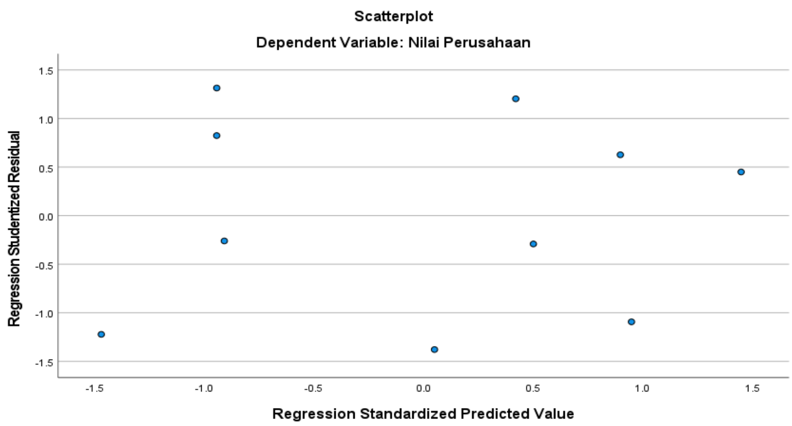
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.286	.186		6.915	<.001		
	ROA	.022	.012	.626	1.822	.111	.818	1.223
	DER	.000	.001	-.202	-.587	.576	.818	1.223

a. Dependent Variable: Nilai Perusahaan

Source: Data processed from SPSS 27 output.

Based on Table 1, the tolerance values for ROA and DER are greater than 0.100, and the VIF values for ROA and DER < 0.10. Therefore, it can be concluded that there is no indication of multicollinearity in the model.

Heteroscedasticity Test (Scatterplot)



Source: Data processed from SPSS 27 output.
Figure 3. Heteroscedasticity Test

From **Figure 3**, it is shown that the points are scattered above and below zero, with no consistent pattern along the Y-axis. To further confirm the results of the heteroscedasticity test, the **Park test** will be conducted.

Table 2. Heteroscedasticity Test Results (Park Test)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.817	2.023		-2.381	.049
	ROA	-.108	.130	-.327	-.825	.437
	DER	.000	.007	.025	.062	.952

a. Dependent Variable: LN_RES

Source: Data processed from SPSS 27 output.

Based on the data analysis above, the significance values for the ROA and DER variables are greater than(< 0.05) Therefore, it can be concluded that there is no indication of heteroscedasticity in the model.

Autocorrelation Test (Durbin-Watson Test)

Table 3. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.570[a]	.325	.132	.14555	1.721

a. Predictors: (Constant), DER, ROA

b. Dependent Variable: Nilai Perusahaan

Source: Data processed from SPSS 27 output.

Given that the number of data points is n=10n = 10n=10, the independent variables are k=2k = 2k=2, and the significance level is 5%, the value obtained from the Durbin-Watson (DW) table for dw dL is **0.6972**. The value of dUdUdU is **1.6413**, and the Durbin-Watson statistic is **1.721**. Durbin-Watson Criteria dU< Durbin Watson< 4-dU Obtained from the above statement dU (1.6413) < Durbin Watson (1.721) < 4-dU (2.3587) This indicates that autocorrelation does not occur.

Multiple linear regression

Table 4. Multiple Linear Regression Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.286	.186		6.915	<.001
	ROA	.022	.012	.626	1.822	.111
	DER	.000	.001	-.202	-.587	.576

a. Dependent Variable: Nilai Perusahaan

Source: Data processed from SPSS 27 output.

Based on Table 4, the constant is 1.286, with an ROA coefficient of 0.022 and a DER coefficient of 0.000. The multiple linear regression equation:

a. The firm's value is estimated to be 1.286 when all variables (ROA and DER) are zero.

b. For every one-unit increase in ROA (Return on Assets), the firm's value will increase by 0.022, assuming other variables remain constant.

c. For every one-unit increase in DER (Debt to Equity Ratio), the firm's value does not undergo a significant change (as its coefficient is zero), assuming other variables remain constant.

Coefficient of Determination Test

Table 5. Coefficient of Determination Test Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.570[a]	.325	.132	.14555

a. Predictors: (Constant), DER, ROA

Source: Data processed from SPSS 27 output.

Based on Table 5 above, the coefficient of determination test using the Adjusted R Square value resulted in a value of 0.132. This indicates that the independent variables, Return on Assets (ROA) and Debt to Equity Ratio (DER), contribute 13.2% to the firm's value, while the remaining 86.8% is influenced by other variables not examined in this study.

F-Test (Simultaneous Test)

Table 6. F-Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.071	2	.036	1.683	.253[b]
	Residual	.148	7	.021		
	Total	.220	9			

a. Dependent Variable: Nilai Perusahaan

b. Predictors: (Constant), DER, ROA

Source: Data processed from SPSS 27 output.

In this study, as shown in Table 6 above, the obtained significance value is 0.253, which is greater than 0.05. Therefore, it can be concluded that the ROA and DER variables do not have a significant simultaneous (combined) effect on the firm's value.

T-Test (Hypothesis Test)

Table 7. T-Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.286	.186		6.915	<.001
	ROA	.022	.012	.626	1.822	.111
	DER	.000	.001	-.202	-.587	.576

a. Dependent Variable: Nilai Perusahaan

Source: Data processed from SPSS 27 output.

a. The ROA variable has a significance value of 0.111, which is greater than 0.05. Therefore, it can be concluded that the ROA variable does not have a significant effect on the firm's value (Ha1 is rejected).

b. The DER variable has a significance value of 0.576, which is greater than 0.05. Therefore, it can be concluded that the DER variable does not have a significant effect on the firm's value (Ha2 is rejected).

The Influence of Return on Assets (ROA) on Firm Value

Return on Assets (ROA) is a financial indicator used to measure a company's ability to generate profit from its assets. The higher the ROA, the more efficient the company is in utilizing its assets to generate profit. Theoretically, companies with high ROA are more attractive to investors as it indicates good profitability, which can ultimately enhance firm value. However, the findings of this study indicate that ROA does not have a significant influence on firm value. This is evidenced by a t-value of 1.822, which is lower than the critical t-value of 2.36462, and a significance value of 0.111, which is greater than 0.05. Thus, it can be concluded that ROA is not the primary factor determining firm value in the context of this study.

Several factors may explain why ROA does not significantly affect firm value. First, firm value is not solely determined by profitability but also by non-financial factors such as corporate reputation, innovation, business strategy, and investor confidence. These factors often have a greater impact on investment decisions than financial indicators like ROA. Moreover, macroeconomic conditions and government policies can also significantly influence firm value. In an unstable economic environment, investors may focus more on external factors rather than the company's financial performance. Another contributing factor could be investors' preference for other financial ratios, such as Return on Equity (ROE) or Debt to Equity Ratio (DER), which may better reflect a company's performance and risk.

Additionally, the industry sector plays a role in determining the relevance of ROA to firm value. In capital-intensive industries such as manufacturing and infrastructure, investors tend to consider factors like capital structure and debt levels rather than asset efficiency measured by ROA.

The Influence of Debt to Equity Ratio (DER) on Firm Value

Based on the hypothesis testing results, the Debt to Equity Ratio (DER) variable does not have a significant influence on firm value. This is evident from the t-value of -0.587, which is smaller than the critical t-value of 2.36462, and a significance value of 0.576, which is greater than 0.05. These results indicate that, statistically, DER does not have a significant relationship with firm value in the context of this study. The insignificance of DER's influence on firm value may be due to several factors. One possible explanation is that a company's capital structure is not the primary factor affecting firm value in the studied industry or sector. In some cases, investors tend to focus more on other factors such as profitability, company growth, and dividend policies when assessing a company, rather than its debt-to-equity ratio.

Additionally, the relationship between DER and firm value may be non-linear or influenced by other variables not included in this research model. For instance, a company with a high level of debt but strong profitability may still be valued highly by investors. Conversely, a company with a low DER but slow growth may be less attractive to investors. In financial theory, Modigliani and Miller (1958) argue that under perfect market conditions, capital structure does not affect firm value. However, in the real world, factors such as taxes, bankruptcy costs, and financial risks can lead to variations in the impact of DER on firm value. Therefore, the findings of this study suggest that, in certain contexts, DER is not a primary variable in determining firm value.

The Influence of Return on Assets (ROA) and Debt to Equity Ratio (DER) on Firm Value

Based on the simultaneous testing results, Return on Assets (ROA) and Debt to Equity Ratio (DER) do not have a significant influence on firm value. This is reflected in an F-value of 1.683, which is lower than the critical F-value of 4.74, and a significance value of 0.253, which is greater than 0.05. The insignificance of ROA and DER's influence on firm value may be attributed to several factors. First, firm value is not solely determined by financial ratios such as ROA and DER but is also affected by various external variables, including macroeconomic conditions, government regulations, interest rates, and capital market stability. Changes in these factors can have a more dominant impact on investors' perceptions of firm value than financial ratios alone.

Second, these results may indicate that within the research sample, investors do not place significant emphasis on profitability (ROA) or capital structure (DER) when assessing companies. In certain industries, particularly those characterized by high growth or rapid technological innovation, firm value is more influenced by future growth expectations than historical financial performance. For instance, companies in the technology sector or startups often have low ROA but maintain high valuations due to their strong growth prospects. Third, the low influence of ROA on firm value may reflect that investors do not solely consider profitability in determining a company's valuation but also take into account other factors such as risk management, corporate reputation, and business expansion strategies. Meanwhile, a high or low Debt to Equity Ratio (DER) may not be a significant factor in attracting investor interest, especially if the company has an effective debt management strategy and promising business prospects.

Additionally, these research findings can be compared with previous studies, which suggest that the impact of ROA and DER on firm value may vary depending on industry sector, company size, and observation period. Some studies indicate that companies with high ROA tend to have better firm value; however, this relationship may weaken in unstable economic conditions. Similarly, DER can sometimes enhance firm value if debt is used to finance profitable investments, but it can also reduce firm value if financial risk increases.

4. CONCLUSION

Based on the findings of this study, the conclusions are as follows:

1. Partially, Return on Assets (ROA) does not have a significant effect on the firm value of PT. Indosat Tbk. This is indicated by a t-value of 1.822, which is smaller than the t-table value of 2.36462, and a significance value of 0.111, which is greater than 0.05. These results suggest that the company's ability to generate profit from its assets is not a primary factor in determining the firm value of PT. Indosat Tbk during the research period.
2. Partially, Debt to Equity Ratio (DER) does not have a significant effect on the firm value of PT. Indosat Tbk. This is shown by a t-value of -0.587, which is smaller than the t-table value of 2.36462, and a significance value of 0.576, which is greater than 0.05. These findings indicate that the company's capital structure composition between debt and equity is not a key consideration for investors in assessing the company during the research period.
3. Simultaneously, Return on Assets (ROA) and Debt to Equity Ratio (DER) do not have a significant effect on the firm value of PT. Indosat Tbk. This is evidenced by an F-value of 1.683, which is smaller than the F-table value of 4.74, and a significance value of 0.253, which is greater than 0.05. Together, these two factors contribute only 13.2% (based on the Adjusted R Square value) to changes in firm value, while the remaining 86.8% is influenced by other variables not examined in this study.

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