The Influence of Return on Assets (ROA) and Return on Equity (ROE) on Stock Prices of Transportation and Logistics Companies Listed on the Indonesia Stock Exchange

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ABSTRACT

This study investigates the influence of Return on Assets (ROA) and Return on Equity (ROE) on stock prices of transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) during the 2018–2022 period. A quantitative research method was employed using secondary data derived from audited financial statements. Eight companies were selected using purposive sampling, and data analysis was conducted through multiple linear regression with SPSS 25. The findings indicate that ROA has a significant negative effect on stock prices, while ROE has no significant impact. However, both variables jointly influence stock prices significantly, with an adjusted R^2 of 0.820, suggesting that 82% of stock price variation can be explained by ROA and ROE. The results highlight the need for investors to consider sector-specific dynamics and for companies to align financial performance with market expectations. This study contributes to the financial literature by providing insights into the stock valuation process in asset-intensive industries and offers practical recommendations for investors, managers, and regulators.

Keywords: Return on Assets, Return on Equity, Stock Price, Financial Performance, Transportation and Logistics

INTRODUCTION

In the era of globalization and digital transformation, the transportation and logistics sector has become one of the most dynamic industries globally, including in Indonesia. This sector plays a vital role in connecting markets, facilitating trade, and sustaining the economic growth of a nation (World Bank, 2020). As companies in this sector expand, so does the competition, urging management to demonstrate superior financial performance to attract investment and maintain market credibility.

One critical aspect for investors in evaluating companies is the stock price, which reflects both actual and perceived value. Stock prices in the capital market are highly volatile, often changing within seconds due to variations in demand and supply. This volatility is influenced not only by macroeconomic factors but also by firm-specific fundamentals such as profitability, liquidity, and operational efficiency (Brigham & Houston, 2019).

Among the various financial indicators, Return on Assets (ROA) and Return on Equity (ROE) are widely used by investors and analysts to assess the performance and efficiency of a company's capital usage. ROA indicates the company's efficiency

in utilizing its total assets to generate profits, whereas ROE measures how well a firm uses shareholders' equity to produce net income (Kasmir, 2019; Fahmi, 2018).

Previous research indicates mixed findings on the influence of ROA and ROE on stock prices. For instance, Sunaryo (2022) and Arifiani (2019) found that both ROA and ROE significantly affect stock prices in various sectors. However, Utami (2018) argued that these variables do not always show consistent effects across different industries. This inconsistency reveals the need for sector-specific studies to draw more accurate and applicable conclusions.

In the context of the Indonesian capital market, the transportation and logistics sector presents unique challenges and opportunities. The sector has faced disruptions during the COVID-19 pandemic, affecting profitability and, consequently, investor perceptions (OECD, 2021). Furthermore, data from the Indonesia Stock Exchange (IDX) shows that many firms within this sector demonstrate sub-optimal levels of ROA and ROE over the past five years, indicating inefficiencies in asset and equity management (IDX, 2023).

This research focuses on analyzing the effect of ROA and ROE on stock prices of transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) during the period 2018–2022. By examining financial reports and market data, the study aims to identify whether these profitability indicators significantly influence the valuation of companies in this specific sector.

The rationale for selecting this sector lies in its critical importance to national development and its growing appeal among investors, especially with increasing e-commerce activities and government-backed infrastructure projects. However, despite its strategic position, many firms are underperforming in terms of asset and equity utilization.

Therefore, this study seeks to fill the gap in the literature by providing empirical evidence on how ROA and ROE, as internal performance metrics, influence stock price fluctuations in the transportation and logistics industry in Indonesia. The findings are expected to contribute to a better understanding for investors, financial analysts, and policymakers in making informed decisions.

The objective of this research is twofold: (1) to analyze the partial effect of ROA and ROE on stock prices, and (2) to examine whether ROA and ROE simultaneously exert a significant influence. The outcomes of this research are anticipated to offer strategic insights into how financial performance can be leveraged to enhance shareholder value and overall market competitiveness.

LITERATURE REVIEW

A. Return on Assets (ROA)

Return on Assets (ROA) is a financial ratio that reflects a company's ability to generate profit from its total assets. It serves as a measure of managerial efficiency in utilizing all available resources to produce net income. The higher the ROA, the better a firm is at converting its investments in assets into earnings (Kasmir, 2019). According to Hanafi (2019), ROA also signals how well the management uses the company's asset base, which is critical in assessing financial performance from an operational perspective.

Several empirical studies highlight ROA as a significant predictor of stock prices. For example, Darmawan (2022) revealed that ROA had a positive and significant impact on stock prices in the manufacturing sector. Similarly, Arifiani (2019) found that higher ROA values were often associated with increased investor confidence, as firms with stronger asset efficiency are perceived to have lower operational risk.

In the context of the transportation and logistics sector, where asset-heavy operations are common, ROA becomes a particularly crucial metric. The industry's reliance on fleets, infrastructure, and logistical assets means that effective asset management is vital for sustaining profitability and investor interest.

B. Return on Equity (ROE)

Return on Equity (ROE) represents the profitability relative to shareholders' equity and indicates how efficiently a firm uses the equity capital invested by its owners to generate earnings. It is often viewed as a core indicator for shareholders since it reflects the return they receive on their investment (Fahmi, 2018).

According to Sutrisno (2019), ROE is not only a measure of profitability but also a tool to compare the financial health of firms within the same industry. Companies with higher ROE are considered more attractive for equity investors, as they demonstrate better profit generation per unit of shareholder capital.

Previous studies offer mixed evidence regarding the relationship between ROE and stock prices. While Sunaryo (2022) found a strong positive correlation in the cement industry, Utami (2018) reported that ROE had no significant effect in the

Indonesian Sharia Stock Index. These conflicting findings suggest that ROE's influence may vary across industries, underlining the need for sector-specific analyses

C. Stock Prices

Stock price is the monetary value assigned to a share of a company as traded in the capital market. It represents the market's perception of a company's value, reflecting both internal financial performance and external economic influences (Brigham & Houston, 2019). According to Hermuningsih (2018), stock prices are determined by the interaction of supply and demand in the capital market, which is in turn influenced by firm performance, investor expectations, and macroeconomic factors.

Tandelilin (2019) emphasizes that stock prices respond to financial indicators such as profitability, solvency, and liquidity. Investors rely on these metrics to evaluate the intrinsic value of a firm and decide whether to buy, hold, or sell shares. Thus, financial ratios like ROA and ROE are often used as leading indicators for stock valuation.

In the transportation and logistics sector, stock price movements are also influenced by factors such as fuel prices, regulatory changes, and technological advancements in logistics management. However, fundamental financial performance indicators remain essential for long-term valuation.

D. Theoretical Framework

This study is grounded in the Signaling Theory, which suggests that companies send signals to investors through financial disclosures, such as profitability ratios, to reduce information asymmetry in the market (Spence, 1973). ROA and ROE serve as signals of firm performance, which investors interpret to assess a firm's future prospects. The better the signal (i.e., higher profitability), the more likely investors will respond positively, driving up the firm's stock price.

Furthermore, the study also adopts the Efficient Market Hypothesis (EMH), which posits that stock prices fully reflect all available information, including financial indicators like ROA and ROE. In a semi-strong form efficient market, any publicly available financial performance metric should be quickly incorporated into a company's stock price (Fama, 1970).

E. Previous Studies

Multiple studies have been conducted to examine the relationship between profitability and stock prices. Darmawan (2022) reported that ROA and ROE had significant effects on stock prices in the industrial sector. Arifiani (2019) focused on telecommunication firms and found ROA to be significantly related to stock prices, while ROE's impact was relatively weaker. Meanwhile, Jannah (2020) revealed a simultaneous effect of ROA, ROE, and EPS on stock prices in the food and beverage sector.

Although most studies confirm the relevance of profitability ratios in stock price formation, the degree of influence varies depending on the industry, financial structure, and market conditions. Consequently, the transportation and logistics sector, characterized by capital-intensive operations, presents an interesting case for further investigation.

RESEARCH METHODOLOGY
A. Research Design

This study employs a quantitative research design with a causal-comparative approach. The objective is to investigate the extent to which two financial performance variables—Return on Assets (ROA) and Return on Equity (ROE)—influence stock prices among firms in the transportation and logistics sector listed on the Indonesia Stock Exchange (IDX) during the 2018–2022 period. Quantitative data analysis enables the researcher to test hypotheses using statistical techniques and to generalize findings within the defined population (Sugiyono, 2019).

B. Data Source and Collection Method

The study utilizes secondary data sourced from the audited annual financial reports of selected companies available on the official IDX website (www.idx.co.id). These documents provide numerical data on ROA, ROE, and stock prices over a five-year period. The data collection technique is documentation analysis, which involves systematically retrieving, organizing, and interpreting archived data relevant to the research variables.

C. Population and Sampling

The population in this study includes all transportation and logistics companies listed on the IDX between 2018 and 2022, totaling 35 firms. A purposive sampling technique is applied to select companies that meet the following inclusion criteria:

1. Complete annual financial reports are available for the entire 2018–2022 period.

2. Consistent data reporting on ROA, ROE, and stock prices.

Based on these criteria, eight companies were selected as the research sample, resulting in 40 observations (8 companies × 5 years).

D. Variables and Operational Definitions

This research consists of two independent variables and one dependent variable:

Independent Variables:

1. Return on Assets (ROA): A profitability ratio measuring net income after tax as a percentage of total assets. Formula: ROA = (Net Income / Total Assets) × 100%

2. Return on Equity (ROE): A financial ratio that calculates the return generated on shareholders' equity. Formula: ROE = (Net Income / Shareholders' Equity) × 100%

Dependent Variable: Stock Price: The closing price of each company's stock as reported at the end of each fiscal year.

E. Data Analysis Techniques

The data analysis is conducted using SPSS version 25 with the following statistical techniques:

1. Descriptive Statistics

Descriptive analysis is used to present the central tendency (mean), dispersion (standard deviation), and the minimum and maximum values of the variables.

2. Classical Assumption Tests

To validate the regression model, several classical assumption tests are performed:

Normality Test: Conducted using the Kolmogorov–Smirnov test to assess whether the data follow a normal distribution. Multicollinearity Test: Evaluates correlations among independent variables using Variance Inflation Factor (VIF) and tolerance values. Heteroscedasticity Test: Performed to detect non-constant variance of residuals, ensuring homoscedasticity in the regression model.

3. Multiple Linear Regression Analysis

This method is used to measure the relationship between independent and dependent variables. The regression model is specified as:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where:

Y = Stock Price

α = Constant

$\beta 1$, $\beta 2$ = Regression Coefficients

$X 1$ = ROA

$X 2$ = ROE

ε = Error Term

4. Hypothesis Testing

t-test (Partial Test): Examines the individual effect of each independent variable on the dependent variable. F-test (Simultaneous Test): Determines the combined effect of ROA and ROE on stock prices. Coefficient of Determination (R^2): Measures the proportion of variance in stock price explained by the independent variables.

RESULT AND DISCUSSION
A. Descriptive Statistics
Descriptive statistical analysis was conducted to observe the characteristics of each variable. Based on the sample of 40 firm-year observations, the results are as follows:

Return on Assets (ROA) had an average value of 0.6474, with a minimum of 0.12 and a maximum of 0.99. The standard deviation was 0.2062, indicating moderate variation in asset profitability among transportation and logistics firms. Return on Equity (ROE) recorded a mean of 24.2750, ranging from a minimum of 12.77 to a maximum of 30.49, with a standard deviation of 5.8205. This reflects considerable variability in equity profitability across firms. Stock Price exhibited an average of 0.7976, with values ranging from 0.456 to 1.768 and a standard deviation of 0.2589, suggesting modest price volatility in the sample companies

B. Classical Assumption Tests
To ensure the validity of the regression model, several classical assumption tests were conducted.

Normality Test: Using the Kolmogorov–Smirnov test, the p-value obtained was 0.200, which is greater than 0.05, indicating that the data are normally distributed. Multicollinearity Test: Tolerance values were above 0.10 and VIF values were below 10 for both ROA and ROE, confirming the absence of multicollinearity between the independent variables. Heteroscedasticity Test: Using the Glejser method, the significance values for ROA (0.669) and ROE (0.937) were greater than 0.05, suggesting that heteroscedasticity is not present in the data

C. Multiple Linear Regression Analysis
The regression analysis results are summarized as follows:

$$\text{Stock Price} = 1.950 - 1.496 \times \text{ROA} + 0.012 \times \text{ROE} + \varepsilon$$

The regression coefficient for ROA is -1.496 with a significance value of 0.000, indicating a significant negative effect. The regression coefficient for ROE is 0.012 with a significance value of 0.374, which is not statistically significant

D. Hypothesis Testing
1. Partial Test (t-Test)

ROA (t = -14.917, p < 0.05): Indicates a significant partial influence on stock price. The negative sign suggests that an increase in ROA may not necessarily be associated with higher stock prices, which could reflect sector-specific investor behavior or capital structure effects. ROE (t = 0.898, p > 0.05): Indicates no significant partial effect on stock prices

2. Simultaneous Test (F-Test)

The F-test yielded an F-value of 75.490 with a significance level of 0.000. Since F_calculated > F_table (75.490 > 2.87), it can be concluded that ROA and ROE simultaneously have a significant effect on stock prices

3. Coefficient of Determination (R^2)

The Adjusted R^2 value was 0.820, indicating that 82% of the variation in stock prices can be explained by ROA and ROE. The remaining 18% is attributed to other factors not included in the model

E. Discussion
1. The Effect of ROA on Stock Price
The negative and significant effect of ROA on stock prices contradicts general expectations and may reflect the market's perception that increased profitability from assets does not necessarily lead to higher shareholder value in this sector. This finding aligns partially with Junaidi (2021), who noted a significant relationship between ROA and stock price, albeit with a different directional influence

2. The Effect of ROE on Stock Price
ROE was found to have no significant effect on stock prices. This result may indicate that investors in transportation and logistics companies are more sensitive to other performance indicators or risk factors not captured by equity-based returns. Similar findings were reported by Utami (2018) and Reynard Valentino (2020) in different sectors

3. Joint Effect of ROA and ROE on Stock Price

Despite the partial insignificance of ROE, the simultaneous test confirms that ROA and ROE together significantly influence stock price formation. This suggests that investors may consider a broader picture of firm profitability, even if individual metrics do not always have standalone impacts.

CONCLUSION

This study aimed to examine the influence of Return on Assets (ROA) and Return on Equity (ROE) on the stock prices of transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) for the period 2018–2022. Based on the results of descriptive statistics, classical assumption tests, and multiple linear regression analysis, the following conclusions are drawn: ROA has a significant negative effect on stock prices, indicating that in the transportation and logistics sector, higher profitability in terms of asset utilization does not necessarily translate into higher market valuation. This finding may reflect specific structural or operational risks that offset positive earnings performance. ROE does not have a significant influence on stock prices, suggesting that investors may not prioritize equity-based profitability as a primary factor in stock valuation within this sector. Other factors such as industry risks, market sentiment, and external shocks may play a more dominant role. Together, ROA and ROE significantly affect stock prices, as indicated by the F-test and a high coefficient of determination ($R^2 = 0.820$). This confirms that financial performance, when viewed collectively, contributes to investor decision-making, even if individual indicators show varied influence.

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