Fundamental Financial Performance and Stock Prices: Panel Data Evidence from Indonesian State-Owned Conventional Banks

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Abstract

The research sample comprised four Indonesian state-owned conventional banks listed on the Indonesia Stock Exchange (IDX) during 2016–2024: PT Bank Negara Indonesia Tbk (BBNI), PT Bank Rakyat Indonesia Tbk (BBRI), PT Bank Mandiri Tbk (BMRI), and PT Bank Tabungan Negara Tbk (BBTN). Using purposive sampling, the study analyzed 36 balanced panel observations from annual reports and financial statements. Data analysis employed panel data regression with EViews 13, including the Chow, Hausman, and Lagrange Multiplier tests for model selection. The results indicated that Return on Assets (ROA) had a negative but insignificant effect on stock prices ($p = 0.2683$), whereas Earnings per Share (EPS) had a positive and significant effect ($p = 0.0304$). Simultaneously, ROA and EPS significantly influenced stock prices ($F = 11.8056$; $p < 0.001$), with an adjusted R-squared of 60.69%.

Keywords: Return on Assets; Earnings per Share; Stock Price; State-Owned Banks; Panel Data Regression

JEL Classification: G21; G12; G32

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Introduction

In recent years, the Indonesian capital market has increasingly recognized the banking sector as one of the most attractive investment destinations due to its substantial market capitalization, high liquidity, and strategic role in maintaining national financial stability. As financial intermediaries, banks contribute significantly to economic growth by mobilizing funds, facilitating capital allocation, and supporting productive investment, making their performance a crucial indicator of the overall health of the financial system (Mishkin, 2022). Nevertheless, banking stock prices have become increasingly volatile in response to global economic uncertainty, monetary policy tightening, inflationary pressures, and the post-pandemic economic recovery. According to the Efficient Market Hypothesis (EMH), stock prices incorporate all publicly available information; consequently, stock price movements are influenced not only by firms' financial performance but also by investors' expectations regarding future economic prospects(Fama, 1970).

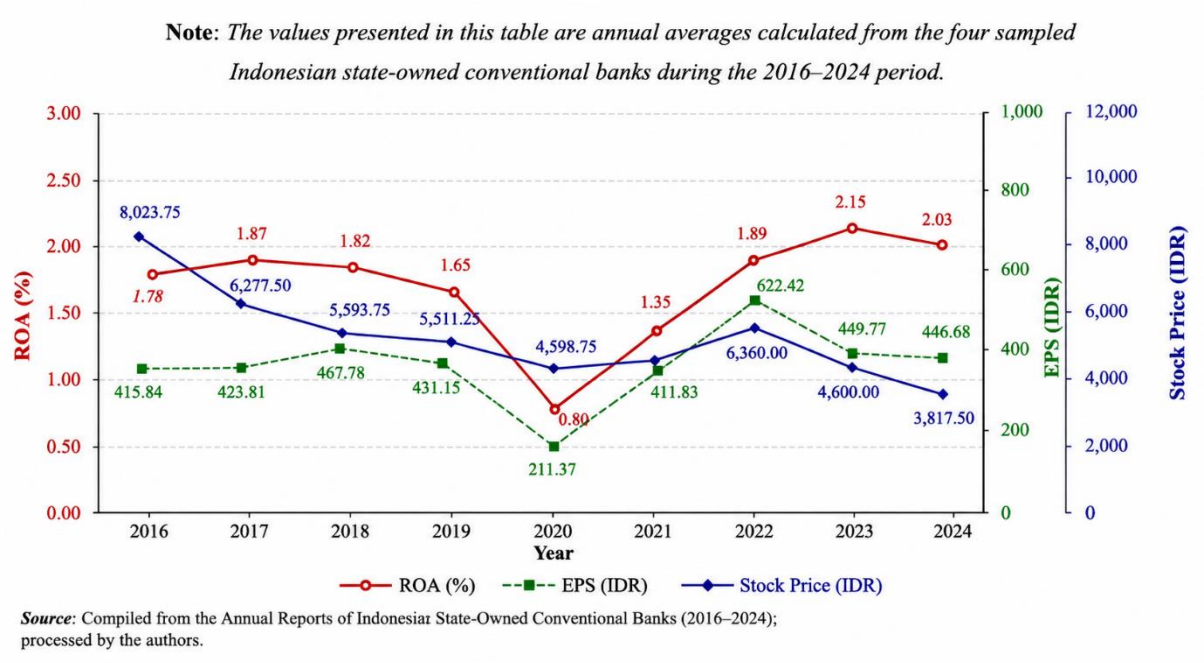
From the perspective of fundamental analysis, Return on Assets (ROA) and Earnings per Share (EPS) are among the important financial indicators used to evaluate corporate performance and estimate firm value. ROA measures management's effectiveness in generating profits from the assets employed in the firm's operations, whereas EPS reflects the earnings attributable to each outstanding share owned by investors. According to Signaling Theory, financial information disclosed by firms conveys signals regarding future corporate prospects and influences investors' decision-making processes (Ross, 1977; Spence, 1973). Therefore, firms exhibiting stronger profitability are theoretically expected to experience higher stock prices because investors interpret superior financial performance as an indication of sustainable future growth.

Table 1 Annual Average ROA, EPS, and Stock Prices of Indonesian State-Owned Conventional Banks (2016–2024)

Year	ROA (%)	EPS (IDR)	Stock Price (IDR)
2016	1.78	415.84	8,023.75
2017	1.87	423.81	6,277.50
2018	1.82	467.78	5,593.75
2019	1.65	431.15	5,511.25

Year	ROA (%)	EPS (IDR)	Stock Price (IDR)
2020	0.80	211.37	4,598.75
2021	1.35	411.83	4,903.75
2022	1.89	622.42	6,360.00
2023	2.15	449.77	4,600.00
2024	2.03	446.68	3,817.50

Note: *The values presented in this table are annual averages calculated from the four sampled Indonesian state-owned conventional banks during the 2016–2024 period.*



Source: Compiled from the Annual Reports of Indonesian State-Owned Conventional Banks (2016–2024); processed by the authors.

Figure 1 Trends in the Annual Average ROA, EPS, and Stock Prices of Indonesian State-Owned Conventional Banks (2016-2024)

Despite these theoretical expectations, empirical evidence from Indonesian state-owned conventional banks listed on the Indonesia Stock Exchange during 2016–2024 demonstrates that profitability does not always translate into higher stock prices. Between 2016 and 2018, ROA remained relatively stable, ranging from 1.78% to 1.87%, while average stock prices declined substantially from IDR 8,023.75 to IDR 5,593.75. A similar anomaly emerged during 2023–2024, when ROA reached relatively high levels of 2.15% and 2.03%, respectively, yet stock prices continued to fall from IDR 4,600.00 to IDR 3,817.50. Although EPS exhibited a relatively stronger association with stock prices, inconsistencies also remained evident. During the COVID-19 pandemic in 2020, EPS declined sharply to IDR 211.37, accompanied by a decrease in stock prices to IDR 4,598.75. Subsequently, EPS increased substantially to IDR

622.42 in 2022, followed by a recovery in stock prices to IDR 6,360.00. However, stock prices weakened again during 2023–2024, despite EPS remaining at relatively high levels. These findings suggest that improvements in accounting profitability alone are insufficient to explain banking stock price movements because investors also consider market expectations, macroeconomic conditions, interest rate dynamics, and investor sentiment (Damodaran, 2012). Consequently, an empirical anomaly exists in which higher profitability is not consistently followed by higher stock prices.

Previous empirical studies have consistently confirmed the importance of profitability indicators in explaining banking stock prices; however, the magnitude and significance of these indicators remain inconclusive. Tahir et al. (2021) demonstrated that EPS significantly affected the stock prices of Indonesian BUKU IV banks, whereas ROA was statistically insignificant. Likewise, Sari (2021) reported that EPS positively influenced banking stock prices, reinforcing the importance of earnings information in investors' valuation decisions. More recently, Wicaksono and Ernawati (2024) found that both ROA and EPS significantly explained stock price movements among Indonesian banking firms. In contrast, Budhiarjo and Dewi (2025) reported that ROI significantly influenced stock prices, whereas EPS did not exhibit an individually significant effect, although both variables jointly explained stock price variations. Similarly, Kom and Giyartiningrum (2026) concluded that EPS remained significant while ROA did not significantly affect stock prices. Collectively, these studies suggest that EPS has generally emerged as the most consistent predictor of banking stock prices, whereas empirical evidence regarding ROI/ROA remains contradictory. This inconsistency indicates that the relationship between profitability indicators and stock prices has not yet reached empirical consensus.

Although profitability has been widely examined in the banking literature, several important limitations remain. First, most previous studies have investigated the banking industry as a whole without specifically focusing on Indonesian state-owned conventional banks, despite their strategic contribution to the national banking (Mishkin, 2022; Syahid et al., 2024). Second, previous studies have generally employed specific observation periods, leaving room for further investigation of structural changes occurring before, during, and after the COVID-19 pandemic. This issue is particularly relevant because banking stock performance is influenced by both firm-specific financial indicators and broader economic conditions (Sousa & Almeida, 2025; Syahid et al., 2024). Third, although previous empirical research has examined Return on Assets (ROA), the evidence regarding its explanatory power for banking stock prices remains inconsistent. Some studies have reported a significant effect of ROA on

stock prices (Wicaksono & Ernawati, 2024), whereas others have found no statistically significant effect (Krisdayanti, 2021; Thahir et al., 2021). Consequently, further empirical investigation is needed to determine whether ROA and Earnings per Share (EPS) consistently explain stock price movements in Indonesian state-owned conventional banks during periods characterized by significant economic transition.

Accordingly, this study addresses the identified research gaps by examining the effects of Return on Assets (ROA) and Earnings per Share (EPS) on the stock prices of Indonesian state-owned conventional banks listed on the Indonesia Stock Exchange (IDX) during the 2016–2024 period using panel data regression. Compared with previous studies, this research offers three main contributions. First, it extends the observation period to encompass the pre-pandemic, pandemic, and post-pandemic phases, providing a broader perspective on banking stock price dynamics. Second, it examines ROA and EPS simultaneously to assess whether asset-based profitability and shareholder-oriented earnings provide different levels of information for stock valuation. Third, it focuses specifically on Indonesian state-owned conventional banks, thereby providing empirical evidence on the relationship between financial performance and stock prices within this strategically important segment of the Indonesian banking sector. Overall, this study contributes to the literature on banking finance and offers practical implications for investors, bank management, and other stakeholders in evaluating the relationship between accounting profitability and stock market valuation.

Accordingly, the objective of this study is to examine the effects of Return on Assets (ROA) and Earnings per Share (EPS) on the stock prices of Indonesian state-owned conventional banks listed on the Indonesia Stock Exchange during the 2016–2024 period. Specifically, the study evaluates both the individual and simultaneous effects of ROA and EPS using panel data regression to provide updated empirical evidence regarding the role of profitability indicators in determining banking stock prices under evolving economic conditions.

Literature Review

Signaling Theory

Signaling Theory, originally proposed by **Spence** (1973), explains that managers possess superior information regarding a firm's financial condition compared with external investors. Consequently, managers communicate this information through financial reports to reduce

information asymmetry between management and shareholders. Financial indicators such as **Return on Assets (ROA)** and **Earnings per Share (EPS)** serve as positive signals regarding a firm's future prospects, encouraging investors to purchase shares and thereby increasing stock prices (Brigham & Houston, 2022).

In the banking industry, profitability indicators are considered important signals because investors frequently rely on published financial statements when evaluating investment opportunities. Higher profitability generally reflects stronger operational efficiency and greater earnings generation, which are expected to improve firm value. However, market reactions toward profitability information may vary depending on economic conditions and investor expectations (Sousa & Almeida, 2025).

Therefore, Signaling Theory provides the primary theoretical foundation for explaining how ROA and EPS influence stock prices in Indonesian state-owned conventional banks.

Return on Assets (ROA)

Return on Assets (ROA) is a profitability ratio that measures the efficiency of a company or bank in generating net income from its total assets. A higher ROA indicates that management utilizes the assets under its control more effectively to generate profits, making ROA an important indicator of overall profitability and managerial efficiency (Brigham & Houston, 2022).

Empirical evidence published in the *Indonesian Financial Review* also indicates that the relationship between ROA and stock prices is not uniform across firms and research settings. Novelia (2024), examining PT Hanjaya Mandala Sampoerna Tbk during 2010–2023, found that ROA did not have a significant effect on stock prices. Similarly, Krisdayanti (2021), using panel data from companies in the basic and chemical industry sector, reported that ROA had no significant effect on stock prices, whereas EPS had a significant effect. These findings indicate that the informational value of asset-based profitability may differ from that of shareholder-oriented earnings indicators.

Evidence from the banking sector also suggests that the relationship between profitability indicators and stock prices may depend on the analytical approach employed. Elindasari (2021), in a study of PT Bank Mandiri (Persero) Tbk, examined ROA, ROE, CAR, and EPS in relation to stock prices and found that ROA and EPS became significant in the GARCH (1,1) specification. This evidence suggests that conventional linear relationships may not fully capture the dynamics between banking fundamentals and stock prices, particularly when volatility and market dynamics are considered

Several empirical studies have examined the relationship between profitability and stock prices in the banking sector. Wicaksono and Ernawati (2024) reported that profitability indicators, particularly ROA, significantly influence stock prices in Indonesian banking companies. Their findings indicate that stronger asset profitability can provide relevant information for investors when evaluating banking firms.

However, previous findings remain inconsistent. Tahir et al. (2021) found that ROA did not significantly affect the stock prices of BUKU IV banks in Indonesia, indicating that investors may place greater emphasis on other financial indicators. Furthermore, Sousa and Almeida (2025) argued that banking profitability should not be interpreted independently because banking performance is simultaneously influenced by macroeconomic conditions, competition, regulatory policies, and market expectations.

These inconsistent findings indicate that the relationship between ROA and stock prices remains inconclusive and requires further empirical investigation, particularly in the context of Indonesian state-owned conventional banks.

Earnings per Share (EPS)

Earnings per Share (EPS) represents the amount of net income attributable to each outstanding common share. EPS is widely recognized as one of the most important financial indicators because it directly reflects shareholder profitability. According to Signaling Theory, an increase in EPS sends a positive signal regarding the company's future performance, encouraging investors to increase their demand for shares (Brigham & Houston, 2022).

EPS represents earnings attributable to each outstanding share and is therefore more directly connected to shareholder-oriented performance than asset-based profitability ratios. Evidence from the *Indonesian Financial Review* supports the relevance of EPS in explaining stock prices. Krisdayanti (2021), using panel data from 25 companies in the basic and chemical industry sector, found that EPS had a significant effect on stock prices, while ROA did not. This result suggests that investors may respond more strongly to earnings information that directly reflects the economic benefits attributable to shareholders.

Previous empirical studies consistently identify EPS as one of the strongest determinants of banking stock prices. Sari (2021) found that EPS significantly influences the stock prices of Indonesian banking companies listed on the Indonesia Stock Exchange. Likewise, Pratama et al. (2025) concluded that EPS remains one of the primary determinants of stock prices within Indonesia's financial sector.

Similarly, Budhiarjo and Dewi (2025) demonstrated that EPS and ROI jointly explain stock price variation in Indonesian banking firms. International evidence also supports the

informational value of EPS because investors generally perceive earnings growth as an indicator of sustainable corporate performance (Sousa & Almeida, 2025).

Nevertheless, empirical evidence is not entirely consistent. **Syahid et al. (2024)** argued that banking stock performance is simultaneously influenced by internal financial indicators and external macroeconomic variables, implying that EPS alone cannot fully explain stock price fluctuations. Therefore, the relationship between EPS and stock prices remains an important issue for empirical investigation.

Stock Price

Stock price reflects the market value of a company's equity and represents investors' collective assessment of the firm's future prospects. Stock prices are determined by supply and demand in the capital market and therefore respond not only to company fundamentals but also to macroeconomic conditions, investor sentiment, and market expectations (Brigham & Houston, 2022).

In the banking sector, stock prices are influenced by numerous internal and external factors. Internal factors include profitability, capital structure, earnings performance, and dividend policy, whereas external factors include inflation, interest rates, exchange rate volatility, monetary policy, and economic growth.

Syahid et al. (2024) demonstrated that banking stock performance is jointly determined by firm-specific financial performance and macroeconomic variables. Similarly, Kusmana et al. (2025) found that dividend policy strengthens the relationship between profitability and stock prices, indicating that market valuation depends on broader corporate financial policies rather than profitability alone.

International evidence further supports this argument. Manoj et al. (2025) showed that stock price volatility in commercial banks is simultaneously affected by profitability indicators, book value, and capital structure, suggesting that investors evaluate multiple sources of information before determining stock value.

Previous Studies and Research Gap

Previous empirical studies generally support the proposition that profitability influences stock prices; however, empirical evidence remains inconsistent regarding the significance of specific profitability indicators. Several studies concluded that EPS significantly affects banking stock prices (Sari, 2021; Pratama et al., 2025; Budhiarjo & Dewi, 2025). Conversely, evidence concerning ROA remains mixed. Wicaksono and Ernawati (2024) reported a significant effect of ROA on stock prices, whereas Tahir et al. (2021) found that ROA was statistically insignificant.

Moreover, Syahid et al. (2024) emphasized that macroeconomic variables contribute significantly to banking stock performance, while Sousa and Almeida (2025) argued that profitability should be interpreted within a broader banking environment rather than as an isolated determinant. Similarly, Manoj et al. (2025) demonstrated that stock price movements are influenced by multiple financial indicators beyond profitability alone.

In addition, most previous studies investigated banking companies listed on the Indonesia Stock Exchange as a broad population, whereas limited evidence specifically focuses on Indonesian state-owned conventional banks. Existing studies also generally employ shorter observation periods, making it difficult to capture structural changes before, during, and after the COVID-19 pandemic.

Previous studies have produced inconsistent findings regarding the ability of profitability indicators to explain stock prices. Within the *Indonesian Financial Review*, Krisdayanti (2021) found that ROA was not significant while EPS significantly affected stock prices, whereas Elindasari (2021) found that ROA and EPS became significant in a GARCH (1,1) specification for PT Bank Mandiri (Persero) Tbk. Novelia (2024) also reported that ROA did not significantly affect stock prices in PT Hanjaya Mandala Sampoerna Tbk. These differences suggest that the explanatory power of profitability indicators may depend on the characteristics of the firms, observation periods, and econometric specifications employed. Nevertheless, limited evidence specifically examines the joint effects of ROA and EPS on the stock prices of Indonesian state-owned conventional banks over a period encompassing pre-pandemic, pandemic, and post-pandemic conditions. This study addresses this gap by focusing specifically on four state-owned conventional banks over the 2016–2024 period using panel data regression.

Mathematical Hypotheses

The research hypotheses are formulated as follows.

Effect of Return on Assets (ROA) on Stock Price

$$H_0: \beta_1 = 0$$

$$H_a: \beta_1 \neq 0$$

Where:

- H_0: Return on Assets (ROA) has no significant effect on stock price.
- H_a: Return on Assts (ROA) has a significant effect on stock price.

Effect of Earnings per Share (EPS) on Stock Price

$$H_0: \beta_2 = 0$$
$$H_a: \beta_2 \neq 0$$

Where:

- H_0: Earnings per Share (EPS) has no significant effect on stock price.
- H_a: Earnings per Share (EPS) has a significant effect on stock price.

Simultaneous Effect of Return on Assets (ROA) and Earnings per Share (EPS) on Stock Price

$$H_0: \beta_1 = \beta_2 = 0$$
$$H_a: \text{At least one } \beta_i \neq 0$$

Where:

- H_0: Return on Assets (ROA) and Earnings per Share (EPS) jointly have no significant effect on stock price.
- H_a: At least one independent variable significantly affects stock price.

Conceptually, the relationships among the research variables can be illustrated as follows:

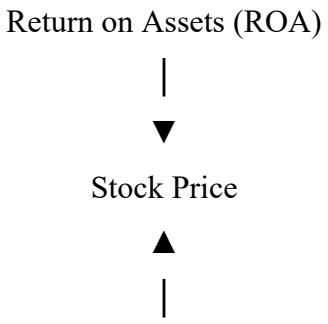


Figure 2 Conceptually Research Model

or expressed mathematically,

ROA, EPS ⟶ Stock Price

Research Method

This study employed a quantitative research approach to examine the effect of Return on Assets (ROA) and Earnings per Share (EPS) on the stock prices of Indonesian state-owned

conventional banks. Quantitative research is a research method that generates objective findings through statistical procedures and numerical measurement, allowing researchers to test hypotheses and analyze relationships among variables (Sujarweni, 2021).

The study utilized secondary data obtained from the annual financial statements and annual reports of Indonesian state-owned conventional banks listed on the Indonesia Stock Exchange during the 2016–2024 period. Data on stock prices were collected from the official Indonesia Stock Exchange database and other authorized financial information sources. Data processing and statistical analysis were performed using EViews 13.

The population consisted of all Indonesian state-owned conventional banks listed on the Indonesia Stock Exchange, while the research sample comprised four state-owned conventional banks, selected using purposive sampling based on the following criteria:

1. State-owned conventional banks continuously listed on the Indonesia Stock Exchange during the 2016–2024 period.
2. Banks that published complete annual financial statements throughout the observation period.
3. Banks with complete data on Return on Assets (ROA), Earnings per Share (EPS), and annual closing stock prices.

The research sample consisted of four Indonesian state-owned conventional banks listed on the Indonesia Stock Exchange (IDX) during the 2016–2024 observation period. The selected banks were Bank Negara Indonesia (BBNI), Bank Rakyat Indonesia (BBRI), Bank Mandiri (BMRI), and Bank Tabungan Negara (BBTN). Table 1 presents the list of banks included in the research sample.

Table 2 Research Sample of Indonesian State-Owned Conventional Banks

No.	Stock Code	Issuer Name
1	BBNI	PT Bank Negara Indonesia Tbk
2	BBRI	PT Bank Rakyat Indonesia Tbk
3	BMRI	PT Bank Mandiri Tbk
4	BBTN	PT Bank Tabungan Negara Tbk

Source: Indonesia Stock Exchange (IDX).

The study employed panel data regression analysis, combining cross-sectional data (four banks) and time-series data (2016–2024), resulting in 36 panel observations. The analytical procedures consisted of:

1. Descriptive statistics;
2. Panel data regression model estimation;
3. Panel data model selection using the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test;
4. Hypothesis testing using the t-test (partial effect) and F-test (simultaneous effect); and
5. Coefficient of determination (R^2) analysis to evaluate the explanatory power of the regression model.

Table 3 Operational Definition of Variables

Variable	Operational Definition	Measurement	Scale
Return on Assets (ROA) (X_1)	Return on Assets (ROA) measures the company's ability to generate net income from its total assets employed in operations (Kasmir, 2019).	ROA = (Net Income After Tax / Total Assets) × 100%	Ratio
Earnings per Share (EPS) (X_2)	Earnings per Share measures the amount of net income attributable to each outstanding common share, indicating shareholder profitability (Sukamulja, 2019).	EPS = Net Income After Tax / Number of Outstanding Shares	Rupiah (IDR/share)
Stock Price (Y)	Stock price represents the market value of a company's shares determined through transactions in the capital market (Wardhani, 2022).	Annual Closing Stock Price	Rupiah (IDR)

Source: Adapted from Kasmir (2019), Sukamulja (2019)), and Wardhani (2022).

Panel Data Estimation Models

Since this study employs panel data, the estimation is conducted using three alternative panel data regression models: the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM).

Common Effect Model (CEM)

$$SP_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EPS_{it} + \varepsilon_{it}$$

The Common Effect Model (CEM) assumes that all cross-sectional units (banks) share the same intercept and slope coefficients. In other words, this model does not account for individual or time-specific heterogeneity among the sampled banks.

Fixed Effect Model (FEM)

$$SP_{it} = \alpha_i + \beta_1 ROA_{it} + \beta_2 EPS_{it} + \varepsilon_{it}$$

where

$$\alpha_i = \beta_0 + \mu_i$$

where:

- α_i= bank-specific intercept;
- μ_i= individual (cross-sectional) effect.

The Fixed Effect Model (FEM) allows each bank to have its own intercept, thereby capturing unobservable characteristics that are unique to each state-owned conventional bank and remain constant over time.

Random Effect Model (REM)

$$SP_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EPS_{it} + u_i + \varepsilon_{it}$$

where:

- u_i= individual-specific random effect;
- ε_{it}= idiosyncratic error term.

The Random Effect Model (REM) assumes that individual-specific effects are random variables and are uncorrelated with the explanatory variables included in the regression model.

Results and Discussion

Results

Descriptive Statistics

Table 1 presents the descriptive statistics of the research variables based on 36 balanced panel observations collected from four Indonesian state-owned conventional banks during the 2016–2024 period.

Table 4 Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
ROA	1.7033	1.8300	3.0900	0.0700	0.8008
EPS	43,118.14	38,254.00	98,195.00	2,976.00	23,444.28
Stock Price	5,520.69	5,450.00	11,575.00	1,140.00	2,863.35

Source: Processed by the authors using EViews 13.

The dataset consists of 36 balanced panel observations, representing four Indonesian state-owned conventional banks over the period 2016–2024. The average Return on Assets (ROA) was 1.7033%, with values ranging from 0.07% to 3.09%, indicating considerable variation in profitability among the sampled banks. The average Earnings per Share (EPS) amounted to IDR 43,118.14, while the average stock price was IDR 5,520.69. The relatively large standard deviations of EPS and stock prices suggest substantial differences in earnings generation and market valuation across banks and years. Furthermore, the Jarque–Bera probabilities exceed 0.05 for all variables, indicating that the data are approximately normally distributed.

Panel Data Regression Analysis

Table 4 shows the Panel Data Regression Model Fixed Effect Test.

Table 5 Panel Data Regression Results Fixed Effect Test

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	4305.286	1153.393	3.732714	0.0008
ROA	-927.8063	822.6133	-1.127877	0.2683
EPS	6.483982	2.852599	2.273008	0.0304
R-squared	0.663027			
Adjusted R-squared	0.606865			
F-statistic	11.80557			
Prob(F-statistic)	0.000002			
Durbin–Watson statistic	1.200230			
Cross-sections	4			
Periods	9			

Total observations	36

Source: Authors' calculations using EViews 13.

The estimated regression equation is expressed as follows:

$$\text{Stock Price} = 4305.286 - 927.8063(ROA) + 6.483982(EPS) + \varepsilon$$

The regression results indicate that the intercept is 4305.286, implying the expected stock price when both independent variables are held constant. The coefficient of ROA is −927.8063, indicating a negative relationship between ROA and stock price. However, this coefficient is not statistically significant. The coefficient of EPS is 6.483982, suggesting that an increase of one unit in EPS is associated with an increase of approximately 6.48 rupiah in stock price, holding other variables constant.

Panel Data Model Selection

The results of the panel data model selection tests are summarized in Table 5.

Table 6 Panel Data Model Selection

No.	Test	Models Compared	Probability	Selected Model
1	Chow Test	CEM vs. FEM	0.0025 < 0.05	FEM
2	Hausman Test	FEM vs. REM	0.0010 < 0.05	FEM
3	Lagrange Multiplier Test	CEM vs. REM	0.6268 > 0.05	CEM

Source: Processed by the authors using EViews 13.

Based on the results of the panel data model selection tests, the Chow Test indicates that the Fixed Effect Model (FEM) is preferred to the Common Effect Model (CEM), while the Hausman Test indicates that the Fixed Effect Model (FEM) is preferred to the Random Effect Model (REM). Although the Lagrange Multiplier Test does not provide evidence supporting the Random Effect Model over the Common Effect Model, the Chow Test and Hausman Test consistently support the use of the Fixed Effect Model. Therefore, the Fixed Effect Model (FEM) is selected as the final panel data regression model and is subsequently used for hypothesis testing.

Panel Data Regression Analysis

Based on the model selection results, the Fixed Effect Model (FEM) was selected as the most appropriate panel data regression model. Therefore, the subsequent regression analysis and hypothesis testing are based on the Fixed Effect Model estimation.

Hypothesis Testing

Partial Test (t-test)

The partial significance test examines the individual influence of each independent variable on stock prices.

Effect of Return on Assets (ROA)

The regression results show that ROA has a t-statistic of −1.1279 with a probability value of 0.2683, which exceeds the 5% significance level. Therefore, ROA does not significantly affect stock prices, leading to the rejection of the alternative hypothesis.

This finding suggests that investors in Indonesian state-owned conventional banks do not rely solely on ROA when making investment decisions. Although ROA reflects management efficiency in utilizing assets, investors may place greater emphasis on future earnings prospects, dividend expectations, macroeconomic conditions, and other market information. Consequently, changes in ROA do not necessarily translate into changes in stock prices.

This finding is consistent with Tahir et al. (2021), who reported that Return on Assets (ROA) does not have a statistically significant effect on banking stock prices. The result suggests that profitability, as measured by a company's ability to generate earnings from its total assets, may not independently explain stock price movements. From the perspective of Signaling Theory (Spence, 1973), ROA may not provide a sufficiently strong signal to influence investor decisions independently, as investors may also consider other financial indicators, market expectations, and broader economic conditions when evaluating banking stocks.

Effect of Earnings per Share (EPS)

The estimated coefficient of EPS is 6.483982, with a t-statistic of 2.2730 and a probability value of 0.0304, indicating statistical significance at the 5% level. Accordingly, EPS has a positive and significant effect on stock prices. This finding implies that firms generating higher earnings per share tend to experience higher market valuations.

The result supports Signaling Theory, which argues that increasing earnings convey positive information regarding future corporate performance. Investors interpret higher EPS as an indication of stronger profitability and sustainable growth, thereby increasing demand for shares. The present finding is consistent with previous studies by Sari (2021), Pratama et al. (2025), Budhiarjo and Dewi (2025), and Wicaksono and Ernawati (2024), all of whom reported that EPS is one of the most influential accounting indicators affecting banking stock prices.

Simultaneous Test (F-test)

The F-test evaluates whether ROA and EPS jointly influence stock prices. The regression model produces an F-statistic of 11.8056 with a probability value of 0.000002,

which is well below the 5% significance level. Therefore, ROA and EPS jointly have a significant effect on stock prices, supporting the alternative hypothesis.

The model also produces an Adjusted R^2 of 0.6069, indicating that approximately 60.69% of the variation in stock prices can be explained by ROA and EPS. The remaining 39.31% is attributable to other variables not included in the model, such as dividend policy, interest rates, inflation, exchange rates, firm size, investor sentiment, and other macroeconomic factors. These findings indicate that although Return on Assets (ROA) does not have a statistically significant individual effect on stock prices, the overall regression model provides significant explanatory power. The results are consistent with Budhiarjo and Dewi (2025) and Oktaviani and Patimah (2022), who reported that profitability-related indicators jointly contribute to explaining stock price variations. However, the findings differ from Chaeriyah et al. (2020), who found no statistically significant simultaneous effect of profitability and earnings per share on banking stock prices.

The partial regression results further indicate that Earnings per Share (EPS) has a positive and statistically significant effect on stock prices, whereas ROA does not have a statistically significant individual effect. These findings suggest that, within the sample of Indonesian state-owned conventional banks during the 2016–2024 period, earnings attributable to each outstanding share provide more statistically significant information about stock prices than asset profitability. From an investment perspective, this pattern may indicate that investors place greater emphasis on earnings per share when assessing banking stocks. Nevertheless, this interpretation should be considered in the context of the study's sample, observation period, and model specification.

Discussion

The Effect of Return on Assets (ROA) on Stock Price

The empirical results demonstrate that Return on Assets (ROA) has a negative but statistically insignificant effect on the stock prices of Indonesian state-owned conventional banks during the 2016–2024 period. This finding indicates that investors do not primarily rely on asset profitability when determining the market value of banking shares. Instead, investors appear to consider a broader range of information, including expected future earnings, macroeconomic conditions, and market expectations.

The insignificant effect of ROA is consistent with several studies published in the *Indonesian Financial Review*. Novelia (2024) found that ROA did not significantly affect stock prices in PT Hanjaya Mandala Sampoerna Tbk, while Krisdayanti (2021) reported a similar

insignificant effect of ROA in the basic and chemical industry sector. These findings strengthen the argument that asset-based profitability does not necessarily constitute a sufficiently strong signal for investors when valuing stocks. In contrast, the present finding differs from Elindasari (2021), who found a significant effect of ROA on PT Bank Mandiri's stock price when applying a GARCH (1,1) model. The difference may indicate that the relationship between ROA and stock prices is sensitive to firm characteristics and econometric specifications, particularly when stock price volatility is explicitly modeled.

From the perspective of Signaling Theory (Spence, 1973), profitability indicators are expected to transmit positive information regarding a firm's future prospects. Higher profitability should reduce information asymmetry and increase investor confidence, ultimately leading to higher stock prices (Brigham & Houston, 2022). However, the insignificant effect of ROA found in this study suggests that not every profitability indicator possesses the same signaling power. In the banking sector, investors appear to place greater emphasis on measures that directly represent shareholder returns than on operational efficiency indicators.

The present findings are consistent with Tahir, Yusuf, and Ananda (2021), who reported that profitability measured by ROA does not significantly influence stock prices in BUKU IV banks, despite ROE and EPS exhibiting significant effects. Likewise, Indarto and Farizki (2025) found that profitability indicators, namely ROA and ROE, were statistically insignificant in explaining stock prices among companies included in the IDX Value 30 Index, while valuation indicators provided stronger explanatory power. These studies suggest that profitability ratios alone are insufficient to explain market valuation.

Nevertheless, the findings differ from those reported by Budhiarjo and Dewi (2025), who found that ROA and EPS jointly influence banking stock prices. Similarly, Astuti (2025) concluded that financial performance indicators significantly affect stock returns, implying that profitability remains an important determinant of market performance. The differences among these studies may be attributed to variations in research samples, observation periods, and econometric specifications. Furthermore, the present study covers the period before, during, and after the COVID-19 pandemic, which may have altered investor behavior and the informational value of profitability indicators.

Another explanation can be drawn from the international literature. Sousa and Almeida (2025) argued that banking profitability is influenced by both internal efficiency and external economic conditions. Consequently, investors may evaluate profitability together with monetary policy, interest rates, and economic uncertainty rather than relying solely on accounting ratios.

From a theoretical perspective, this finding extends Signaling Theory by demonstrating that accounting profitability does not automatically function as an effective market signal. Rather, the effectiveness of financial signals depends on the type of profitability indicator and investors' interpretation of economic conditions.

From an empirical perspective, this study provides evidence that ROA alone cannot adequately explain stock price movements in Indonesian state-owned conventional banks, suggesting that future research should incorporate additional firm-specific and macroeconomic variables.

The Effect of Earnings per Share (EPS) on Stock Price

The empirical results indicate that Earnings per Share (EPS) has a positive and statistically significant effect on stock prices. This finding implies that higher earnings attributable to each outstanding share increase investor confidence and enhance market valuation.

The positive and significant effect of EPS found in this study is consistent with evidence reported by Krisdayanti (2021), who found that EPS significantly affected stock prices while ROA did not. This consistency reinforces the argument that EPS may provide a more direct signal regarding shareholder-oriented earnings than ROA. However, the finding differs from Elindasari (2021), where EPS was significant under the GARCH (1,1) specification for PT Bank Mandiri (Persero) Tbk, suggesting that the significance of EPS may also be influenced by the treatment of stock price dynamics and volatility.

More recent evidence from the *Indonesian Financial Review* also supports the importance of EPS-related market information. Siagian and Winingrum (2025) found that market value, proxied by Earnings per Share (EPS), had a positive and significant effect on stock prices, while short-term debt and financial leverage were not statistically significant. This finding reinforces the argument that shareholder-oriented earnings information may receive greater attention from investors than several other accounting indicators

The results strongly support Signaling Theory, which proposes that financial information reduces information asymmetry by providing signals regarding future corporate performance (Spence, 1973). Since EPS directly reflects shareholder profitability, investors perceive increasing EPS as a positive signal of sustainable earnings growth and stronger financial performance (Brigham & Houston, 2022).

The findings are consistent with several previous studies. Sari (2021) found that EPS significantly affects the stock prices of Indonesian banking companies listed on the Indonesia Stock Exchange. Likewise, Pratama, Kurnianingsih, and Santoso (2025) concluded that EPS is one of the major determinants of stock prices in Indonesia's financial sector. Similar evidence

was reported by Budhiarjo and Dewi (2025), who demonstrated that EPS significantly contributes to explaining stock price variation in banking companies.

The present findings are also supported by Tahir et al. (2021), who found that EPS significantly influences banking stock prices despite the insignificant effect of ROA. Moreover, Astuti (2025) concluded that financial performance indicators, including EPS, significantly affect stock returns, reinforcing the importance of earnings information in capital market decision-making.

However, banking stock prices cannot be explained solely by accounting earnings. Syahid, Pitriana, and Lestari (2024) demonstrated that both firm-specific financial performance and macroeconomic conditions significantly influence banking stock performance. Similarly, Kusmana et al. (2025) argued that dividend policy strengthens the relationship between profitability and stock prices, implying that investors evaluate earnings together with dividend distribution policies. Furthermore, Manoj, Kushwaha, and Menon (2025) showed that profitability indicators explain stock price volatility alongside book value and capital structure, suggesting that investors simultaneously consider multiple financial signals.

Therefore, although EPS emerges as the strongest determinant in this study, its effect should be interpreted within a broader financial and economic context.

From a theoretical perspective, this study reinforces Signaling Theory by demonstrating that EPS constitutes a stronger financial signal than ROA because it directly represents shareholder wealth. Consequently, investors respond more strongly to earnings information than to asset profitability.

From an empirical perspective, the findings confirm that EPS remains a robust determinant of stock prices in Indonesian state-owned conventional banks, even during periods characterized by substantial economic uncertainty.

The Simultaneous Effect of ROA and EPS on Stock Price

The regression results indicate that ROA and EPS jointly have a statistically significant effect on stock prices, although only EPS is individually significant. These findings suggest that profitability information collectively contributes to explaining market valuation, despite differences in the explanatory power of individual profitability indicators.

This result supports the general proposition of Signaling Theory, which states that accounting information collectively reduces information asymmetry between managers and investors. Nevertheless, different accounting indicators convey different levels of informational value. While ROA measures operational efficiency, EPS directly represents shareholder returns, making it more relevant for investment decisions.

The findings are consistent with Budhiarjo and Dewi (2025), who found that ROA and EPS simultaneously influence banking stock prices. Likewise, Astuti (2025) demonstrated that financial performance significantly affects stock returns. However, the insignificant individual effect of ROA suggests that investors place greater emphasis on shareholder-oriented profitability measures than on aggregate asset efficiency.

The regression model explains approximately 60.69% of the variation in stock prices, while the remaining 39.31% is attributable to other factors outside the model. These may include dividend policy, firm size, capital adequacy, non-performing loans, interest rates, inflation, exchange rates, monetary policy, and investor sentiment. This interpretation is consistent with Syahid et al. (2024), Kusmana et al. (2025), and Sousa and Almeida (2025), who emphasized that banking stock performance is jointly influenced by firm-specific financial indicators and broader macroeconomic conditions.

Overall, the findings indicate that EPS is the dominant accounting indicator influencing banking stock prices, whereas ROA alone does not provide sufficient explanatory power. Investors appear to value profitability information that directly reflects shareholder returns rather than overall operational efficiency.

Theoretical Contribution

This study contributes to the development of Signaling Theory by demonstrating that profitability indicators do not possess equal signaling effectiveness in the banking industry. While Earnings per Share (EPS) functions as a strong positive signal that significantly influences investors' valuation decisions, Return on Assets (ROA) does not independently affect stock prices. These findings suggest that the effectiveness of accounting information depends on its relevance to shareholder wealth creation rather than solely on operational efficiency. Accordingly, this study refines the application of Signaling Theory by showing that investors respond more strongly to shareholder-oriented profitability indicators than to firm-level profitability measures.

Empirical Contribution

Empirically, this study extends previous banking literature by focusing specifically on Indonesian state-owned conventional banks over the 2016–2024 period, encompassing the pre-pandemic, pandemic, and post-pandemic phases. Unlike many previous studies that investigated all listed banking firms, this research provides evidence that EPS consistently serves as the primary determinant of stock prices, whereas ROA does not independently explain market valuation. Furthermore, the study confirms that banking stock prices are influenced not only by accounting profitability but also by broader firm-specific characteristics

and macroeconomic conditions, thereby supporting the multidimensional perspective proposed by Syahid et al. (2024), Kusmana et al. (2025), Sousa and Almeida (2025), and Manoj et al. (2025). These findings offer practical implications for managers, investors, and policymakers by emphasizing the importance of sustainable earnings growth and comprehensive financial performance in enhancing firm value and investor confidence.

Conclusion

This study examined the effects of Return on Assets (ROA) and Earnings per Share (EPS) on the stock prices of Indonesian state-owned conventional banks during the 2016–2024 period using panel data regression analysis. The empirical findings reveal that ROA has a negative but statistically insignificant effect on stock prices, indicating that asset profitability alone does not significantly influence investors' valuation decisions in the banking sector. In contrast, EPS has a positive and statistically significant effect on stock prices, demonstrating that investors place greater emphasis on earnings attributable to shareholders when evaluating banking firms.

Furthermore, the simultaneous regression results show that ROA and EPS jointly exert a significant influence on stock prices, suggesting that profitability information collectively contributes to explaining market valuation, although EPS remains the more significant individual indicator.

These findings contribute to the literature on Signaling Theory by demonstrating that profitability indicators differ in their informational value. While EPS serves as a stronger financial signal that reduces information asymmetry and enhances investor confidence, ROA does not provide sufficient information to independently influence stock prices. This study therefore highlights that investors may respond more strongly to profitability measures directly linked to shareholder wealth than to indicators reflecting overall asset efficiency.

From a practical perspective, the findings imply that managers of Indonesian state-owned conventional banks should prioritize strategies that sustainably improve earnings per share while maintaining efficient asset utilization. Investors are also advised to consider EPS alongside ROA and other firm-specific and macroeconomic information when making investment decisions, rather than relying solely on traditional profitability ratios. For policymakers and financial regulators, the results underscore the importance of promoting

transparent and high-quality earnings disclosures to enhance market efficiency and investor confidence.

Despite these contributions, this study has several limitations. It focuses exclusively on four Indonesian state-owned conventional banks and examines only two financial performance indicators. Consequently, the findings may not be fully generalizable to private banks, Islamic banks, or other industrial sectors. Future research is encouraged to incorporate additional firm-specific variables, such as Return on Equity (ROE), Price-to-Book Value (PBV), Dividend Policy, Capital Adequacy Ratio (CAR), Non-Performing Loans (NPL), and Firm Size, as well as macroeconomic variables including inflation, interest rates, exchange rates, and GDP growth. Future studies may also employ dynamic panel estimation techniques, such as the Generalized Method of Moments (GMM), or compare banking systems across ASEAN countries to obtain a more comprehensive understanding of the determinants of stock price

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