


# Examining The Relationship Between Profitability Indicators And Stock Market Valuation In Indonesian Banks

Aina Mardia<sup>1</sup>, Taufiq Akbar<sup>2</sup>, Zaenal Abidin<sup>3</sup>, Muhammad Akbar<sup>4</sup>

<sup>1-4</sup>Perbanas Institute

Article Info	ABSTRACT
<p><b>Article history:</b></p> <p>Received November, 2025 Revised November, 2025 Accepted November, 2025</p>	<p>This study uses panel data regression with a sample size of 26 banks to investigate the impact that Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) have on the stock prices of banking businesses that are listed on the Indonesia Stock Exchange throughout the period of 2019–2023. The results indicate that only ROE significantly influences stock prices, as it demonstrates the effectiveness of managing shareholders' equity in generating sustainable profits and acts as a crucial metric for investors evaluating a company's basic robustness and future potential. Conversely, ROA and NIM exhibited no substantial impact on stock prices, perhaps due to macroeconomic instability—exemplified by the COVID-19 pandemic—which prompted investors to prioritize external factors in their risk and return assessments. The results indicate that in times of systemic uncertainty, internal financial indicators had limited predictive capability for stock valuation, with investment decisions increasingly influenced by overarching market dynamics and external economic considerations.</p>
<p><b>Keywords:</b></p> <p>Banking Stock Valuation Financial Performance Banking Sector Sustainable Profitability Panel Data Regression</p>	
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<p><b>Corresponding Author:</b></p> <p>Name: Taufiq Akbar Institution Address: Perbanas Institute e-mail: <a href="mailto:taufiq.akbar@perbanas.id">taufiq.akbar@perbanas.id</a></p>	

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## 1. INTRODUCTION

The fluctuations in the share prices of several state-owned banks in Indonesia—namely Bank Rakyat Indonesia (BBRI), Bank Negara Indonesia (BBNI), and Bank Mandiri (BMRI)—from 2019 to 2023, as illustrated in Figure 1, reflect significant inconsistencies in investor confidence and market valuation within the banking sector. For instance, BBRI's stock declined from IDR 4,400 in 2019 to IDR 4,110 in 2021 before climbing significantly to IDR 5,725 in 2023. BBNI experienced a sharper volatility, with a drop from IDR 7,850 in 2019 to IDR 6,175 in 2020, followed by a surge to IDR 9,225 in 2022, and then a steep decline to IDR 5,375 in 2023.

Similarly, BMRI saw its price fall from IDR 7,675 in 2019 to IDR 6,325 in 2020, rebound to IDR 9,925 in 2022, and decrease again to IDR 6,050 in 2023. These volatile movements not only suggest instability in market sentiment but also imply that firm value in the banking industry is shaped by a complex interplay of internal financial performance and external conditions, such as macroeconomic trends, regulatory shifts, and global financial uncertainty. The dynamic and often unpredictable nature of these changes underscores the importance of identifying which financial indicators—if any—consistently explain fluctuations in stock valuation within the banking sector. Such insights are crucial for investors, policymakers, and financial analysts seeking

to understand value drivers in an industry that is both economically vital and highly sensitive to systemic shocks.

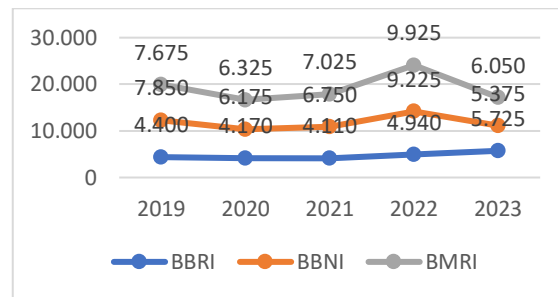


Figure 1. Prices of BBRI, BBNI, and BMRI

In line with these fluctuations, academic literature presents divergent conclusions regarding the influence of key financial performance indicators—namely Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM)—on stock prices. Several studies, including those conducted by [1]–[3], demonstrates that these profitability ratios significantly positively influence stock prices, suggesting that investors appreciate enterprises with robust financial performance. These findings support the perspective that internal financial health is a crucial determinant of market valuation. However, contrasting results are reported by [4]–[6], who find no statistically significant impact of these variables on stock prices. Their findings suggest that market participants may rely on a broader set of factors—such as market conditions, regulatory changes, or external economic signals—when assessing firm value. The existence of these opposing conclusions highlights a meaningful research gap that warrants further investigation, particularly in the banking sector, where financial indicators are expected to play a central role in valuation decisions. Exploring the conditions under which these metrics affect stock performance could provide valuable insights for both academic understanding and practical investment strategies.

## 2. LITERATURE REVIEW

This study is grounded in Signaling Theory, which posits that companies communicate their financial conditions to the market through performance indicators such

as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM), with the aim of shaping investor perceptions and ultimately influencing market valuation [7]. In this context, ROA is regarded as a credible signal of a company's profitability and has been shown to positively affect stock prices [1]. This finding is supported by research from [2] and [3], which demonstrate that profit-based financial ratios like ROE and NIM strongly influence stock prices in the banking sector. These findings correspond with the Efficient Market Hypothesis, which posits that stock prices incorporate all accessible information. However, the effectiveness of these financial signals can vary depending on market conditions and investor sentiment, as highlighted by [8] and [9], indicating the need for more contextual and in-depth analysis. Overall, these theories underscore the importance of exploring the extent to which financial ratios serve as relevant and effective signals in determining firm value, particularly within the banking sector.

### 2.1 Hypothesis: ROA Effect on Stock Prices

Return on Assets (ROA) profoundly affects stock prices as it indicates a company's capacity to create profit from its assets, acting as a crucial measure of profitability and operational efficiency that investors meticulously observe. Companies with high ROA are generally perceived as more efficient in managing their

resources and having better potential for profit growth, which in turn boosts investor confidence and demand for the company's shares, driving stock prices upward [1], [10]. Furthermore, [11] identified a substantial positive link between return on assets and stock returns in the banking sector, confirming that a company's internal financial performance acts as an important signal in capital market decision-making. [1] also stated that firms with high ROA tend to gain greater investor trust due to their consistent profitability, which is reflected in higher market valuations. Therefore, ROA not only mirrors the financial health of a company but also directly impacts investor perception, influencing stock price fluctuations in the market.

## 2.2 *Hypothesis: ROE Effect on Firm Value*

Investors constantly track Return on Equity (ROE) as a measure of a company's profitability. It shows the company's capacity to make profit from the money invested by shareholders, which in turn affects stock prices. Firms with high ROE demonstrate effective use of their equity to create earnings, which is generally perceived as a positive signal by the market and increases investment attractiveness [12]. Additionally, a high ROE indicates strong management capability in efficiently utilizing resources and delivering adequate returns to shareholders, thereby reinforcing investor confidence in the company's prospects. According to [13] research, there is a substantial positive link

between return on equity and stock returns. This is because investors place a higher value on companies that continuously earn profits from their equity. Similarly, [14] found that ROE serves as an important indicator in stock price determination because it reflects profitability that boosts investor expectations for future company growth. Therefore, ROE is not only a measure of a company's financial health but also directly influences investor perception, significantly impacting stock prices in the capital market.

## 2.3 *Hypothesis: NIM Effect on Firm Value*

Net Interest Margin (NIM) plays a crucial role in shaping stock prices as it reflects a bank's core profitability—what is left over after deducting interest payments made on debts from interest income received on assets. An increase in NIM indicates that the bank effectively manages its asset-liability mix and earns higher profits from its lending activities relative to its funding costs, directly boosting revenue and investor appeal [15]. This is borne out by the empirical data, which demonstrates that NIM significantly and positively affects stock prices, highlighting its usefulness as a trustworthy financial performance metric in the banking industry [16]. Furthermore, effective management of net interest income allows banks to capitalize on favorable interest rate environments, enhancing profitability and thus market valuation [17]. Therefore, NIM not only reflects operational efficiency but also serves as a forward-looking signal valued

by investors when forecasting bank stock performance.

### 3. METHODS

The researchers took a quantitative approach by analyzing the connections between variables using panel data regression analysis. In the consumer non-cyclicals category, 42 companies made up the population. The following factors were considered when using a purposeful sampling strategy: (1) financial institutions that will be trading on the IDX between 2019 and 2023, (2) banks that did not experience losses, and (3) availability of relevant data for the variables studied. The research sample consisted of 26 banks chosen based on these parameters. The yearly financial reports of the companies were consulted for secondary data during the observation period.

The independent variables included Return on Assets (ROA), measured by the formula  $ROA = \text{Net Income} / \text{Total Assets}$ ; Return on Equity (ROE), measured as  $ROE = \text{Net Income} / \text{Average Equity}$ ; and Net Interest Margin (NIM), calculated as  $NIM = (\text{Interest Income} - \text{Interest Expenses}) / \text{Average Earning Assets}$ . The dependent variable was

the stock price, measured by the year-end closing price. Data analysis involved both descriptive and inferential statistics, including model selection tests (Chow and Hausman tests) and classical assumption tests (normality, heteroscedasticity, and multicollinearity). Autocorrelation tests were not conducted, as [18] state that even if autocorrelation exists, the estimates remain Linear Unbiased Estimators (ULS). Hypothesis testing was performed using t-tests. With this study, we hoped to objectively and scientifically evaluate the relative importance and impact of each independent variable on shareholder value.

### 4. RESULTS AND DISCUSSION

#### 4.1 Descriptive Statistics

An summary of the characteristics of each variable in the investigation is provided by descriptive statistics. This initial analysis offers insight into the data's tendencies and distribution, helping to identify potential outliers or high variability within the sample. Here are the findings from the study's descriptive statistics:

Table 1. Descriptive Statistics Results

	ROA	ROE	NIM	STOCK PRICE
Mean	1.579308	8.875538	4.764308	2237.177
Median	1.405000	7.485000	4.690000	1040.000
Maximum	4.310000	27.31000	8.300000	9925.000
Minimum	0.040000	0.140000	0.470000	50.00000
Std. Dev.	1.089188	6.622656	1.360338	2585.582
Skewness	0.642269	0.641375	-0.064636	1.416801
Kurtosis	2.612244	2.462190	3.580563	3.818486
Jarque-Bera	9.752123	10.47955	1.916225	47.12080
Probability	0.007627	0.005301	0.383616	0.000000
Sum	205.3100	1153.820	619.3600	290833.0
Sum Sq. Dev.	153.0366	5657.884	238.7170	8.62E+08
Observations	130	130	130	130

Descriptive statistics indicate that the average stock price in the research sample is 2,237.18, with a median value of 1,040.00. The significant difference between the mean and median suggests a skewed data distribution, likely due to some companies having very high stock prices. The highest stock price recorded is 9,925.00, while the lowest is 50.00.

A relatively large standard deviation of 2,585.58 reflects considerable variation in stock values among the companies sampled, highlighting differing market perceptions of each company's performance and prospects. Meanwhile, ROA, which is a measure of a company's capacity to turn its assets into profit, has an average of 1.58 and a median of

1.41. The highest ROA value is 4.31 and the lowest 0.04, with a standard deviation of 1.09, indicating moderate variability in asset efficiency across companies. This variation is important to analyze further, as it may impact the attractiveness of stocks to investors and their potential influence on market valuation.

Then there's ROE, a measure of a company's profitability that takes shareholders' equity into account, shows an average of 8.88 and a median of 7.49. The range of ROE values is quite broad—from a low of 0.14 to a high of 27.31—with a standard deviation of 6.62, indicating significant differences in equity utilization efficiency among the companies in the sample. This variation reflects differing management capabilities in maximizing shareholder returns, potentially affecting investor perception and investment decisions. On the other hand, NIM, representing the efficiency of banks in managing productive assets to generate net interest income, has an average of 4.76 and a median of 4.69. With a highest value of 8.30, lowest of 0.47, and a standard deviation of 1.36, NIM shows considerable variation in interest management performance among the banks in the sample. This difference warrants further analysis as it

can influence each bank's profitability and competitive position in the financial market.

#### 4.2 Regression Model Testing

According to the findings of the Chow test, the fixed effect model is better than the common effect model since the F-test and chi-square probabilities were 0.0000, which is significantly lower than the 0.05 significance threshold. Since the random effect model provides more accurate and efficient coefficient estimates, it is chosen over the Hausman test, which produced a probability value of 0.0545 (higher than 0.05). Furthermore, the Lagrange Multiplier test, with a Breusch-Pagan probability of 0.0000 (significantly below 0.05), further confirms that the random effect model is superior to the pooled OLS model. Considering the results of these three tests collectively, the random effect model is deemed the most suitable and optimal choice for this panel data analysis, as it effectively captures variations across individuals and over time while providing more efficient estimates.

#### 4.3 Classical Assumption Testing

##### 1. Normality Test

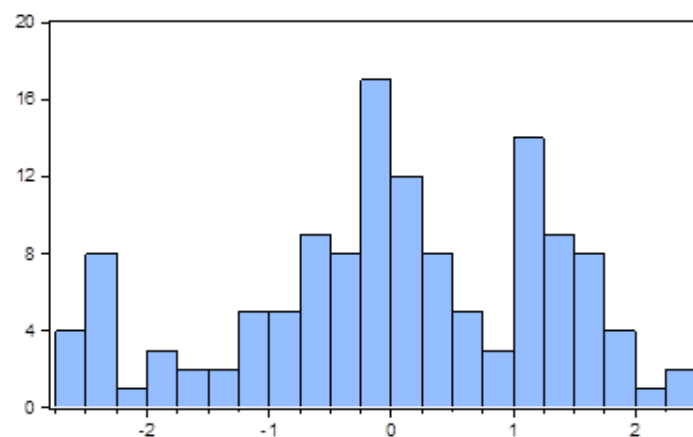


Figure 1. Normality Test Results

The normality test yielded a Jarque-Bera probability value of 0.065010, which is greater than the 0.05 significance level. What this means is that the model's residuals are rather close to being normal. After checking that the data follows normal distribution, we may say that the regression model meets a

crucial condition for inferential statistics. The normal distribution of residuals also supports the validity of subsequent statistical tests, such as the t-test and F-test, ensuring that the results can be reliably used for decision-making in this study.

## 2. Multicollinearity Test

Table 2. Results of the Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.152923	4.000938	NA
ROA	0.012592	2.721145	1.883057
ROE	0.009468	2.592498	1.823556
NIM	0.055063	4.407976	1.113831

All of the independent variables have values lower than 0.80, as indicated in Table 2. In other words, the regression model is fit for

purpose because it does not suffer from multicollinearity.

## 3. Heteroscedasticity Test

Table 3. Results of the Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.888504	0.280848	3.163653	0.0020
ROA	-0.111474	0.085895	-1.297782	0.1967
ROE	0.140008	0.075786	1.847415	0.0670
NIM	-0.035395	0.179621	-0.197052	0.8441

Every independent variable has a probability value higher than 0.05 according to the heteroscedasticity test. This rules out heteroscedasticity as a possible explanation for the lack of variation in the residual variance across data. In other words, the error variance is constant (homoscedastic), which is

a key assumption in classical linear regression. Since the model does not have problems with unstable error variance due to the lack of heteroscedasticity, the regression findings are more likely to be true.

## 4. Panel Data Regression Analysis

Table 5. Results of Panel Data Regression

Variable	Coefficient	t-Statistic	Prob.
C	6.927276	17.71436	0.0000
ROA	0.143167	1.275861	0.2044
ROE	0.296274	3.044861	0.0028
NIM	-0.397763	-1.695090	0.0925

The analysis indicates that ROA and NIM did not significantly affect the stock prices of anking firms listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. The probability values for ROA (0.2944) and NIM (0.0925), both surpassing the 0.05 significance threshold, suggest that variations in these profitability ratios were not significantly mirrored in stock price movements. ROA,

exhibiting a positive coefficient of 0.143167, indicates a direct association, whereas NIM, with a negative value of -0.397763, denotes an inverse relationship. Nonetheless, neither association possessed sufficient statistical strength to affect investor decisions. This indicates that investors in the banking sector may prioritize external factors or alternative financial metrics that more properly reflect

firm performance and prospects in volatile and uncertain market conditions.

ROE variable demonstrated a significant impact on stock prices, evidenced by a coefficient of 0.296274 and a probability value of 0.0028, which is below the 0.05 significance threshold. This research indicates that ROE is a crucial financial performance metric that investors evaluate when determining firm value and return potential. The capacity of a corporation to yield profit from its equity indicates effective capital utilization, rendering ROE a favorable indicator for the market. Investors in the banking business often consider ROE a key metric, as it signifies profitability attained without augmenting debt and illustrates management's effectiveness in leveraging shareholder capital. Consequently, an elevated ROE enhances the probability of a company's shares garnering investor attention and undergoing price appreciation in the capital market.

#### **Discussion**

##### **Discussion: ROA Effect on Company Value**

The analysis found no significant relationship between Return on Assets (ROA) and stock prices. This condition can be explained by certain macroeconomic dynamics, particularly when interest rate volatility, inflation, and market uncertainty dominate investor sentiment. In such situations, investors tend to shift their focus from internal profitability indicators like ROA to broader macroeconomic factors. For example, in 2023 in the United States, fluctuations in interest rates caused investors to move their attention away from companies' internal financial performance toward external factors deemed more relevant [19]. In Indonesia, [20] found that although ROA individually has a positive effect on private bank stock prices, its impact is often overshadowed by external pressures such as inflation and interest rate changes, reducing its effectiveness as a valuation indicator. Similarly, [16] noted that variables like ROA and NIM, which are influenced by the market, increasingly depend on interest rate stability

and investor confidence levels. Therefore, under conditions of macroeconomic instability or significant monetary policy changes, ROA ceases to be the main determinant in bank stock price valuation, as investors place greater emphasis on external and systemic factors.

##### **Discussion: ROE Effect on Stock Prices**

The research findings demonstrate that ROE significantly affects stock prices. This underscores ROE's vital function as a financial performance metric that indicates a company's efficacy in creating profit from its own equity. Investors perceive a high ROE as a favorable indicator, since it reflects management's capacity to successfully employ shareholders' cash without augmenting debt, while sustaining consistent profitability. This aligns with [12], who discovered that companies with elevated ROE efficiently utilize their capital to produce earnings, hence increasing their appeal to investors. Moreover, [13] underscores that ROE exhibits a robust positive link with stock returns, as investors prioritize companies that reliably produce sustained profits from equity. A high ROE enhances investor confidence in the company's long-term outlook, as it indicates robust managerial competence and business durability. [14] asserts that ROE is a crucial factor influencing stock prices, as its profitability can elevate investor expectations for future growth. Consequently, an elevated ROE increases the probability that a company will garner investor interest and witness an appreciation in its stock price within the capital market.

##### **Discussion: NIM Effect on Stock Prices**

Stock prices were not significantly affected by NIM in this study. This may be because NIM primarily reflects the operational efficiency and management of interest-earning assets in banks, which may not be directly perceived by investors as impacting market value [21]. Additionally, interest rate volatility and unstable macroeconomic conditions can obscure the

relationship between NIM and stock prices, as investors tend to focus more on external factors such as systemic risk and broader monetary policies. A study by [22] found that during periods of economic uncertainty, the influence of NIM on stock prices becomes insignificant because investors prioritize macroeconomic risk factors. Furthermore, the variability of NIM driven by market conditions can lead to inconsistent effects on stock prices [23]. Similarly, [24] emphasized that in the banking sector, NIM should be analyzed alongside other indicators to fully understand stock price dynamics, as NIM alone is insufficient to predict significant market movements. Therefore, although NIM is important for assessing bank performance, external factors and complex market conditions often diminish its direct impact on stock prices.

## 5. CONCLUSION

The results show that between 2019 and 2023, the stock prices of banking companies were significantly impacted by just ROE out of the three variables studied. ROE is seen as a vital financial metric by investors, since it demonstrates the efficiency with which management employs shareholders' equity to produce sustained profits without dependence on precarious external financing. A high ROE conveys a favorable message to the market, signifying

robust corporate fundamentals regarding profitability and long-term financial stability. Investor confidence typically increases when ROE has an upward trajectory, as it signifies effective management, growth potential, and favorable returns. This discovery corroborates earlier research that established a positive association between ROE and stock returns, thereby affirming ROE's significance as a crucial statistic for evaluating business performance and stock appeal in the capital market.

In contrast, the variables ROA and NIM exhibited no significant impact on banks stock prices during the research period. This indicates that during periods of macroeconomic instability, such as the COVID-19 pandemic, investors often divert their attention from internal financial metrics like ROA and NIM, favoring external factors deemed more pertinent for assessing risk and potential investment returns. While ROA and NIM are frequently employed to assess operational efficiency and bank profitability, their predictive efficacy regarding stock price fluctuations wanes in the context of prevailing macroeconomic mood and evolving monetary policies. Consequently, within systemic uncertainty, the impact of internal indications on stock prices diminishes, since investment decisions are predominantly swayed by external signals that signify overarching market dynamics.

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