

The Impact of Fundamental Factors on Stock Returns of Toll Road Companies Listed on the Indonesia Stock Exchange from 2016 to June 2026

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ABSTRACT

Stock returns represent the profits earned by investors from investment activities in the capital market and are influenced by various macroeconomic factors and firm-specific performance. This study aims to analyze and evaluate the effects of Gross Domestic Product (GDP) growth, exchange rates, market returns, profitability (Return on Equity/ROE), liquidity (Current Ratio/CR), total asset turnover (TATO), capital structure (Debt-to-Equity Ratio/DER), and the price-to-earnings ratio (PER) on stock returns. The population of this study consists of toll road companies listed on the Indonesia Stock Exchange (IDX). The sampling technique employed was purposive sampling based on several criteria, including companies whose primary business is toll road operations, those listed on the IDX prior to 2016, and those that consistently published financial statements and stock price data during the observation period from 2016 to March 2026. The analytical method used in this study is quantitative analysis with panel data regression. Data processing and analysis were conducted using Microsoft Excel, EViews, and IBM SPSS Statistics. The results indicate that market returns and the price-to-earnings ratio (PER) have a positive and significant effect on stock returns. In contrast, GDP growth, exchange rates, Return on Equity (ROE), Current Ratio (CR), Total Asset Turnover (TATO), and Debt-to-Equity Ratio (DER) show positive or negative relationships but do not have a statistically significant effect on stock returns.



INTRODUCTION

The main purpose of stock investment activities in the capital market is to obtain a return on shares. So before deciding to invest, investors usually use various ways to maximize the profits from the investment made. According to Tandelin (2017) there are two approaches used to analyze securities, namely fundamental and technical analysis. Fundamental analysis is a stock analysis technique that studies the basic facts of a company's finances and economy as a step in assessing a company's stock price. In fundamental analysis, investors can analyze based on a company's performance. While technical analysis is an attempt to estimate the stock price by observing changes in stock prices in a period of time.

The increase and decrease in stock returns can also be caused by macroeconomic factors. According to Bertuah and Sakti (2019) macroeconomic factors can affect investment activities in the capital market. One of them is in terms of government policy in managing macroeconomics. In theory, many indicators can measure macro variables, including economic political indicators. However, of the many indicators that are commonly used to predict stock fluctuations are variables that are directly controlled through monetary policy. In this study there are several macroeconomic factors that affect stock investment activities in the IDX, including GDP growth, exchange rate, and market return (Amrillah, 2016).

Gross Domestic Product (GDP) is among the factors that influence changes in stock prices. GDP estimates will determine economic development. GDP comes from the number of consumer goods that do not include capital goods. With the increasing number of consumer goods causing the economy to grow, and increase the scale of the company's sales turnover, due to consumptive society. With the increase in sales turnover, the company's profits also increase. Increased profits cause the company's stock price to also increase, which has an impact on stock price movements (Amrillah, 2016).

In addition to GDP factors, the exchange rate can also affect the return of company shares, because the exchange rate is one of the investment instrument products, where when the rupiah exchange rate strengthens against other currencies such as USD, then investors will switch their investment from stocks to exchange rates, this will make stock returns decrease.

LITERATURE REVIEW

Efficient Market Hypothesis

According to Malkiel (1962) and Fama (1965), the efficient market hypothesis argues that the price of any asset, including the price of stock, should immediately reflect fundamental information about the asset. Based on the extent to which new information is reflected in stock prices, Fama (1970) defined three market efficiency levels, namely weak-form, semi-strong-form, and strong-form efficiency level. In a market of the weak-form efficiency level, the current stock prices reflect all of the information provided by the relevant stock price time series. In a market of the semi-strong-form efficiency level, the stock prices reflect both the time series of past price variations and additional information made available to the public.

Capital Asset Pricing Model

According to Abbasi et al. (2017), the Capital Asset Pricing Model (CAPM) is a single factor model. The single factor model is a model of security returns that recognizes only one factor, which is usually the market return, and considers how that one factor affects the returns of the portfolio or individual stocks. There are several studies that have shown the relationship between market return and stock returns of companies by using the Capital Asset Pricing Model (CAPM).

Macroeconomics

Macroeconomics has several primary variables that correlate with the investment in a country, namely Gross Domestic Product (GDP), employment rate, inflation rate, interest rate, budget deficit, and sentiment (Bodie et al., 2014). These macroeconomics variables are beyond the control of management of a company, therefore these variables can have a positive or negative effect towards the performance of a company (Dioha et al., 2018).

Market Return

Market return can represent the investors' return for the investments that they have done in the capital market (Thamrin, 2019). The market return consists of expected return and realized or actual return. The expected return is the return that the investors expect to obtain from an investment based on the historical or possible rate of return of that investment under different scenarios (Boyte-White, 2020).

Financial Performance

The financial ratios are presented in the form of percentage, multiple, or ratio that has an objective to evaluate a company's financial performance, operational performance, and competitiveness (Arkan, 2016). The financial ratios were also utilized by internal and external users in order to make their economic decisions, for example, the decisions related to investment and performance evaluation.

Stock Returns

The stock returns or the level of stock profit can also be defined as the benefits that will be obtained by investors from investment activities in a company either directly or through securities

companies (Suciati, 2018). The stock returns are one of the most important aspects in conducting investment analysis because it serves as an index for investors. From a particular investment that the investors want to choose, the investors will ensure that they will obtain a return that is higher than the cost of capital.

From the description of the previous theory, the research model is presented as below:

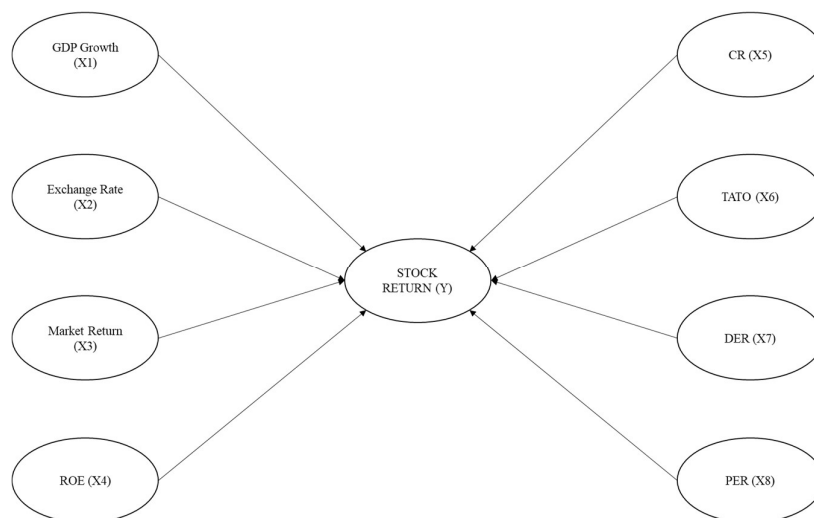


Figure 1. Framework

RESEARCH METHODS

Research Design

According to Sugiyono (2016: 35) there are two types of research methods, namely quantitative and qualitative research methods. Qualitative research is a research method used to examine the conditions of natural objects where the researcher is the key instrument. Meanwhile, quantitative research methods are methods based on the post-positivism philosophy that can be used to research a population or sample and sampling can use tools or instruments and analysis of the resulting data in statistical form. The method used in this research is quantitative.

Gross Domestic Product (GDP) Growth Rate (X1)

$$GDP = \frac{GDP_t - GDP_{t-1}}{GDP_{t-1}} \times 100\%$$

Exchange Rate (X2)

$$\Delta ER_t = \frac{(ER_t - ER_{t-1})}{ER_{t-1}}$$

Market Return (X3)

$$MR_t = \frac{(JKSE_t - JKSE_{t-1})}{JKSE_{t-1}}$$

Profitability (X4)

$$ROE_{i,t} = \frac{Net\ Income_{i,t}}{Shareholders\ Equity_{i,t}}$$

Liquidity (X5)

$$CR_{i,t} = \frac{\text{Current Assets}_{i,t}}{\text{Current Liabilities}_{i,t}}$$

Total Asset Turnover (TATO) (X6)

$$TATO_{i,t} = \frac{\text{Sales}_{i,t}}{\text{Total Assets}_{i,t}}$$

Debt-to-Equity Ratio (DER) (X7)

$$DER_{i,t} = \frac{\text{Total Debt}_{i,t}}{\text{Total Equity}_{i,t}}$$

Price-to-Earnings Ratio (PER) (X8)

$$MR_t = \frac{(JKSE_t - JKSE_{t-1})}{JKSE_{t-1}}$$

Stock Returns (Y)

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it}} \times 100\%$$

Data Collection Technique

The data analysis technique is a method to transform collected data into information that can solve problems. In the data analysis, four steps can be followed, namely (1) get the data ready for analysis, (2) get a sense of the data, (3) test the goodness of the data, and (4) test the formulated hypotheses (Sekaran & Bougie, 2013). To analyze the data in this study, the software used are Microsoft Excel, EViews and SPSS Statistics. EViews offers various tools, such as statistical and econometric tools, that can be utilized to analyze cross-sectional, time series, and panel data. Meanwhile, as software developed by SPSS Inc., SPSS Statistics can be used for statistical analysis of data and to solve research problems through hypothesis testing. SPSS Statistics can also be utilized to validate assumptions and drive accurate conclusions.

Data analysis methods are used to analyze the data obtained to find out the influence of independent variables on dependent variables or to find out the effect of GDP growth, exchange rate, market return, return on equity, current ratio, total asset turnover, debt-to-equity ratio, price-to-earnings ratio to stock returns.

Population and Sample

The entire group of people, events, or things of interest population could be defined as population. The population of this study is all of the companies listed on the Indonesia Stock Exchange that have toll road businesses. Some of the criteria set as the basis for sample selection are:

1. The company has a main business in the form of toll roads
2. The company had listed (IPO) on the Indonesia Stock Exchange before 2016
3. The company consistently publishes financial statements for the period 2016-March 2026
4. The company consistently publishes share price data for the period 2016-March 2026

RESULTS AND DISCUSSION**Normality test**

Ghozali (2013) states that to test whether, in a regression model, dependent variables, independent variables or both have normal or unknowable distributions using normality tests. The normality test will be conducted with Jarque-Bera (J-B) through EViews statistical software. If the probability value(p-value) is less than the significance level of5%, the data is not in a normal distribution. Data will normally distribute if the probability value(p-value) is greater than the significance level of 5%. The results of the normality test on this study can be seen in figure 2 below.

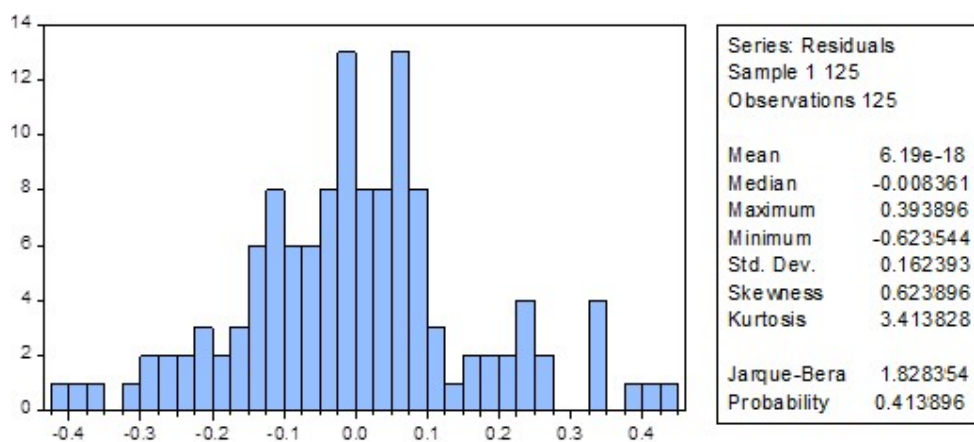


Figure 2. Normality Test Results

From the histogram above, the JB value is 1.828354, while the Chi-Square value of 0.413896 is greater than the significant level of 0.05. So it can be concluded that the data in this study is a normal distribution.

Multicollinearity Test

The multicollinearity test is used to determine whether there is a correlation between independent variables in a multiple regression model. If correlation occurs, it is said to have a multicollinearity problem. A good regression model should not have a correlation between independent variables. To be able to detect whether there is a multicollinearity problem in a regression model, this can be done by looking at the Variance Inflation Factor (VIF) value where the VIF value must be below 10. If the Variance Inflation Factor (VIF) value from the regression results is greater than 10 then it can be confirmed that there is multicollinearity among these independent variables. The following are the results of calculations using SPSS for the Variance Inflation Factor (VIF) value in the regression model used in the research model.

Table 1. Multicollinearity Test Result

Variable	Variance Inflation Factors
GDP Growth	1.358323
Exchange Rate	1.899377
Market Return	1.861994
ROE	2.994789
CR	1.688395
TATO	2.848951
DER	1.765381
PER	1.343291

Dependent Variable: Stock Returns

Based on Table 1, the results of the multicollinearity test show that the VIF value in all variables (GDP Growth, Exchange Rate, Market Return, ROE, CR, TATO, DER, and PER) is smaller than 10. Thus, it can be concluded that all variables are independent of multicollinearity problems because the VIF value < 10.

Significance Test

The significance test that has been performed for this study consists of three tests, namely the partial regression coefficient test (t-test), the simultaneous significance test (test f), and the determination coefficient test (Test R2). The results of each significance test can be seen in Table 4.14 below.

Table 2. Results of Significance Test

Variable	Coefficient	t-Statistic	Prob. (one-tailed)
GDP Growth	0.24	0.29	0.53
Exchange Rate	-0.37	-0.64	0.41
Market Return	0.92	2.95	0,00***
ROE	0.62	0.89	0.33
CR	0.12	1.34	0.22
TATO	0.25	0.47	0.47
DER	0.12	0.59	0.42
PER	0.00	2.24	0.02**
Adjusted R-squared	48.85%		
F-statistic	9.39		
Prob(F-statistic)	0.00		

Notes:

Dependent Variable: Stock Returns

Green Color = results of t-Test:

Highly Significant: p-value < 0.01 (***)

Significant: 0.01 < p-value < 0.05 (**)

Marginally Significant: < 0.05 p-value < 0.1 (*)

Blue Color = result of Coefficient Determination Test

Yellow Color = result of F-Test

Statistical test t is used to determine the effect of an independent variable individually in explaining the variation of dependent variables (Ghozali, 2013). The significance level (α) used is 5% (0.05). The acceptance and rejection criteria of the hypothesis are based on the significant value of the p-value. If the p-value (significance) > 0.05, then the research hypothesis is rejected, so it can be concluded that there is no independent variable effect on dependent variables. Conversely, if the p-value is greater (<) than 0.05, then the hypothesis in the study is not rejected. It can be concluded that there is an effect of independent variables on dependent variables.

From Table 2 above can be seen the results of the t-test in the form of coefficient values, t-statistic values, and p-values of each independent variable. The explanation of the relationship of each independent variable to the dependent variable based on the results of the best model selection test with common effect model is as follows:

1. GDP Growth

Based on the results of the t (partial) test on the regression model, we obtained a coefficient value with a positive direction of 0.24 and a one-tailed probability value of 0.53 > 0.05 (significance level of 5%), meaning that the second hypothesis is rejected. Thus, it can be concluded that GDP Growth has a positive and insignificant effect on the stock returns of Toll Road Companies Listed on the Indonesia Stock Exchange 2016-March 2026.

2. Exchange Rate

Based on the results of the t (partial) test on the regression model, the coefficient value with a negative direction of -0.37 and the probability value of one-tailed of 0.41 > 0.05 (significance level of 5%), meaning that the third hypothesis is rejected. Thus, it can be concluded that the exchange rate has a negative and insignificant effect on the stock returns of Toll Road Companies Listed on the Indonesia Stock Exchange 2016-March 2026.

3. Market Return

Based on the results of the t (partial) test on the regression model, the coefficient value with a positive direction of 0.92 and the probability value of one-tailed of 0.00 < 0.05 (significance level of 5%) means that the fourth hypothesis is not rejected. Thus, it can be concluded that the market return

has a positive and significant effect on the stock returns of Toll Road Companies Listed on the Indonesia Stock Exchange 2016-March 2026.

4. Return On Equity (ROE)

Based on the results of the t (partial) test on the regression model, we obtained a coefficient value with a positive direction of 0.62 and a one-tailed probability value of $0.33 > 0.05$ (significance level of 5%), meaning that the fifth hypothesis is rejected. Thus, it can be concluded that the return on equity (ROE) has a positive and insignificant effect on the stock returns of Toll Road Companies Listed on the Indonesia Stock Exchange 2016-March 2026.

5. Current Ratio (CR)

Based on the results of the t (partial) test on the regression model, the coefficient value with a positive direction of 0.12 and the probability value of one-tailed of $0.22 > 0.05$ (significance level of 5%), meaning that the sixth hypothesis is rejected. Thus, it can be concluded that the current ratio (CR) has a positive and insignificant effect on the stock returns of Toll Road Companies Listed on the Indonesia Stock Exchange 2016-March 2026.

6. Total Asset Turnover (TATO)

Based on the results of the t (partial) test on the regression model, the coefficient value with a positive direction of 0.25 and the probability value of one-tailed of $0.47 > 0.05$ (significance level of 5%), meaning that the seventh hypothesis is rejected. Thus, it can be concluded that total asset turnover (TATO) has a positive and insignificant effect on the stock returns of Toll Road Companies Listed on the Indonesia Stock Exchange 2016-March 2026.

7. Debt-to-equity Ratio (DER)

Based on the results of the t (partial) test on the regression model, we obtained a coefficient value with a positive direction of 0.12 and a one-tailed probability value of $0.42 > 0.05$ (significance level of 5%), meaning that the eighth hypothesis is rejected. Thus, it can be concluded that the debt-to-equity ratio (DER) has a positive and insignificant effect on the stock returns of Toll Road Companies Listed on the Indonesia Stock Exchange 2016-March 2026.

8. Price-to-earnings Ratio (PER)

Based on the results of the t (partial) test on the regression model, a coefficient value with a positive direction of 0.00 and a one-tailed probability value of $0.02 < 0.05$ (significance level of 5%), meaning the ninth hypothesis is not rejected. Thus, it can be concluded that the price-to-earnings ratio (PER) has a positive and significant effect on the stock returns of Toll Road Companies listed on the Indonesia Stock Exchange 2016-March 2026.

Simultaneous Significance Test (F-Test)

The simultaneous significance test (F-test) determines whether all independent variables have the same effect on dependent variables. If the F test result shows a p-value $<$ a significance level of 0.05, then the null hypothesis should be rejected so that it can be concluded that all independent variables have the same effect on dependent variables. Whereas if the F-test result shows a p-value $>$ a significance level of 0.05, the null hypothesis must not be rejected, so it can be concluded that all independent variables do not have the same effect on dependent variables.

Based on the results of simultaneous tests (test F) in Table 2 above, it is seen that all nine independent variables have probabilities (F-statistics) or p-values (0.00) that are smaller than 0.05. This result means that the null hypothesis must be rejected to conclude that all independent variables have the same effect on dependent variables. The independent variables used in the study are GDP Growth, exchange rate, market return, ROE, CR, TATO, DER, and PER, and the dependent variable used in this study is the stock returns.

Coefficient of Determination Test (Adjusted R2)

The coefficient of determination (Adjusted R2) test measures the regression model's ability to explain the relationship between independent and dependent variables. Based on the results of the regression of panel data with the common effect model method, the Adjusted R-squared value is 0.4996. This result can be interpreted that the independent variables in this study, namely GDP growth, exchange rate, market return, ROE, CR, TATO, DER, and PER can jointly explain the dependent variables, namely stock returns of 48.85%, and the remaining 50.04% explained by other variables outside the research model.

CONCLUSION

This research has two research problems. The first research problem is the difference in results from several previous studies that have been conducted by other researchers on the effect of macroeconomic variables, market return, and financial performance on stock returns. The second research problem is limited research on the toll road sector as the underlying sector. Based on existing problems, this study has several research objectives, namely: 1) to analyze and evaluate whether there are differences in stock performance between companies in the toll road sector, 2) to analyze and evaluate the effect of GDP growth on stock returns, 3) to analyze and evaluate the effect of exchange rates on stock returns, 4) to analyze and evaluate the effect of market return on stock returns, 5) to analyze and evaluate the effect of return on equity (ROE) on stock returns, 6) to analyze and evaluate the effect of current ratio (CR) on stock returns, 7) to analyze and evaluate the effect of total asset turnover (TATO) on stock returns, 8) to analyze and evaluate the effect of Debt-to-Equity Ratio (DER) on stock returns

This study only analyzed Toll Road companies listed on the Indonesia Stock Exchange. Further research is encouraged to analyze other companies under different industry sectors to obtain different possible outcomes regarding the effect of fundamental factors on the return of company shares. 3. The observation period of this study is from 2016-March 2026. Subsequent studies are advised to analyze over a more extended observation period or use different observation periods to obtain more accurate or possibly different research results and more research samples.

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