

Determination of ROE, DER, and EPS on Stock Prices: A Study on State-Owned Banks on the Indonesia Stock Exchange

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Abstract

This study aims to analyze the effect of Return on Equity (ROE), Debt to Equity Ratio (DER), and Earning Per Share (EPS) on the Stock Price of companies listed on the Indonesia Stock Exchange. The research method uses panel data regression with the Fixed Effects Model approach and the Hausman Test to determine the most appropriate model. The findings show that ROE has a negative but not significant effect on the Stock Price, while DER has a negative and significant effect, and EPS has a positive and significant effect on the Stock Price. This research contributes by emphasizing the importance of EPS in investment valuation as well as the need to manage DER carefully. The implication of this result is that investors should pay more attention to EPS in investment decisions, while companies are advised to focus on improving EPS and DER management. The study is limited to data for a specific period and a small number of companies, which can affect the generalization of results.

Keywords: *Return on Equity, Debt to Equity Ratio, Earning Per Share, Stock Price, Indonesia Stock Exchange*

A. INTRODUCTION

The capital market plays an important role in Indonesia's economy, serving as a medium for companies to raise long-term funds for business development, expansion, and increasing working capital through financial instruments such as stocks and bonds (Zuniarti, 2014). Stocks, in particular, are one of the main investment instruments due to their high return potential, although they come with substantial risks, reflecting the high-risk-high-return principle (Purnami et al., 2020); (Sadikin, 2023). The attractiveness of stocks as an investment option is also supported by their potential to outperform other instruments during periods of economic growth (Alexandri & Jelita, 2014).

Given the inherent risks, investors must equip themselves with accurate and timely information to reduce uncertainty and make informed decisions. Information asymmetry can lead to abnormal returns, indicating inefficiencies in the market (Hutapea et al., 2019), and access to information is one of the most dominant factors influencing investor behavior (Thohiri et al., 2020). Therefore, investors are encouraged to utilize various sources, such as digital platforms and financial reports, to analyze

company performance and market trends before making investment decisions (Fajarwati & Nurasik, 2021).

Fundamental analysis is a method used to assess the intrinsic value of stocks, including through financial ratios such as Return on Equity (ROE), Debt to Equity Ratio (DER), and Earning Per Share (EPS). This analysis helps investors assess the company's financial health and future performance potential (Sari, 2018). In this study, the focus is on ROE, DER, and EPS to assess the effect on the share price of state-owned banks listed on the Indonesia Stock Exchange.

Return on Equity (ROE) measures a company's ability to generate profit from its equity and is often viewed as an important indicator of performance. Empirical evidence shows that ROE has a mixed impact on stock prices: some studies find a positive and significant relationship (Andriani et al., 2022), while others find an insignificant or negative effect (Tarigan & Indrati, 2024).

Similarly, the Debt to Equity Ratio (DER) shows varying effects on stock prices. Some research reveals that a lower DER is associated with higher stock prices due to perceived lower risk (Avishadewi & Sulastiningsih, 2021), while other studies report that DER has no significant impact (Andriani et al., 2022). In contrast, Earnings Per Share (EPS) is more consistently linked to positive stock price movements (Sari & Hermuningsih, 2020), though some studies indicate insignificant effects as well (Tarigan & Indrati, 2024).

The study also considers the Signaling Theory, which states that investors rely on positive information from financial statements to make investment decisions. This is supported by findings that companies send positive signals through financial reports to attract investor attention and build credibility in the capital market (Sudirman et al., 2024). Investor confidence in the company, which is reflected in debt and profit management, significantly influences the decision to buy or sell shares, as investors interpret these financial metrics as signals of the company's stability and performance (Asrida et al., 2024).

Looking at the stock price movements of state-owned banks listed on the Indonesia Stock Exchange during the 2020-2022 period, there is a difference in performance between banks with high profits and stock price changes that are not always comparable. This motivates this study to analyze more deeply the influence of ROE, DER, and EPS on the stock price of state-owned banks.

Based on the background that has been submitted, the formulation of the problem in this study is formulated to evaluate the impact of various financial indicators on stock prices in state-owned banks listed on the Indonesia Stock Exchange. This research aims to answer three main questions. First, does Return on Equity (ROE) have an effect on the stock price of state-owned banks listed on the Indonesia Stock Exchange? Second, does the Debt to Equity Ratio (DER) affect the stock price

of state-owned banks listed on the Indonesia Stock Exchange? Third, does Earning Per Share (EPS) affect the stock price of state-owned banks listed on the Indonesia Stock Exchange? The formulation of this problem is important to understand how each financial ratio can affect the market valuation of the shares of state-owned banks in Indonesia.

The purpose of this study is to test and analyze the effect of Return on Equity (ROE) on stock prices in SOEs listed on the Indonesia Stock Exchange, test and analyze the effect of Debt to Equity Ratio (DER) on stock prices in SOEs listed on the Indonesia Stock Exchange, and test and analyze the effect of Earning Per Share (EPS) on stock prices in SOEs listed on the Indonesia Stock Exchange.

This study offers an original contribution with a focus on analyzing the influence of a combination of financial ratios (ROE, DER, and EPS) on stock prices specifically on state-owned banks listed on the Indonesia Stock Exchange. Previously, many studies examined the influence of financial ratios on stock prices in companies in general, but this study limited to the state-owned banking sector and the relevant periods, providing new insights into the dynamics of stock prices in this sector.

The contribution of this research includes a deeper understanding of the influence of financial ratios on stock prices in state-owned banks in Indonesia, which can enrich the literature on fundamental analysis in the context of the Indonesian capital market. In addition, the study provides useful information for bank managers and investors in making better investment decisions, taking into account financial factors that affect stock prices. This study is also a reference for future researchers in analyzing the influence of financial ratios on stock prices in the banking sector or other sectors in Indonesia, as well as for the development of future research models.

Previous studies have shown varying relationships between key financial ratios and stock prices. For instance, Return on Equity (ROE) has been found to have both positive and significant impacts on stock prices (Fitrianti & Cipta, 2023), although some studies report an insignificant or even negative effect (Tarigan & Indrati, 2024). The influence of the Debt to Equity Ratio (DER) is also inconsistent; while some research indicates a negative and significant impact on stock prices (Avishadewi & Sulastiningsih, 2021), others report it as statistically insignificant (Andriani et al., 2022). In terms of Earnings Per Share (EPS), most studies support a positive association with stock prices (Fitrianti & Cipta, 2023), although some findings contradict this and suggest a negative or no effect (Sari & Hermuningsih, 2020).

This study builds upon these mixed results by focusing specifically on state-owned banks in Indonesia, aiming to explore how these financial ratios impact their stock prices, while considering contextual and structural sector-specific differences.

The urgency of this research lies in the importance of a deep understanding of the factors that affect stock prices, especially in the state-owned banking sector which has a strategic role in the Indonesian economy. By understanding the influence of ROE, DER, and EPS on stock prices, this research is expected to provide better guidance for investors and company managers in making more informative and strategic financial decisions, as well as contribute to the stability and growth of the capital market in Indonesia.

B. THEORETICAL FRAMEWORK AND EMPIRICAL STUDIES

Signaling Theory

Signal Theory, as explained by Brigham & Houston (2014) and Febrianto et al. (2020), argues that investors make investment decisions based on positive information conveyed by management through a company's financial statements. Investors tend to buy stocks when the stock price drops and sell them when the price rises, depending on their confidence in the company. This belief is based on how management manages funds, including debt, which affects profit achievement and dividend distribution (Yusdianto, 2022). According to Nelwan et al. (2020), this theory addresses the information asymmetry between managers and investors, where managers have more information about the company's prospects. Positive information is expected to give a good signal to investors (Dwianto & Yulita, 2020).

Return On Equity (ROE) Concept

ROE is a ratio that measures a company's ability to generate profits for shareholders and reflects shareholder wealth. An increase in ROE generally has an impact on the company's value and stock price (Hery, 2015; Hardiyanti et al., 2022). According to Kasmir (2014) and Lubis (2021), ROE measures the ratio of net profit to a company's core capital. A high ROE indicates the company's success in generating profits that are beneficial to shareholders (Prastowo, 2014). Factors that affect ROE include net profit margin, total asset turnover, and debt ratio (Sugiono et al., 2020). The ROE formula is:

$$ROE = \frac{\text{Net Profit After Tax}}{\text{Total Equity}} \quad (\text{Handayani, 2021}) \dots \dots \dots (1)$$

Debt to Equity Ratio (DER) Concept

DER measures the ratio between total debt and own capital, showing the proportion of long-term funding to a company's assets. A low DER usually indicates lower risk and better debt repayment ability (Brigham & Houston, 2006; Leonardo et al., 2021). A high DER can increase a company's

liquidity risk, while a low DER can increase stock prices (Hardiyanti et al., 2022). The DER formula is:

$$DER = \frac{\text{Total Debt}}{\text{Equity}} \quad (\text{Kasmir, 2021; Rahmi et al., 2022}) \dots\dots\dots (2)$$

The concept of Earning Per Share (EPS)

EPS is the profit earned per share and reflects the company's profit earning rate (Handayani, 2021). High EPS indicates good company performance and can attract investors (Sari, 2018). The EPS formula is:

$$EPS = \frac{\text{Net Profit After Tax}}{\text{Number of Shares Outstanding}} \quad (\text{Handayani, 2021}) \dots\dots\dots (3)$$

Stock Price

Stock prices reflect the value of a company in the market and are influenced by demand and supply in the capital market. Factors that affect stock prices include internal company announcements, economic conditions, and external issues such as government regulations (Sunariyah, 2011; Alwi & Iskandar Z, 2018). Stock price measurement uses the closing price of shares at the end of the year as a representation of price fluctuations during the period (Sari, 2018).

Previous Research

Previous research has provided important insights into the influence of fundamental factors on stock prices. Bebasari and Ilahi (2021) in their research on "The Influence of Financial Fundamental Analysis on Stock Prices in the Sharia Capital Market for the 2016-2019 Period," found that the Return on Equity (ROE) ratio has a positive and significant influence on stock prices. This study uses a quantitative method with a sample of companies listed in the Jakarta Islamic Index (JII) during the period, showing that high ROE can increase the value of stocks in the Islamic capital market.

On the other hand, a study by Napitupulu (2022) entitled "The Effect Of Price Earning Ratio (PER), Return On Equity (ROE), And Earning Per Share (EPS) On Stock Prices In PT Indocement Tunggal Prakarsa Tbk." found that ROE has a negative effect, but not significantly on stock prices. This study adopts data from PT Indocement Tunggal Prakarsa Tbk's financial statements from the period 2013-2020, showing that although ROE has an influence, the effect is not strong enough to significantly affect the stock price in the context of the company.

Research by Brata Ismaya, Nuraini, and Baharudin (2020) entitled "The Influence of Fundamental Factors on Stock Prices in the Banking Industry" shows that the Debt to Equity Ratio (DER) has a positive and significant influence on stock prices on the Indonesia Stock Exchange. Quantitative data obtained from 23 banking companies revealed that an increase in DER could

increase the value of stocks, as higher ratios indicate a firm's better ability to pay its long-term obligations.

Rahmi et al. (2022) in their research on "Analysis of the Influence of Financial Ratio Fundamental Factors on Stock Prices" found that DER has a negative and significant influence on stock prices in private banking companies listed on the Indonesia Stock Exchange. The study uses panel data regression and suggests that a high DER ratio can lower stock prices because it increases the company's financial risk.

Al Umar and Nur Savitri (2020) in "Analysis of the Influence of ROA, ROE, EPS on Stock Prices" found that Earning Per Share (EPS) has a positive and significant influence on stock prices. Research using data from conventional bank companies shows that high EPS attracts investors and increases stock prices. This finding is consistent with research by Wibowo et al. (2022) which states that EPS has a negative, but not significant effect on stock prices, indicating that while EPS is important, other factors also affect stock price movements.

Overall, previous research has shown that while there is strong evidence regarding the positive effects of ROE and EPS on stock prices, results regarding DER have varied. This research will expand the understanding of the relationship between ROE, DER, and EPS with stock prices, as well as contribute to the literature on the influence of fundamental factors on stock prices in the Indonesian capital market.

In this study, the development of the hypothesis aims to test the influence of key financial variables on stock prices in state-owned banks listed on the Indonesia Stock Exchange. The existing theoretical framework and empirical studies provide the basis for the formulation of the following hypothesis:

The Effect of Return on Equity (ROE) on Stock Price

ROE is a key indicator in assessing a company's financial performance that measures the company's efficiency in generating profits from its shareholders' equity. According to financial theory, a high ROE indicates that a company can generate a greater return on the invested capital, which increases its attractiveness to investors. This theory is supported by empirical studies that show that investors often use ROE as one of the parameters in their assessment of the value of a company's shares. Research by Brigham & Ehrhardt (2016) states that a strong ROE tends to drive stock price growth because it signals good profitability. A study by Wibowo et al. (2022) also found that there is a positive relationship between ROE and stock prices, reinforcing the argument that good financial performance increases the value of the stock market.

Hypothesis 1 (H1): Return on Equity (ROE) has a positive effect on the stock price of state-

owned banks listed on the Indonesia Stock Exchange.

Effect of Debt to Equity Ratio (DER) on Stock Price

DER measures the ratio of debt to equity in a company's capital structure. Financial theory suggests that a high DER can increase a company's financial risk, as large debt increases interest expense and debt repayment obligations. This can reduce profitability and increase the risk of bankruptcy, which usually negatively impacts stock prices. Ross et al. (2016) explain that an increase in DER can increase a company's risk, which often translates into a decline in stock prices. Empirical research by Rahmi et al. (2022) supports these findings by showing that companies with high DER often experience stock price declines due to market concerns about higher financial risks.

Hypothesis 2 (H2): Debt to Equity Ratio (DER) has a negative effect on the stock price of state-owned banks listed on the Indonesia Stock Exchange.

Effect of Earnings per Share (EPS) on Stock Price

EPS is an important measure of the profit generated per share and is often used by investors to evaluate the potential profit from a stock. Financial theory states that a high EPS signifies that the company is making good profits, which increases the attractiveness of the stock in the market. Investors tend to value the stocks of companies with high EPS because they demonstrate the company's ability to generate profitable profits. Brigham & Ehrhardt (2016) stated that EPS is the main metric in stock valuation. A study by Napitupulu (2022) corroborates this relationship by showing that companies with high EPS usually experience an increase in stock prices, as investors see greater profit potential.

Hypothesis 3 (H3): Earnings per Share (EPS) has a positive effect on stock prices in state-owned banks listed on the Indonesia Stock Exchange.

The development of this hypothesis is based on a combination of financial theories that underlie the relationship between ROE, DER, and EPS and stock prices, as well as the support of empirical studies that confirm the existence of such relationships. By testing this hypothesis, this study aims to provide deeper insights into the factors that affect share prices in state-owned banks in Indonesia, as well as practical implications for investors and company managers. Based on the theoretical framework and hypothesis development, the proposed research model is as follows:

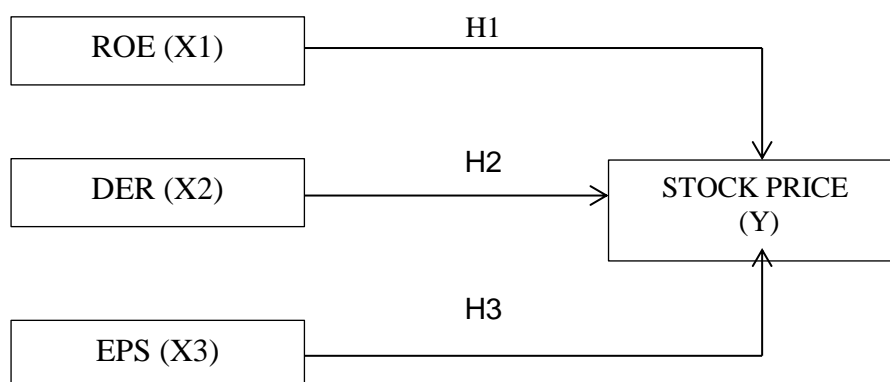


Figure 1. Research Model

C. RESEARCH METHODS

This study uses a quantitative approach with a focus on testing the influence of independent variables on dependent variables. This type of research is descriptive-quantitative, which aims to describe, explain, and analyze the relationship between variables numerically. The research was conducted on state-owned banking sector companies listed on the Indonesia Stock Exchange (IDX) with data collection locations at the Indonesia Stock Exchange Gallery STIEM Bongaya, Makassar, from October to November 2023 (Brata Ismaya et al., 2020; Herawati & Putra, 2018).

The research population includes four state-owned banking companies listed on the IDX during the 2019-2022 period. The sampling technique used is nonprobability sampling with the total sampling method, so that the entire population is used as a sample. The data analyzed includes quarterly financial statements from 2019 to 2022, resulting in a total of 64 data (Sugiyono, 2019).

The data used in this study is quantitative secondary data from financial statements obtained through online sources such as <https://emiten.kontan.co.id/> and <https://www.idx.co.id/> (Hardiyanti et al., 2022). The operational definition of variables includes Return on Equity (ROE), Debt to Equity Ratio (DER), Earning Per Share (EPS), and Stock Price, with each variable being defined operationally and calculated using a specific formula (A. Handayani, 2021; Kasmir, 2014).

The data analysis method uses panel data regression to test the effect of ROE, DER, and EPS on Stock Price. The panel regression models used are the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM). Statistical tests include normality, autocorrelation, heteroscedasticity, and multicollinearity tests, as well as hypothesis tests such as t-tests and determination coefficients (R^2) to determine the accuracy of the model and the significance of variables (Rahmi et al., 2022). Testing was carried out with the help of Eviews 12 software to ensure valid and reliable results (Herawati & Putra, 2018).

D. DATA ANALYSIS AND DISCUSSION

Normality Test

The normality test aims to ensure that the data used is normally distributed. A good regression model requires data with a normal or near-normal distribution. The normality test was carried out using the Jarque-Bera test and the help of statistical programs. The basis for decision-making in this test is that if the probability is greater than or equal to the set alpha value (i.e. 5%), then the data is considered to be normally distributed. On the other hand, if the probability is less than 5%, then the data is considered not normally distributed (Rahmi et al., 2022).

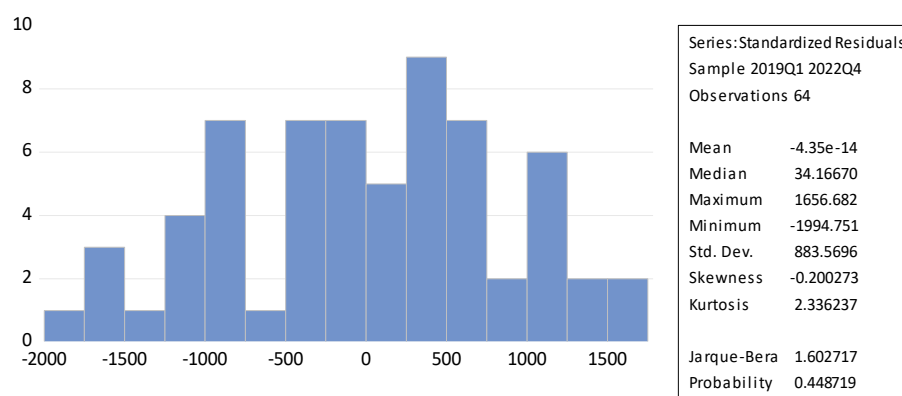


Figure 2. Normality Test

From the results of the histogram test with the Jarque-Bera test above, a probability value of 0.448719 was obtained. This shows that the data is normally distributed, because the probability value is greater than 0.05.

Autocorrelation Test

The autocorrelation test measures the relationship between the residuals of one observation and the residuals of another. In this study, autocorrelation was tested using the Breusch-Godfrey test. The results of the Breusch-Godfrey test show that if the probability value of Chi-Square is greater than 0.05, then there is no autocorrelation problem. Conversely, if the Chi-Square probability value is less than 0.05, it means that the data is experiencing an autocorrelation problem.

Table 1. Autocorrelation Test

F-statistic	0.076962	Prob. F(2,57)	0.9260
Obs*R-squared	0.169667	Prob. Chi-Square(2)	0.9187

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

Based on the results of the above test, the Chi-Square probability value of 0.9187 which is greater than 0.05 indicates that the regression model is free from autocorrelation problems.

Heteroscedasticity Test

The heteroscedasticity test aims to test whether there is a variation of variables in all observations in a regression. To detect heteroscedasticity, the Breusch-Pagan-Godfrey test was used. In this study, the test is assessed based on the probability value of Chi-Square (p-value). If the p-value > 0.05 (α), then there is no heteroscedasticity, while if the p-value < 0.05 (α), it means that there is heteroscedasticity.

Table 2. Heteroscedasticity Test

F-statistic	0.636840	Prob. F(3,59)	0.5943
Obs*R-squared	1.976059	Prob. Chi-Square(3)	0.5774
Scaled explained SS	1.672035	Prob. Chi-Square(3)	0.6432

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

The test results show that the probability value of Chi-Squared is 0.5774, which is greater than 0.05. This proves that the regression model is free from heteroscedasticity symptoms.

Multicollinearity Test

The multicollinearity test aims to identify problems when there is a very high correlation or relationship between independent variables. To address multicollinearity, the model can still be used even if it contains multicollinearity, as long as the estimator still meets the Best Linear Unbiased Estimators (BLUE) property. The trait of BLUE is not affected by the correlation between independent variables. Multicollinearity was evaluated based on the correlation value (degree of intensity) between independent variables. The symptom of multicollinearity is considered to exist if the correlation between independent variables exceeds 0.90.

Table 3. Multicollinearity Test

	ROE_X1	DER_X2	EPS_X3
ROE_X1	1.000000	-0.210741	0.664474
DER_X2	-0.210741	1.000000	-0.361804
EPS_X3	0.664474	-0.361804	1.000000

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

Based on the results of the correlation test listed in the table above, no variables were found that had a correlation value above 0.90. This shows that this regression model does not experience multicollinearity problems, so the variables in the model are free from multicollinearity problems.

Descriptive Statistical Analysis

Descriptive statistical analysis is used to provide an explanation for the description of the research variables by explaining the mean value and comparing it with the standard deviation value. Based on the test results in the table below, it can be seen that the overall mean value of the variable is greater than the standard deviation value.

Table 4. Descriptive Statistics

ROE_X1	DER_X2	EPS_X3	HS_Y
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Mean	0.072188	8.119375	264.6153	4013.641
Median	0.065000	6.250000	212.4700	3869.000
Maximum	0.170000	18.20000	981.9500	9400.000
Minimum	0.010000	4.610000	19.76000	830.0000
Std. Dev.	0.038564	4.143533	218.2045	2180.160

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

Based on the descriptive statistical table, Return on Equity (ROE_X1) has an average value of 0.072188, a median of 0.065000, a maximum of 0.170000, a minimum of 0.010000, and a standard deviation of 0.038564. The Debt to Equity Ratio (DER_X2) has an average value of 8.119375, a median of 6.250000, a maximum of 18.20000, a minimum of 4.610000, and a standard deviation of 4.143533. Earnings per Share (EPS_X3) has an average value of 264.6153, a median of 212.4700, a maximum of 981.9500, a minimum of 19.76000, and a standard deviation of 218.2045. The Stock Price (HS_Y) has an average value of 4013,641, a median of 3869,000, a maximum of 9400,000, a minimum of 830,0000, and a standard deviation of 2180,160. In conclusion, all variables in this study showed higher mean values compared to the standard deviation, indicating that the data were quite well spread around their respective mean values.

Panel Data Regression Analysis

Modeling using the panel data technique can be done through three alternative approaches in the processing method. These approaches are the Common Effect/Pooled Least Square (CEM) method, the Fixed Effect (FEM) method, and the Random Effect (REM) method (Herawati & Putra, 2018).

Common Effect Model (CEM)

The Common Effect model or also known as Pooled Least Squares is one approach in panel data analysis that assumes that all individuals in the sample have the same characteristics and that there are no differences in individual effects. In this model, data from various cross-sections and time periods are combined into a single unit without considering the individual effects of each cross-section. The following are the results of regression analysis using the Common Effect method on stock price dependent variables (HS_Y).

Table 5. CEM Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5033.402	786.0665	6.403278	0.0000
ROE_X1	-6058.692	6711.461	-0.902738	0.3705
DER_X2	-200.9909	92.08347	-2.182703	0.0332
EPS_X3	3.966213	1.407867	2.817179	0.0066
Effects Specification				
Cross-section fixed (dummy variables)				
Root MSE	899.4240	R-squared		0.827101
Mean dependent var	4013.641	Adjusted R-squared		0.808902
S.D. dependent var	2180.160	S.E. of regression		953.0529

Akaike info criterion	16.66014	Sum squared resid	51773662
Schwarz criterion	16.89626	Log likelihood	-526.1244
Hannan-Quinn criter.	16.75316	F-statistic	45.44550
Durbin-Watson stat	0.800731	Prob(F-statistic)	0.000000

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

The regression results indicate that the model has a strong ability to explain the dependent variable, with an R-squared value of 82.71% and an overall statistically significant model (p-value of the F-statistic = 0.000). The variables DER and EPS have a significant effect on the dependent variable, where DER has a negative impact, while EPS has a positive impact. Meanwhile, ROE does not show a significant effect. The Durbin-Watson value of 0.80 indicates potential positive autocorrelation in the data, which should be carefully considered. The Durbin-Watson statistic is used to detect autocorrelation (a relationship between current and previous errors) in regression models; the ideal value is close to 2. A value well below 2, as seen here, suggests that residuals may be correlated, which can affect the validity of the model and the accuracy of parameter estimates. As a solution, it is recommended to improve the model by applying approaches that can address autocorrelation, such as regression with autocorrelation correction (e.g., the Cochrane-Orcutt or Prais-Winsten methods), or consider using a dynamic panel regression model if the data is time-series in nature. This is intended to produce more accurate coefficient estimates and make the model more reliable for decision-making purposes.

Random Effect Model Test

The Random Effect (REM) model is one approach in panel data analysis that assumes that the differences between cross-sections are random and do not correlate with independent variables. This model is more efficient compared to the Fixed Effect Model (FEM) because it considers variations between cross-sections as part of random errors. REM is used when there is reason to believe that variation among entities is generated by random factors that cannot be observed and ignored by the FEM. The following are the results of regression analysis using the Random Effect method on the stock price dependent variable (HS_Y).

Table 6. REM Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5803.479	394.7972	14.69990	0.0000
ROE_X1	-20516.77	4170.175	-4.919882	0.0000
DER_X2	-242.4102	31.11256	-7.791395	0.0000
EPS_X3	6.271125	0.772817	8.114633	0.0000
Effects Specification				
			S.D.	Rho
Cross-section random			0.000169	0.0000
Idiosyncratic random			953.0529	1.0000
Weighted Statistics				
Root MSE	1411.841	R-squared		0.573976
Mean dependent var	4013.641	Adjusted R-squared		0.552675
S.D. dependent var	2180.160	S.E. of regression		1458.143
Sum squared resid	1.28E+08	F-statistic		26.94570
Durbin-Watson stat	0.364833	Prob(F-statistic)		0.000000
Unweighted Statistics				
R-squared	0.573976	Mean dependent var		4013.641
Sum squared resid	1.28E+08	Durbin-Watson stat		0.364833

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

The results of the regression analysis using the Random Effect model indicate that all independent variables—ROE, DER, and EPS—have a statistically significant influence on stock prices. The constant value of 5803.479 ($p = 0.000$) suggests that when all independent variables are equal to zero, the estimated stock price is 5803.479 units.

Specifically, the Return on Equity (ROE) variable shows a negative and significant relationship with stock price, with a coefficient of -20,516.77 ($p = 0.000$). This implies that each one-unit increase in ROE is expected to reduce the stock price by 20,516.77 units. Similarly, the Debt to Equity Ratio (DER) also has a negative and significant effect, with a coefficient of -242.41 ($p = 0.000$). In contrast, Earnings Per Share (EPS) exhibits a positive and significant effect, with a coefficient of 6.27 ($p = 0.000$), indicating that an increase in EPS leads to a higher stock price.

The model's R-squared value of 0.5739 suggests that approximately 57.4% of the variation in stock prices can be explained by the independent variables. The F-statistic is also highly significant, confirming the overall robustness of the model. However, the low Durbin-Watson statistic (0.36) signals a potential issue of autocorrelation, which may affect the accuracy of the estimations.

In conclusion, the findings affirm that ROE, DER, and EPS are key financial indicators that significantly influence stock price performance. These variables should therefore be a strategic focus for corporate management aiming to enhance firm value in the capital market.

Panel Regression Model Selection

In selecting a panel regression model, the first step is to perform a Chow Test to compare the Common Effect Model and the Fixed Effect Model. The Chow test aims to determine the most suitable method based on the test results. If the probability of the Chi-square Cross-section is less than 0.05, then the Fixed Effect Model is the right choice and should be continued with the Hausman Test. Conversely, if the probability of the Cross-section Chi-square is more than 0.05, then the Common Effect Model is chosen and there is no need to proceed to the Hausman Test.

Based on the results of the Chow Test shown in Table 4.13, the probability values for Cross-section F and Cross-section Chi-square are 0.0000 respectively. This value is well below the threshold of 0.05, so it can be concluded that the Fixed Effect Model is the right model. Thus, since the Fixed Effect Model was selected, the next step was to perform the Hausman Test to determine if the Fixed Effect model was better than the Random Effect Model.

Table 7. Chow Test Results

Uji Efek	Statistik	d.f.	Prob.
Cross-section F	27.816222	(3,57)	0.0000
Cross-section Chi-square	57.714610	3	0.0000

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

The Hausman test was used to compare the Fixed Effect Model with the Random Effect Model. If the probability of random Cross-section is greater than 0.05, then the Random Effect Model will be selected and continued with the Lagrange-Multiplier Test. However, if the probability of a random Cross-section is less than 0.05, then the Fixed Effect Model is considered better and there is no need to proceed to the Lagrange-Multiplier Test.

Table 8. Hausman Test Results

Uji Efek	Statistik Chi-Sq.	d.f.	Prob.
Cross-section random	83.448665	3	0.0000

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

The results of the Hausman Test shown in Table 9 show that the probability value of the random Cross-section is 0.0000, which is less than 0.05. This shows that the Fixed Effect Model is more appropriate compared to the Random Effect Model. Therefore, the best regression model for this analysis is the Fixed Effect Model, based on the results of the tests that have been carried out.

Panel Data Regression Equation Model

The regression test of the panel data was carried out to identify the relationship between

independent variables, namely Return on Equity (ROE), Debt to Equity Ratio (DER), and Earning Per Share (EPS), to the dependent variable measured by the Stock Price (Closing Price). The equation of the panel data regression model in this study is stated as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + e \dots\dots\dots(4)$$

Information:

- Y = Stock Price
- X1 = Return on Equity (ROE)
- X2 = Debt to Equity Ratio (DER)
- X3 = Earning Per Share (EPS)
- α = Konstanta
- $\beta_1, \beta_2, \beta_3$ = Variable Regression Coefficient
- e = Error
- t = Time
- i = Company

Based on the results of the regression of panel data using the Fixed Effects (FEM) model, which is the result of the most appropriate model selection test, the regression equation is obtained as follows:

$$HS = 5033.402 - 6058.692 \cdot ROE - 200.990 \cdot DER + 3.966 \cdot EPS + 786.066$$

Based on the results of the regression of panel data with the Fixed Effects model, a regression equation was obtained which showed that a constant of 5033.402 indicated that the Stock Price would increase by 5033.402 if all independent variables (ROE, DER, and EPS) were zero. A negative ROE regression coefficient of -6058.692 indicates that a decrease of one unit in ROE will lower the Stock Price by 6058.692, indicating the negative impact of ROE on the Stock Price. Conversely, a DER coefficient of -200,990 indicates that a decrease of one unit in DER will increase the Share Price by 200,990, indicating the positive impact of DER on the Share Price. Finally, an EPS coefficient of 3,966 indicates that every one unit increase in EPS will increase the Share Price by 3,966, reflecting the positive impact of EPS on the Share Price.

Hypothesis Test

Partial Test (t-Test)

The t-test was carried out to evaluate the influence of each independent variable individually on the dependent variable. Decisions are made based on the probability value (p-value) of each independent variable. If the probability value is less than 0.05, the variable is considered to have a significant influence on the dependent variable. Conversely, if the probability value is greater than 0.05, the variable is considered to have no significant influence.

Table 9. Partial Test Results (t-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5033.402	786.0665	6.403278	0.0000
ROE_X1	-6058.692	6711.461	-0.902738	0.3705
DER_X2	-200.9909	92.08347	-2.182703	0.0332
EPS_X3	3.966213	1.407867	2.817179	0.0066

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

Based on the results of the t-test in the table above, the following is the interpretation of the hypothesis proposed in this study:

Hypothesis 1 (H1): Return on Equity (ROE) has a positive and significant effect on the valuation of stock prices in state-owned banks listed on the Indonesia Stock Exchange. The test results show that ROE has a negative but not significant effect on the stock price, with a t-count value of -0.902738 and a significance value of 0.3705 which is greater than 0.05. Therefore, the first hypothesis (H1) was rejected.

Hypothesis 2 (H2): Debt to Equity Ratio (DER) has a negative and significant effect on the valuation of stock prices in state-owned banks listed on the Indonesia Stock Exchange. The test shows that DER has a negative and significant effect on the stock price, with a t-count value of -2.182703 and a significance value of 0.0332 which is less than 0.05. Thus, the second hypothesis (H2) is accepted.

Hypothesis 3 (H3): Earning Per Share (EPS) has a positive and significant effect on the valuation of stock prices in state-owned banks listed on the Indonesia Stock Exchange. The test results show that there is a positive and significant influence of EPS on the stock price, with a t-count value of 2.817179 and a significance value of 0.0066 which is less than 0.05. So, the third hypothesis (H3) is accepted.

Determination Coefficient Test (R^2)

The Coefficient of Determination (R^2) is used to measure how well an independent variable can explain the variability of a dependent variable. The R^2 value ranges from 0 (zero) to 1 (one). An R^2 value close to 0 indicates that the independent variable has limited ability to explain the dependent variable, while an R^2 value close to 1 indicates that the independent variable is able to explain the dependent variable well.

Table 10. Determination Coefficient Test Results (R^2)

R-squared	Adjusted R-squared
0.827101	0.808902

Source: Eviews 12 Data Processing Results (secondary data processed, 2023)

Based on the table above, an R^2 value of 0.827101 shows that 82.71% of the variation in stock price can be explained by independent variables, namely ROE, DER, and EPS. The remaining 17.29% was influenced by other factors that were not explained in this study, such as Return on Asset (ROA) and Total Asset Turn Over (TATO), as well as other factors.

Discussion

The Effect of Return on Equity (ROE) on Stock Price

Based on the results of the partial t-test, Return on Equity (ROE) exhibits a negative but statistically insignificant effect on stock prices. This finding suggests that fluctuations in ROE do not have a substantial impact on investor responses in the market. Similar findings have been reported in several recent studies, including by [Gunawan et al. \(2022\)](#), who found that ROE had a negative and insignificant effect on stock prices in the case of PT Gajah Tunggal Tbk. Likewise, [Laia et al. \(2023\)](#) also reported no significant effect of ROE on stock prices among LQ-45 companies listed on the IDX during the 2018–2020 period.

This phenomenon may be attributed to the relatively low ROE values of certain issuers, which may not be sufficiently strong to influence investor behavior or market valuation. In fact, the data suggest an inverse relationship in some cases, where lower ROE values are associated with higher stock prices, and vice versa. This contradicts the conventional financial theory that higher profitability, as reflected by ROE, should positively correlate with stock valuation. For instance, issuers such as BBTN in Q4 2019 and BBNI in 2021 exhibited low ROE, yet their stock prices did not decline accordingly—implying the possibility of non-financial or psychological factors influencing investor perceptions.

Sari et al. (2022) also mentioned that investors do not always rely on fundamental analysis such as ROE, but are instead more influenced by psychological factors and speculation, which tend to dominate investment decision-making. In addition, negative ROE can also be driven by various external factors beyond the company's control. For example, macroeconomic conditions such as economic downturns, high inflation, or exchange rate fluctuations can lead to a decline in net income, which directly suppresses ROE. Government policies, tax regulations, and global crises such as the COVID-19 pandemic may also significantly impact a company's financial performance. These factors can cause ROE to turn negative even when a company's operations remain active, thereby blurring the relationship between ROE and stock prices from the perspective of investors.

Effect of Debt to Equity Ratio (DER) on Stock Price

The results of the partial test show that the Debt to Equity Ratio (DER) has a negative and significant effect on stock price. This finding aligns with the research of [Agustina et al. \(2024\)](#),

which also observed that a higher DER leads to a lower stock price. The negative influence of DER can be attributed to the fact that a high DER reflects the company's heavy reliance on debt financing, which raises financial risk and default probability. Investors, perceiving higher leverage as a risk factor, tend to value such companies less favorably, leading to a decrease in stock prices (Mulyono et al., 2021).

Furthermore, a high DER often signals inefficiency in internal funding strategies, where companies may not be generating sufficient equity capital to support growth sustainably. This imbalance undermines investor confidence, especially in sectors with high sensitivity to debt exposure, such as banking and manufacturing. On the other hand, a lower DER indicates financial prudence and stability, enhancing the firm's capacity to meet long-term obligations and improving investor sentiment. This is consistent with findings from Juliani et al. (2021), who reported that companies with lower DER tend to have stronger stock price performance due to reduced perceived financial risk.

In contrast, this result differs from [Hardiyanti et al. (2022)], who suggested that a higher DER may imply greater growth potential, as debt can be used to finance expansion projects that lead to higher revenues. Nevertheless, in this study, low DER values were more positively associated with stock prices, especially in issuers like BBRI and BMRI, which consistently showed robust valuations despite conservative leverage. This supports the notion that investors in the Indonesian capital market may prioritize financial stability and risk avoidance, particularly in state-owned banks, when making investment decisions.

Effect of Earnings Per Share (EPS) on Stock Price

The results of the partial test show that Earning Per Share (EPS) has a positive and significant effect on the stock price. This result shows that the increase in EPS is followed by an increase in the stock price. These findings are consistent with research by Handayani (2021) and Al Umar & Nur Savitri (2020) which shows that EPS has a positive and significant influence on stock prices. The high EPS reflects the company's good profit performance, which attracts investors to buy the stock, pushing the stock price up. For example, data from issuer BBNI shows that high EPS values are associated with higher stock prices, supporting the argument that good EPS attracts investors and boosts stock prices.

On the contrary, this study is not in line with Wibowo et al. (2022) who found that EPS has a negative but not significant influence on stock prices. Wibowo et al. argue that even if EPS is high, other factors such as market conditions or external factors can affect stock prices differently. However, in this study, the data shows that high EPS is in line with the increase in stock prices,

underscoring the importance of EPS as a key indicator of a company's performance that can influence investment decisions and market valuations

D. CONCLUSIONS, RECOMMENDATIONS, AND LIMITATIONS

Based on the results and discussion of this study, it can be concluded that the financial ratios examined; Return on Equity (ROE), Debt to Equity Ratio (DER), and Earning Per Share (EPS) have varying degrees of influence on stock prices of companies listed on the Indonesia Stock Exchange. While ROE displays a negative relationship with stock price, the effect is statistically insignificant, indicating that investors may not place substantial emphasis on this ratio in their investment decisions. On the other hand, DER shows a significant negative effect, suggesting that firms with lower debt levels are generally perceived as less risky and thus more attractive to investors. In contrast, EPS exhibits a strong and significant positive effect on stock price, reinforcing the notion that investors regard EPS as a key indicator of a firm's profitability and value creation potential in the capital market.

In light of these findings, several practical implications emerge. Investors are advised to prioritize EPS in evaluating stock investment opportunities, as it reflects the company's earnings strength and future growth prospects. For corporate managers, strategic efforts should be directed toward improving EPS and maintaining an optimal DER, since both play a critical role in shaping investor perceptions and stock valuation. High leverage, as indicated by DER, could deter investor interest due to heightened financial risk. Additionally, companies should consider aligning their capital structure and profit allocation strategies with investor expectations to enhance market competitiveness. Future researchers are encouraged to expand upon this study by incorporating broader datasets and additional variables, such as macroeconomic indicators or corporate governance metrics, to capture a more comprehensive view of stock price determinants.

Despite its contributions, this study is not without limitations. The sample is confined to a specific time period and limited to a particular subset of companies, which may affect the generalizability of the results across other sectors or timeframes. Moreover, the model does not account for external factors such as inflation, interest rates, or market sentiment, all of which could exert substantial influence on stock prices. The statistical analysis employed—panel data regression using the Fixed Effects Model—may also limit the ability to detect nonlinear effects or latent variables. Therefore, while the findings provide useful insights into the influence of ROE, DER, and EPS on stock price behavior, they should be interpreted with caution and serve as a basis for more extensive future research.

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