

The Relationship between Financial Performance and Stock Returns: An Empirical Investigation of the Pharmaceutical Sector Using EPS, ROA, and DER Approaches

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Abstract : Stock prices serve as a benchmark for investors to assess a company's success. A positive stock return is an indicator of business success for a company. This study has three main objectives: to examine the influence of Earnings Per Share (EPS) on stock returns, to investigate the relationship between Return On Assets (ROA) and stock returns, and to determine the extent to which the Debt to Equity Ratio (DER) affects stock returns. The population of this study consists of 11 pharmaceutical companies listed on the Indonesia Stock Exchange during the period of 2018-2023. Simple random sampling was used to randomly select samples from the population, resulting in 264 quarterly financial data samples. The type of data used in this study is quantitative data obtained from semi-annual reports downloaded from www.idx.co.id and from the respective pharmaceutical companies' websites. Data analysis was conducted using Eviews version 10. The study found that only one variable, Earnings Per Share (EPS), significantly influences stock returns. The other two variables, Return On Assets (ROA) and Debt to Equity Ratio (DER), do not have a significant effect on stock returns.

Keywords : Earnings Per Share (EPS), Return on Assets (ROA), Debt to Equity Ratio (DER), Stock Return.

1. INTRODUCTION

Pharmaceutical companies play a strategic role in creating medical breakthroughs and providing therapeutic solutions for global health challenges. As business entities operating at the intersection of science and economics, pharmaceutical companies are not only pioneers in the discovery of new drugs but also play a role in ensuring the availability and accessibility of medicines to the public. In recent years, the development of pharmaceutical companies in Indonesia has accelerated, having a positive impact on the global economy.

Recent research by Wijaya (2023) revealed that pharmaceutical companies in Indonesia have focused on enhancing their research and development capabilities to respond to the demand for innovation in drug development. This study highlights the efforts of pharmaceutical companies to create drugs that are not only effective and safe but also more affordable for the public. Additionally, research by Anwar (2022) notes the crucial role of pharmaceutical companies in supporting government programs to improve access to essential medicines in various regions of Indonesia, demonstrating the positive contributions of pharmaceutical companies to public welfare.

Stock return is a primary focus as an indicator of investment performance in a company.

Stock returns reflect the output obtained from investments through ownership in a company. This phenomenon is not only of interest to individual investors but also a primary focus for financial institutions, market analysts, and decision-makers within companies. In a fluctuating and uncertain market situation, understanding the variables that influence stock returns is essential for making intelligent investment decisions.

Delving deeper into understanding stock returns, research by Siregar (2021) emphasizes the importance of fundamental analysis in predicting stock return movements in the Indonesian stock market. This research notes that elements such as net profitability, financial indicators, and internal company factors play significant roles in contributing to stock returns. According to this background, the study conducted by Permana & Susanto (2019) investigates the effects of external factors, such as economic conditions and government policies, on stock returns in the Indonesian capital market. Therefore, a comprehensive understanding of stock returns is crucial for designing optimal investment strategies and reducing risks in the capital market.

Earnings Per Share (EPS) is a vital financial performance indicator in investment analysis, measuring the net profit per share, which serves as the basis for calculating stock returns. The relationship between EPS and stock returns is a key concern for investors and market analysts, providing opportunities for more accurate decision-making. Recent findings, as documented in research by Pratama & Riyanto (2023), indicate that a significant increase in EPS contributes positively to stock returns in the Indonesian capital market, confirming investors' positive reactions to a company's financial performance that achieves high earnings per share. Additionally, a study conducted by Utami (2022) states that internal company elements, including earnings management policies, can influence changes in EPS and simultaneously impact stock returns.

Return On Assets (ROA) is a crucial financial performance indicator that evaluates the efficiency of a company's asset utilization, measuring the company's ability to generate profit from its total assets. In capital market investment analysis, understanding the relationship between ROA and stock returns plays a key role. Recent research by Widiatoro (2023) shows that companies with high ROA tend to deliver better stock returns, reflecting efficiency and productivity in asset management. The study conducted by Prasetyo & Santoso (2022) highlights the significance of ROA as a determinant influencing changes in stock returns, considering external factors, including economic conditions in the Indonesian capital market.

Analyzing a company's financial structure and its impact on stock performance becomes a focal point when examining the relationship between DER and stock returns. DER reflects the proportion of a company's debt compared to its equity, and understanding the impact of this

ratio on stock returns provides valuable insights for investors and market analysts. Recent studies, as revealed by Prayogo & Sumarsono (2023), imply that companies with moderate debt-to-equity ratios (DER) are likely to provide more consistent and sustainable stock returns. Additionally, research conducted by Setiawan (2022) explores external factors, such as financial market conditions, that may moderate the relationship between DER and stock returns, offering in-depth insights into the complexities of factors influencing the DER-stock return relationship.

High stock returns can be influenced by several factors, including EPS, ROA, and DER. Previous studies have revealed that EPS has a significant impact on stock returns (Ratna & Noer, 2018; Asep & Resi, 2018; Gede Gilang & I Ketut, 2018). Other findings in research indicate that ROA has a considerable influence on stock returns (Fadhlan et.al, 2018; Yuni et.al, 2022; Ni Putu & Ni Luh, 2020), although there are research findings showing that ROA can have an unfavorable impact on stock returns (Arif Mangantar et.al, 2020). Furthermore, related research suggests that DER has a significant impact on stock returns (Fadhlan et.al, 2018; Ratna & Noer, 2018). However, other research findings indicate that DER does not impact stock returns (Ni Nyoman & Luh Gede, 2019; Gd Gilang & I Ketut, 2018; Arif Mangantar et.al, 2020; Yuni et.al, 2022).

This study sets several research objectives. The initial objective is to investigate the impact of EPS on stock return levels. Subsequently, the next objective is to understand the effect of Return On Assets (ROA) on stock returns. The final objective of this study is to identify the impact of the Debt to Equity Ratio (DER) on stock returns.

2. LITERATURE REVIEW

Stock returns reflect investors' expectations of the potential profits that may be obtained from the capital invested. This anticipation of profits provides an indication of the possible outcomes that may exceed predictions. Stock return refers to the gains resulting from investments in stocks. Alternatively, stock return can be defined as the difference between revenue and investment, further divided by the amount of investment (Arif Mangantar et al., 2020). There are two categories of stock returns: realized return (actualized returns) and expected return. Realized returns are the returns that have already occurred and are calculated based on past data, while expected returns are the anticipated returns that investors expect for future periods. The greater the expectation of returns, the higher the risk. Thus, it is known that return expectations have a positive relationship with risk. The calculation of stock returns involves the difference between the stock's sale value at the end of the period and the purchase

value at the beginning of the period, plus the dividends received (Kadarningsih & Anita, 2018).

Earnings Per Share (EPS) reflects the total earnings of a company divided by the number of outstanding shares. EPS is a primary component in business analysis (Natasha Salamona & Agus Endro, 2022). If a company achieves significant profits, the Earnings Per Share value will also increase. Conversely, if a company experiences minimal profits, the Earnings Per Share value will decrease. In general, the EPS figure or value is of particular interest to investors. Essentially, an increase in a company's ability to generate profits will have a positive effect on the stock value. The rise in stock value will contribute to an increase in stock returns, which will subsequently be distributed to shareholders, thus raising the level of stock returns. Shareholders and company management typically focus on the company's earnings per share.

Return On Assets (ROA) is an efficiency parameter for generating profits from all assets utilized. Every company strives to improve the quality of its ROA value. If the ROA value rises, it indicates that the company is improving its efficiency in utilizing assets to achieve profitability. Along with the increase in ROA value, there is typically an improvement in the company's efficiency and profitability (Gd Gilang & I Ketut, 2018). This situation attracts investors to invest in the company's stocks, resulting in an increase in stock value, followed by a high rate of stock returns.

The Debt to Equity Ratio (DER) reflects a company's ability to cover all its obligations, as indicated by the extent to which its own capital or equity is used to pay off debts (Ratna & Noer, 2018). DER measures the ratio between total debt and total equity held by a company. For investors, a higher ratio indicates higher risk due to the potential for company failure. On the other hand, for companies, a high ratio can be considered advantageous as it signifies the ability to use capital efficiently. If a company can effectively manage this ratio and achieve profitable returns from borrowing, it can benefit both the company and its investors.

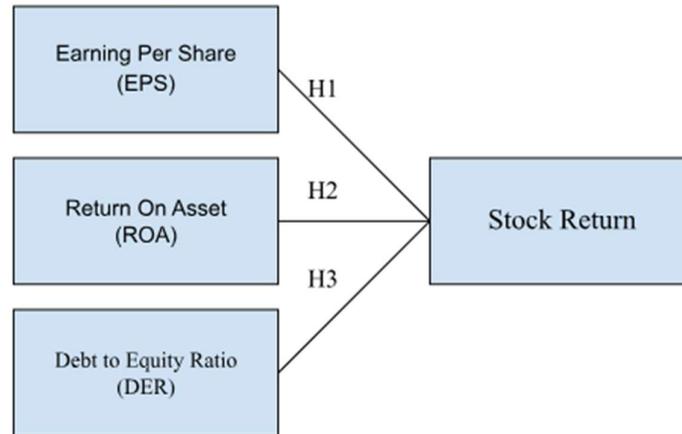


Figure 1. Research Model

A hypothesis is a statement that logically suggests a relationship between two or more variables in a testable proposition. It posits that there is a significant connection between independent variables and the dependent variable. Based on the above explanations, the researcher proposes the following hypotheses:

H1: There is a significant influence of the EPS variable on stock returns.

H2: There is a significant influence of the ROA variable on stock returns.

H3: There is a significant influence of the DER variable on stock returns.

3. RESEARCH METHOD

This study focuses on all companies active in the pharmaceutical sector and listed on the Indonesia Stock Exchange (IDX) during the period 2018-2023, encompassing a total of 11 companies as the population. The sampling method used is Purposive Sampling. A total of 264 financial datasets were obtained as the research sample. The data used in this study are quantitative data collected from quarterly data sources downloaded from the official website www.idx.co.id and the websites of the respective pharmaceutical companies. Eviews version 10 software was used as the data analysis tool.

To address the identified issues, the analysis was conducted using the panel data regression method. Panel data combines time series and cross-sectional data, showing mixed characteristics that cover multiple objects or involve several time periods. Typically, parameter estimation in regression analysis using cross-sectional data is performed through the application of the least squares method known as Ordinary Least Squares (OLS).

4. RESULTS AND DISCUSSION

Estimation of Panel Data Method

The observations from 264 datasets in the pharmaceutical sub-sector for the period 2018-2023 are summarized in the following table:

Table 1. Panel Data Results

Chow Test	Cross-section Chi-square	0.0101
Hausman Test	Cross-section random	0.9554
Normalitas	Probabilitas	0,930282
Multikolinearitas	Koefisien Korelasi	EPS – ROA : -0.203338 EPS – DER : 0.470387 ROA – DER : 0.030344
Autokorelasi	Durbin-Watson stat	1.885042
Heteroskedastistas	Probabilitas	EPS – 0.5381 ROA – 0.4317 DER – 0.6052
Simultan (Uji f)	F-statistic	27.72062
Parsial (Uji t)	Probabilitas	EPS – 0.0002 ROA – 0.0660 DER – 0.0000
Koefisien Determinasi	Adjusted R-squared	0.732662

The analysis results indicate complexity in choosing the best model, with the Chow Test supporting the Fixed Effect model and the Hausman Test supporting the Random Effect model. The classical assumption tests validate the quality of the data, showing normal distribution, no multicollinearity among independent variables (EPS, ROA, DER), no autocorrelation based on the Durbin-Watson test, and no heteroscedasticity. The F-test confirms a significant simultaneous influence of the independent variables on stock returns. Partially, EPS and DER are found to have a significant impact on stock returns, while ROA does not show a significant effect. The research model is strong enough to explain variations in stock returns, with an Adjusted R-squared of 73.26%, indicating that the majority of changes in stock returns can be explained by the variables EPS, ROA, and DER, while the remaining 26.74% are influenced by factors outside this research model.

Table 2. Panel Data Regression Analysis Table

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	73.64558	9.468266	7.778149	0.0000
EPS	0.054595	0.012898	4.232820	0.0002
ROA	0.320979	0.169139	1.897729	0.0660
DER	0.376763	0.068442	5.504869	0.0000
Weighted Statistics				
R-squared	0.760081	Mean dependent var	50.07232	
Adjusted R-squared	0.732662	S.D. dependent var	27.39825	
S.E. of regression	14.16621	Sum squared resid	7023.849	
F-statistic	27.72062	Durbin-Watson stat	1.585042	
Prob(F-statistic)	0.000000			

The regression equation from the output above, with stock return as the dependent variable, is as follows: $[Y = 73.63 + 0.05 X_1 + 0.32 X_2 + 0.37 X_3 + e]$

Based on this equation, the interpretation is as follows: The constant value (C) of 73.63 means that if the independent variables (EPS, ROA, DER) are zero, the company's stock return would increase by 73.63. If EPS increases by 1% during the observation period, it will raise the stock return by 0.05. If ROA increases by 1% during the observation period, it will raise the stock return by 0.32. If DER increases by 1% during the observation period, it will raise the stock return by 0.37

5. CONCLUSION AND RECOMMENDATIONS

After conducting the analysis simultaneously, it can be concluded that, collectively, the variables Earning Per Share (EPS), Return On Assets (ROA), and Debt to Equity Ratio (DER) have a significant effect on stock returns for pharmaceutical companies listed on the Indonesia Stock Exchange. However, when considered individually, the variables Earning Per Share (EPS) and Return On Assets (ROA) show a significant impact on stock returns. On the other hand, the Debt to Equity Ratio (DER) does not have a significant effect on stock returns.

Therefore, the recommendation for investors is to focus more on the return on equity when investing in pharmaceutical companies, as this study shows that return on equity significantly influences stock returns. For future researchers, it is advised to include additional variables that comprehensively cover factors influencing stock return, such as profitability ratios and activity ratios.

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