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Profitability, Valuation, and Stock Prices in Indonesian Banking Stocks: A Panel Data Analysis of IDX30 Firms

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Abstract: This study examines the effect of Return on Assets (ROA), Price to Book Value (PBV), and Earnings Per Share (EPS) on the stock prices of banking companies included in the IDX30 during the 2019–2024 period. The study employs a quantitative approach using panel data regression based on secondary data obtained from the Indonesia Stock Exchange, company annual reports, and supporting market data. The results show that ROA has a positive and significant effect on stock prices, indicating that investors place strong emphasis on profitability efficiency in valuing banking stocks. In contrast, PBV and EPS have positive but statistically insignificant effects on stock prices. However, ROA, PBV, and EPS simultaneously have a significant effect on stock prices. These findings suggest that, in the context of large and liquid banking firms in Indonesia, profitability represented by ROA serves as the most credible financial signal for investors compared with valuation and per-share earnings indicators. This study contributes updated evidence from the post-pandemic period and highlights the importance of firm fundamentals in explaining stock-price movements in the Indonesian banking sector.

Keyword: Return On Assets, Price To Book Value, Earnings Per Share, Stock Price, Panel Data Regression.

INTRODUCTION

The capital market plays an important role in economic development because it connects companies that require funds with investors who seek returns. In this context, stock prices become one of the main indicators used by investors to assess a firm's current performance and future prospects. In Indonesia, the IDX30 is particularly relevant because it consists of stocks with relatively large market capitalization, high liquidity, and good fundamentals, making it an appropriate setting for examining the determinants of stock prices (Indonesia Stock Exchange, 2024).

Among IDX30 constituents, the banking sector deserves special attention because banks play a central role in financial intermediation and economic stability. However, even within this relatively strong group of listed firms, stock price movements are not always uniform. This

suggests that stock prices are influenced not only by broad market conditions, but also by company-specific signals contained in financial information. From the perspective of signaling theory, published financial statements can reduce information asymmetry by conveying signals about a firm's quality and future prospects to investors (Spence, 1973). In practical terms, investors often rely on profitability and valuation ratios, such as Return on Assets (ROA), Price-to-Book Value (P/BV), and Earnings Per Share (EPS), to evaluate whether a stock is attractive.

Prior studies on the relationship between financial ratios and stock prices have shown inconsistent results. Al Umar and Savitri (2020) found that EPS significantly affected stock prices, while ROA did not. Sari (2021), in contrast, reported that ROA, ROE, and EPS had positive and significant effects on banking stock prices. Bustani et al. (2021) also found that EPS and PBV significantly influenced stock prices. However, Harlan and Wijaya (2022) showed that ROA, EPS, and PBV did not significantly affect stock prices, while Elieser et al. (2022) found that PBV had a positive and significant effect, but EPS had a negative and significant effect. More recently, Wulandari et al. (2024) confirmed that profitability remained relevant in predicting stock prices of IDX30-indexed companies. These mixed findings indicate that the explanatory power of ROA, PBV, and EPS remains context-dependent and should be re-examined in a more focused sample.

This study addresses that issue by focusing specifically on banking companies included in the IDX30 during 2019–2024. This focus is important for at least three reasons. First, compared with broader multi-sector studies, a banking sample offers a more homogeneous context for evaluating the role of financial ratios. Second, the 2019–2024 period captures post-pandemic adjustments and changing investor responses to firm fundamentals. Third, because previous findings remain inconsistent, further evidence is needed to determine whether profitability and valuation signals still explain stock prices in large, liquid Indonesian banking stocks. In that sense, the contribution of this study lies not in introducing entirely new variables but in providing a sharper empirical test in a specific and strategically important setting.

Based on signaling theory and prior empirical findings, firms with higher ROA are expected to attract investors because stronger asset efficiency reflects better profitability and operational performance. Therefore, the first hypothesis is formulated as follows:

H1: Return on Assets (ROA) has a positive effect on stock prices.

PBV reflects how the market values a firm relative to its book value. A higher PBV may indicate stronger market confidence in the company's future prospects and growth opportunities. Therefore, the second hypothesis is formulated as follows:

H2: Price to Book Value (PBV) has a positive effect on stock prices.

EPS represents the earnings attributable to each outstanding share and is commonly interpreted as an indicator of shareholder return potential. A higher EPS should strengthen investor interest and support higher stock prices. Therefore, the third hypothesis is formulated as follows:

H3: Earnings Per Share (EPS) has a positive effect on stock prices.

METHOD

This study employed a quantitative explanatory design using secondary data and a panel-data structure that combines cross-sectional and time-series observations. Panel data are appropriate when the same cross-sectional units are observed repeatedly over time, allowing the analysis to capture both inter-firm and intertemporal variation more effectively than a purely cross-sectional or purely time-series approach (Baltagi, 2021; Wooldridge, 2010). In line with the research focus stated in the introduction, the unit of analysis in this study was banking companies included in the IDX30 index. The observation period covered 2019 to 2024, resulting in a balanced panel of 30 firm-year observations.

The sample was selected through purposive sampling based on three criteria: the company remained listed in IDX30 as of June 2025, published accessible financial statements

for 2019–2024, and belonged to the banking sector. Based on these criteria, five banks were selected, namely BBCA, BBRI, BMRI, BBNI, and BBTN. The study used stock price as the dependent variable, while Return on Assets (ROA), Price to Book Value (PBV), and Earnings Per Share (EPS) were specified as independent variables. ROA represents profitability relative to total assets, PBV reflects market valuation relative to book value, and EPS captures earnings attributable to each outstanding share. Stock price was measured for each firm-year observation using market data collected from the designated secondary sources.

The data were compiled from the Indonesia Stock Exchange, annual reports of the sample firms, OJK-related market information, KSEI-related market sources, and Bloomberg, then processed using EViews 12 (IHS Global Inc., 2020). To test the hypotheses, the study estimated the following panel-data regression model:

$$\text{StockPrice}_{it} = \alpha + \beta_1 \text{ROA}_{it} + \beta_2 \text{PBV}_{it} + \beta_3 \text{EPS}_{it} + \varepsilon_{it}$$

where StockPrice_{it} denotes the stock price of firm i in year t , α is the constant term, β_1 , β_2 , and β_3 are the regression coefficients, and ε_{it} is the error term.

Panel estimation was initiated by comparing three alternative specifications, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The most appropriate estimator was selected sequentially through the Chow test, Hausman test, and Lagrange Multiplier test, which are widely used to determine whether pooled, fixed, or random effects provide the most suitable representation of panel-data behavior (Baltagi, 2021; Wooldridge, 2010). Before hypothesis testing, the data were examined descriptively using the mean, minimum, maximum, and standard deviation of each variable.

After the preferred panel model was identified, diagnostic testing was conducted to evaluate the adequacy of the regression model, including normality, multicollinearity, heteroskedasticity, and autocorrelation checks, as stated in the original research design. The significance of each independent variable was then assessed through partial testing, while the joint explanatory power of ROA, PBV, and EPS was assessed simultaneously at the 5% significance level.

RESULTS AND DISCUSSION

Table 1 presents the descriptive statistics of the variables used in the model. Across 30 firm-year observations, stock price had a mean of 4,555.467, with a minimum of 1,140.000 and a maximum of 9,675.000. This range indicates substantial dispersion in the market valuation of the five sampled banks during 2019–2024. ROA had a mean of 0.018937, ranging from 0.000700 to 0.037800, which suggests that the profitability efficiency of the sampled banks varied meaningfully across firms and years.

PBV recorded a mean of 2.411000, with values between 0.940000 and 4.780000, while EPS showed a mean of 321.0000, with a minimum of 19.3000 and a maximum of 597.7000. These results indicate that even within a relatively homogeneous sample of large banking firms, market price, profitability, and valuation conditions were still far from uniform. The Jarque–Bera probabilities for all variables exceeded 0.05, suggesting that the variables were normally distributed at the univariate level. In addition, the highest correlation among the independent variables was 0.5520, which is below the common threshold of 0.80, indicating no serious multicollinearity problem.

The descriptive pattern is consistent with the banking context examined in this study. The relatively wide dispersion of stock prices shows that investor valuation differed substantially across issuers, despite all firms being part of the IDX30 and the same industry group. This confirms that stock-price behavior in the banking sector cannot be understood solely through index membership or size. Instead, investors appear to differentiate among banks based on the quality of financial performance and the signals conveyed through published financial

information. This interpretation aligns with signaling theory, which argues that financial information can reduce information asymmetry and shape investor judgment (Spence, 1973).

Table 1. Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Jarque-Bera Prob.	Obs.
Stock Price	4.555.467	4.201.500	9.675.000	1.140.000	2.294.245	0.499245	30
ROA	0.018937	0.019100	0.037800	0.000700	0.010029	0.543096	30
PBV	2.411.000	1.980.000	4.780.000	0.940000	1.319.018	0.137560	30
EPS	3.210.000	2.935.500	5.977.000	193.000	1.490.950	0.721194	30

Source: Processed from EViews 12 (2025)

Model selection was then performed to determine the most appropriate panel regression specification. The Chow test was first conducted to compare the Common Effect Model and the Fixed Effect Model. The cross-section F probability was 0.0001, which is below the 5% significance threshold. This indicates that the Common Effect Model was not sufficient and that firm-specific effects had to be considered, so the Fixed Effect Model was initially preferred. The Hausman test was then employed to compare the Fixed Effect Model and the Random Effect Model.

The probability value of 0.2561 exceeds 0.05, meaning that the null hypothesis in favor of random effects could not be rejected. Therefore, the Random Effect Model was preferred over the Fixed Effect Model. To confirm this decision, the Lagrange Multiplier test was used to compare the Random Effect Model and the Common Effect Model. The Breusch–Pagan cross-section probability was 0.0008, again below 0.05, which supports the Random Effect Model as the final estimation model. Overall, the three tests consistently indicate that the Random Effect Model is the most appropriate specification for the present data structure

Table 2. Panel Model Selection Results

Test	Statistic	Prob.	Decision
Chow Test (Cross-section F)	10.739.630	0.0001	FEM preferred over CEM
Hausman Test (Cross-section random)	4.050.317	0.2561	REM preferred over FEM
LM Test, Breusch–Pagan (Cross-section)	1.122.836	0.0008	REM preferred over CEM

Source: Processed from EViews 12 (2025)

The selection of the Random Effect Model is substantively reasonable for this study. The five sample firms operate in the same sector and are all large listed banks, so their differences are relevant but not necessarily fixed in a way that would require a dummy-based fixed-effect approach. The Random Effect Model is therefore appropriate because it captures cross-sectional heterogeneity while maintaining estimation efficiency in a relatively small balanced panel. In the context of Indonesian banking stocks, this means that firm-level differences matter, but these differences are better modeled as random variation across entities rather than fully separate intercepts.

After the final model was selected, model adequacy was evaluated through the Random Effect Model output. The weighted R-squared was 0.555134 and the adjusted R-squared was 0.503803. These values imply that 55.51% of the variation in stock prices could be explained by ROA, PBV, and EPS jointly, while the remaining 44.49% was attributable to other factors outside the model. Thus, the explanatory power of the model may be categorized as moderate. More importantly, the F-statistic was 10.81485 with a probability of 0.000086, which indicates that the independent variables jointly had a statistically significant effect on stock prices. In

other words, although not all predictors were significant individually, the model as a whole was feasible and meaningful for explaining stock-price variation in IDX30 banking firms.

Table 3. Model Feasibility and Goodness-of-Fit (REM)

Indicator	Value
R-squared	0.555134
Adjusted R-squared	0.503803
F-statistic	1.081.485
Prob. (F-statistic)	0.000086
S.E. of regression	6.803.470
Durbin–Watson stat	1.077.207
Total observations	30

Source: Processed from EViews 12 (2025)

The moderate coefficient of determination also has an important implication. Stock prices are inherently influenced by many forces beyond firm fundamentals, including investor sentiment, macroeconomic developments, interest-rate expectations, exchange-rate movements, political events, and sector-specific shocks. Therefore, an adjusted R-squared of 0.503803 is acceptable in a capital-market setting because it shows that the model captures an economically meaningful proportion of stock-price movements without overstating the power of accounting ratios alone. The significant F-statistic strengthens this conclusion by showing that ROA, PBV, and EPS jointly contribute to the explanation of stock-price behavior.

The core results of the Random Effect Model are presented in Table 4. ROA had a coefficient of 97,629.170 with a t-statistic of 2.095557 and a probability of 0.0460. Since the probability is below 0.05, ROA had a positive and significant effect on stock prices, so H1 is supported. PBV had a coefficient of 230.5878 with a probability of 0.1642, indicating a positive but statistically insignificant effect; therefore, H2 is not supported. EPS had a coefficient of 2.074126 with a probability of 0.2805, which also indicates a positive but insignificant effect; thus, H3 is not supported. These results mean that among the three explanatory variables, only ROA had a statistically significant partial effect on stock prices.

Table 4. Random Effect Model Results and Hypothesis Testing

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Decision
Constant	1.484.954	9.732.798	1.525.722	0.1392	—
ROA	97.629.170	46.588.660	2.095.557	0.0460	H1 supported
PBV	2.305.878	1.610.738	1.431.566	0.1642	H2 not supported
EPS	2.074.126	1.881.793	1.102.207	0.2805	H3 not supported

Source: Processed from EViews 12 (2025)

The positive and significant effect of ROA indicates that profitability efficiency was the strongest signal considered by investors in the sampled IDX30 banking firms. Economically, this result suggests that the market placed greater weight on the ability of banks to generate profit from their asset base than on valuation multiples or per-share earnings alone. This is highly plausible in the banking industry, where assets are central to revenue generation and overall financial health. A higher ROA signals stronger managerial effectiveness, better asset utilization, and a more reliable capacity to produce returns. In signaling-theory terms, ROA appears to function as a more credible and interpretable signal of firm quality than PBV or EPS in the setting examined here. This result is consistent with Sari (2021), who reported that ROA

had a positive and significant effect on banking stock prices, and with Aprianti and Wahyuningsih (2022), who also found a positive and significant effect of ROA on stock prices. However, it differs from Al Umar and Savitri (2020), who found that ROA was not significant, and from Harlan and Wijaya (2022), who concluded that ROA did not significantly affect stock prices in their manufacturing sample. These differences may be attributed to variation in sectoral context, sample composition, and the post-pandemic observation period used in the present study.

The PBV result is positive but not statistically significant. This indicates that although higher market valuation relative to book value tended to be associated with higher stock prices, PBV did not provide a sufficiently strong standalone explanation once ROA and EPS were included in the same model. In practical terms, this may imply that for large banking firms in IDX30, the market had already priced in much of the valuation information embedded in PBV. As a result, PBV was not a decisive differentiator across the sampled firms. Another explanation is that in a relatively homogeneous sample of major banks, profitability information may dominate valuation information because investors focus more on operational performance than on relative book multiples. This finding is inconsistent with Bustani et al. (2021), who found PBV to be significant, and with Elieser et al. (2022), who reported a positive and significant PBV effect in banking companies. Nonetheless, it is in line with Harlan and Wijaya (2022), who also found that PBV did not significantly affect stock prices. Thus, the present result reinforces the view that the effect of PBV is context-dependent and may become weaker in samples of large, well-followed firms.

The EPS coefficient is also positive but statistically insignificant. This suggests that earnings per share did not independently drive stock prices in the sampled banking firms during 2019–2024. One possible interpretation is that investors did not view EPS as the most informative measure once broader profitability efficiency, represented by ROA, had already been considered. In banking, earnings per share may also be affected by share-related policies and accounting allocations that do not fully reflect the efficiency of asset management. Consequently, EPS may be less powerful than ROA as an explanatory variable in this context. This finding differs from Al Umar and Savitri (2020), who found EPS to be significant, from Sari (2021), who reported a positive and significant EPS effect, and from Bustani et al. (2021), who likewise found EPS significant. However, it is consistent with Harlan and Wijaya (2022), who reported that EPS did not significantly affect stock prices. The contrast across studies indicates that EPS is not uniformly interpreted by investors across sectors and periods; rather, its usefulness depends on the context in which it is assessed.

Taken together, the findings show that investors in IDX30 banking stocks still responded to fundamentals, but not all fundamentals carried the same weight. The significant F-statistic demonstrates that ROA, PBV, and EPS jointly mattered, yet only ROA remained significant on a partial basis. This implies that the market did not disregard valuation and earnings indicators completely, but rather placed primary emphasis on profitability efficiency as the most credible signal of firm quality. For large Indonesian banks operating in a period shaped by post-pandemic adjustment and changing market expectations, the ability to convert assets into profits appears to have been more persuasive to investors than relative valuation or earnings per share. This pattern helps explain why the current study both aligns with and departs from earlier findings. It aligns with prior research showing the relevance of accounting fundamentals, but it also narrows that conclusion by showing that, in this specific setting, ROA was the only variable with significant individual explanatory power.

CONCLUSION

This study examined the effects of Return on Assets (ROA), Price to Book Value (PBV), and Earnings Per Share (EPS) on the stock prices of banking companies included in the IDX30 during the 2019–2024 period. Based on panel data regression analysis, with the Random Effect

Model identified as the most appropriate specification, the findings show that ROA had a positive and significant effect on stock prices, whereas PBV and EPS had positive but statistically insignificant effects. At the same time, ROA, PBV, and EPS jointly had a significant effect on stock prices. These results indicate that, in the context of large and liquid Indonesian banking stocks, investors tended to place greater emphasis on profitability efficiency than on valuation multiples or earnings-per-share measures when assessing stock prices.

The findings contribute to the literature in two main ways. First, they strengthen the argument that financial fundamentals remain relevant in explaining stock prices, but their explanatory strength is not uniform across indicators. In this study, ROA emerged as the strongest individual signal, suggesting that the market regarded the ability of banks to generate profit from their asset base as a more credible indicator of firm quality. Second, the study provides updated evidence from the post-pandemic period and from a more focused sample of IDX30 banking firms, thereby refining earlier findings that had produced mixed conclusions regarding the roles of ROA, PBV, and EPS. In this sense, the study confirms that profitability-based information still matters in capital-market decision making, yet it also shows that not all commonly used financial ratios carry the same weight in investor valuation.

From a practical perspective, the results imply that investors should give greater attention to profitability efficiency, particularly ROA, when evaluating banking stocks in Indonesia. For managers of banking firms, the findings suggest that improving asset utilization and maintaining sustainable profitability may strengthen market confidence more effectively than relying solely on accounting earnings per share or favorable valuation ratios. Because the variables were also jointly significant, the study still supports the view that investors consider a combination of internal financial indicators, even though one indicator may dominate in terms of individual significance.

This study is subject to several limitations. The sample was limited to five banking companies included in the IDX30, so the findings cannot be generalized to all banking firms listed on the Indonesia Stock Exchange. In addition, the model explained 55.51% of the variation in stock prices, which means that 44.49% was influenced by other factors outside the model. This indicates that stock-price movements are also affected by variables not included in the present study, such as macroeconomic conditions, external shocks, and firm-specific factors beyond ROA, PBV, and EPS.

Accordingly, future research is recommended to extend the model by incorporating external variables such as inflation, interest rates, and exchange rates, as well as banking-specific indicators such as non-performing loans. Future studies may also broaden the sample beyond IDX30 banking firms or compare banking with other sectors in order to obtain more comprehensive evidence regarding the determinants of stock prices in the Indonesian capital market.

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