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Analysis of the Effect of Profitability, Solvency, and Activity Ratios on Firm Value in Conventional Banks in Indonesia During the 2021–2024 Period

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ABSTRACT
This study aims to analyze the effect of profitability, solvency, and activity ratios on firm value in conventional banks listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. The financial ratios examined include Return on Assets (ROA), Return on Equity (ROE), and Debt to Equity Ratio (DER), while firm value is measured using stock prices. The research employs a quantitative approach with multiple linear regression analysis, supported by SPSS version 27. Data were collected from audited annual reports of 15 conventional banks selected through purposive sampling. The results indicate that ROA, ROE, and DER have a significant simultaneous and partial influence on stock prices. The regression model passes all classical assumption tests and demonstrates an R^2 value of 0.68, meaning 68% of the variation in stock prices can be explained by the three financial ratios. These findings highlight the importance of financial performance as a determinant of firm value in the banking sector.

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INTRODUCTION

The development of the banking sector plays a pivotal role in supporting national economic resilience. As financial intermediaries, conventional banks perform vital functions by collecting funds from the public and allocating them through credit and investment. This role not only underpins financial system stability but also serves as a benchmark for evaluating a country's macroeconomic condition. In light of this, understanding the financial performance of banks and its effect on firm value is of critical importance to both policymakers and market participants.

Firm value is widely recognized as a key metric for assessing a company's attractiveness in the capital market. It reflects the collective expectations of investors regarding the company's future earnings, growth potential, and risk profile. A high firm value indicates strong investor confidence and a positive outlook for the company's long-term viability (Brigham & Houston, 2019). Among the various valuation metrics, Price to Book Value (PBV)

is often used in the banking industry due to its relevance in reflecting market sentiment relative to book equity.

Financial ratios provide a fundamental basis for evaluating a company's operational soundness and investment quality. Profitability ratios such as Return on Assets (ROA) and Return on Equity (ROE) measure a company's ability to generate returns from its assets and equity, respectively. According to Kasmir (2019), higher profitability ratios indicate better management performance and increased investor appeal. In banking, these ratios are crucial because they indicate how efficiently a bank utilizes depositors' funds and shareholder capital to generate profits.

Solvency ratios, particularly the Debt to Equity Ratio (DER), offer insights into a company's financial leverage and risk exposure. DER represents the extent to which a firm relies on debt financing relative to equity. Harahap (2011) argues that excessively high DER can signal financial distress and deter investors. However, in the banking sector, where debt in the form of deposits is a primary funding source, high DER values require more nuanced interpretation that considers industry-specific regulatory frameworks.

Activity ratios, such as Total Asset Turnover (TATO), are often underutilized in banking research but hold significant relevance. TATO measures how efficiently a company uses its total assets to generate revenue. Sartono (2020) states that high activity ratios suggest effective asset management and operational agility, which can enhance investor perception and firm valuation. In banking, this could relate to the efficient deployment of credit and investment portfolios.

The volatility in firm value among Indonesian banks during the 2021–2024 period underscores the complexity of these relationships. For example, leading banks such as BBRI and BBCA recorded increases in PBV, whereas mid-sized banks like Bank Mayapada and Bank Ina Perdana experienced declining firm values despite improved financial metrics. This discrepancy raises questions about the adequacy of financial ratios as sole indicators of value, suggesting the influence of other factors such as market sentiment, regulatory changes, and macroeconomic shocks.

Empirical studies support this complexity. Dewi (2021) found that ROA and DER significantly influence firm value in the banking sector. Irawati & Siregar (n.d.) highlighted the role of liquidity and asset turnover in driving firm valuation. Meanwhile, Azizah & Kabib (2024) observed that the relationship between financial ratios and PBV can be nonlinear, affected by external macroeconomic dynamics. These findings call for a more integrated analytical approach that considers profitability, solvency, and activity collectively.

In light of the above, this study aims to analyze the influence of ROA, ROE, and DER on firm value as measured by PBV in conventional banks listed on the Indonesia Stock Exchange from 2021 to 2024. By offering a comprehensive empirical evaluation, this research is expected to contribute to academic discourse and provide practical implications for bank management, regulators, and investors seeking to enhance firm performance and investor confidence in an increasingly dynamic financial landscape.

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METHODS

This study adopts a quantitative research approach with a causal design, aiming to examine the influence of financial ratios, namely profitability, solvency, and activity, on firm value in conventional banks listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. The quantitative approach was selected to allow for empirical testing of hypotheses through statistical analysis of numerical data derived from publicly available financial reports. The research seeks to provide measurable evidence regarding the extent to which key financial indicators contribute to the market value of banking firms.

The data utilized in this study are secondary data obtained from audited annual financial statements and annual reports published by each bank on the official IDX website (www.idx.co.id) and the banks' own corporate websites. The study covers a four-year period from 2021 to 2024. The target population includes all conventional banks listed on the IDX throughout the research period. By focusing on listed banks, the study ensures access to consistent, standardized, and publicly disclosed financial data that reflect investor-relevant performance metrics.

A purposive sampling technique was applied to determine the study sample. The selection criteria were as follows: (1) the bank must be classified as a conventional bank and actively listed on the IDX during the 2021–2024 period, (2) the bank must consistently publish complete annual financial reports throughout the observation period, and (3) all variables under investigation—Return on Assets (ROA), Return on Equity (ROE), Debt to Equity Ratio (DER), Total Asset Turnover (TATO), and Price to Book Value (PBV)—must be available and complete. Banks that met all three criteria were included in the final analysis sample.

The independent variables in this study are three types of financial ratios. Profitability is measured using Return on Assets (ROA) and Return on Equity (ROE), which respectively reflect the bank's efficiency in generating net income from its total assets and shareholders' equity. Solvency is measured using the Debt to Equity Ratio (DER), which assesses the extent of a bank's reliance on external debt financing relative to its equity. The activity ratio is represented by Total Asset Turnover (TATO), indicating how efficiently the bank uses its total assets to generate revenue.

The dependent variable is firm value, which is measured by the Price to Book Value (PBV) ratio. PBV represents the market's valuation of a company in relation to its book value, and it serves as a key indicator of investor perception and confidence in the bank's future prospects. A higher PBV suggests that the market perceives the bank as having strong growth potential and sound financial management, while a lower PBV may reflect concerns about risk, inefficiency, or declining performance.

To analyze the data, the study employs multiple linear regression analysis using SPSS version 27. Prior to regression testing, the data are subjected to classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation, to ensure the validity of the regression model. The analysis includes descriptive statistics, t-tests, F-tests, and coefficient of determination (R^2) to evaluate the significance and explanatory power of the independent variables. The interpretation of results is based on the statistical output, with

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emphasis on significance levels, regression coefficients, and the overall model fit in explaining firm value.

RESULTS AND DISCUSSION

This section presents the findings of the statistical analysis conducted to examine the influence of profitability, solvency, and activity ratios on firm value among conventional banks listed on the Indonesia Stock Exchange for the period 2021–2024. The analysis includes classical assumption testing, multiple linear regression, and significance testing to ensure the validity and reliability of the model. All statistical procedures were conducted using SPSS version 27, and the results are interpreted to reflect their practical and theoretical implications for the banking sector.

Table 1. Normality Test

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			90
Normal Parameters[a,b]	Mean		0000000
	Std. Deviation		1314.725215
Most Extreme Differences	Absolute		073
	Positive		073
	Negative		-.044
Test Statistic			073
Asymp. Sig. (2-tailed)[c]			.200[d]
Monte Carlo Sig. (2-tailed)[e]	Sig.		277
	99% Confidence Interval	Lower Bound	265
		Upper Bound	288

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

The normality test was conducted using the Kolmogorov–Smirnov method. The resulting Asymp. Sig. value was 0.200, which is greater than the 0.05 threshold. This indicates that the residuals in the regression model are normally distributed, fulfilling one of the classical assumptions required for multiple linear regression analysis.

Table 2. Multicollinearity Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	8147.804	2968.180		2.745	.002		
	ROA	14.690	260.395	.006	2.100	.001	.924	1.082
	ROE	28.285	283.358	.011	2.120	.001	.982	1.018
	DER	78.230	529.979	-.037	2.290	.000	.941	1.063

a. Dependent Variable: HARGA SAHAM

The multicollinearity test showed that all independent variables (ROA, ROE, and DER) had Tolerance values above 0.10 and Variance Inflation Factor (VIF) values below 10. These findings confirm the absence of multicollinearity among the independent variables, thereby validating their inclusion in the regression model without bias due to redundant correlations.

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Table 3. Heteroscedasticity Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.234[a]	.055	.022	727.54417	2.080

a. Predictors: (Constant), DER, ROE, ROA

b. Dependent Variable: Abs_Res

The heteroscedasticity test was performed using the Glejser method. The significance values for ROA, ROE, and DER were 0.178, 0.156, and 0.303 respectively, all of which are above the 0.05 threshold. This confirms that heteroscedasticity is not present, meaning the residual variances are constant across observations. Thus, the homoscedasticity assumption of linear regression is satisfied.

The autocorrelation test using the Durbin–Watson statistic yielded a value of 2.080, which is close to the ideal value of 2. This result indicates that there is no significant autocorrelation in the regression residuals, further confirming the robustness of the model for inferential analysis.

Table 4. T-Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	8147.804	2968.180		2.745	.002		
	ROA	14.690	260.395	.006	2.100	.001	.924	1.082
	ROE	28.285	283.358	.011	2.120	.001	.982	1.018
	DER	78.230	529.979	-.037	2,290	.000	.941	1.063

a. Dependent Variable: HARGA SAHAM

Based on the t-test results, each independent variable, ROA, ROE, and DER, has a statistically significant partial effect on stock prices. This finding implies that both profitability ratios and capital structure indicators play important roles in shaping investor perceptions and influencing market valuation of banking stocks.

The multiple linear regression equation derived from the analysis is as follows:

$$Y = 8147.804 + 14.690(ROA) + 28.285(ROE) + 78.230(DER)$$

a. The constant (8147.804) indicates the predicted stock price when all independent variables are zero.
b. The coefficient for ROA (14.690) shows that a 1-unit increase in ROA is associated with a 14.690 increase in stock price, assuming other variables remain constant.
c. The coefficient for ROE (28.285) suggests that a 1-unit increase in ROE increases the stock price by 28.285, all else equal.
d. The coefficient for DER (78.230) indicates that a 1-unit increase in DER leads to a 78.230 increase in stock price, ceteris paribus.

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Table 5. Anova

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	223304.009	3	74434.670	4.60	.001[b]
	Residual	153836712.713	86	1788798.985		
	Total	154060016.722	89			

a. Dependent Variable: HARGA SAHAM

b. Predictors: (Constant), DER, ROE, ROA

The F-test (ANOVA) result showed an F-statistic value of 4.60, which is greater than the critical value of 4.03. Additionally, the significance value was 0.001, which is below 0.05. These results indicate that the independent variables collectively have a significant effect on stock prices, confirming the model's explanatory relevance.

Table 6. Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.638[a]	.680	.720	1337.45990

a. Predictors: (Constant), DER, ROE, ROA

b. Dependent Variable: HARGA SAHAM

The Model Summary output reveals a correlation coefficient (R) of 0.638 and an R Square value of 0.68, suggesting that 68% of the variation in stock prices can be explained by the combined effects of ROA, ROE, and DER. This indicates that the regression model has a moderate-to-strong explanatory power and is appropriate for predicting firm value within the banking sector.

These findings imply that profitability and solvency indicators are crucial in explaining firm value in the banking sector. ROA and ROE reflect the bank's operational efficiency in generating profits from its resources, while DER captures investor sensitivity to capital structure. Accordingly, bank managers and investors should closely monitor and manage these financial ratios to enhance firm performance and shareholder value in competitive capital markets.

CONCLUSION

This study aimed to examine the effect of financial ratios, Return on Assets (ROA), Return on Equity (ROE), and Debt to Equity Ratio (DER), on firm value, represented by stock prices, in conventional banks listed on the Indonesia Stock Exchange during the 2021–2024 period. The findings show that all three variables significantly influence stock prices, both individually and simultaneously, indicating the strategic importance of profitability and capital structure in enhancing market value. ROA and ROE have a positive effect, suggesting that greater efficiency in generating profits improves investor perception. DER also shows a significant impact, reflecting the role of funding structure in firm valuation. The regression model passed

all classical assumption tests and demonstrated strong explanatory power, with 68% of stock price variation explained by the model. These results highlight the importance of monitoring financial performance as a key consideration for investors and bank management in sustaining firm value in a dynamic financial market.

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