

# Does Stock Return Influenced by Macroeconomic Factors?

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## Abstract

The purpose of this study is to find out how the effect of inflation, interest rates (BI rate), and exchange rates on stock prices of the Construction and Building sub-sector on the Indonesia Stock Exchange in the 2014-2018 period. The independent variables in this study are inflation, interest rates (BI rate), and exchange rates, while the dependent variable is stock returns. The population in this study are all companies that are included in the construction and building sub-sector listed on the Indonesia Stock Exchange for the period 2014-2018, as many as 16 listed companies. The sample in this study was 9 companies which were taken based on the sampling technique used, namely purposive sampling by using several considerations or predetermined criteria. The data analysis method used multiple linear regression analysis. To test the hypothesis, the t-test was used for partial testing and F-test for simultaneous testing. The results showed that inflation had a significant positive effect on stock returns, the interest rate (BI rate) had a significant negative effect on stock returns. While the Exchange Rate does not affect Stock Return.

## Introduction

Investment is an investment by investors for one or more assets, the goal is for the long term with the intention of profiting in the future (Nugraha, Nugraha, & Sapitri, 2020). The decision to invest can be made by individuals or entities that have excess funds (Nariswari & Nugraha, 2020). Investments can be made in the form of real assets and securities or financial assets. Investments within the sort of real assets are generally within the sort of tangible assets like land, buildings, and machinery. While investments within the sort of financial assets are generally within the sort of non-real assets like foreign exchange, time deposits, stocks, bonds and so on which are traded on the money market and capital market.

Every investor within the capital market needs information that's relevant to the development of transactions on the stock exchange, this is important to be used as a reference and consideration in making decisions to take a position within the capital market (Nugraha, Rence, Muhammad, Raspati, & Maullana). Stocks are one type of capital market instrument that investors are interested in. Stocks are an investment instrument that many investors choose because they can provide an attractive level of profit (SHOLICHAH et al., 2021). The level of stock return that investors will receive is one factor that influences their decision to invest their capital in the form of shares. The consequence of an investor's investment activity is referred to as stock return (Nugraha, Puspitasari, & Amalia, 2020). Stock returns can be calculated by comparing the current and previous periods' stock prices. With the movement in stock prices, it will always be followed by movements in stock returns that will be obtained by investors.

The construction and industrial building sub-sector are a number of the sub-sectors that provides a signal that a country's economy is falling or growing. This indicates that more and more companies are engaged in this field, indicating that the economy is growing in Indonesia (Nugraha, Damayanthi, & Nugraha, 2020). Construction and building companies are one among the industrial sub-sectors listed on the Indonesia stock market (IDX). The development of the construction and building industry is so rapid, as indicated by the growing number of businesses listed on the IDX, which now stands at 16 in 2018.

Stock returns are influenced by two factors, namely micro-economic factors and macro-economic factors (Nugraha, Herlambang, Nugraha, & Amalia, 2020). Several macroeconomic factors mentioned by Patma, Kambuaya, Arunglamba, and Salle (2021) include inflation, GDP growth, industrial production growth, rupiah exchange rate, interest rates, unemployment, and budget deficit. A decrease in the rupiah exchange rate (exchange rate) will have a negative influence on a country's economy as well as the country's capital market (Patma et al., 2021). As a result, when the rupiah exchange rate (exchange rate) falls, the stock price drops, which is followed by a drop in stock returns. A high-interest rate (BI rate) will give a negative signal for stock prices. If there is an increase in the interest rate (BI rate) it will cause stock prices to decrease and be followed by a decrease in stock returns obtained by investors (Patma et al., 2021). An increase in the rate of inflation will have a negative effect on the stock market. Because when inflation is high, it'll have a decreasing impact on stock prices followed by a decrease available returns itself (Patma et al., 2021). The following is the development of stock returns, inflation, interest rates (BI rates), and exchange rates for Construction and Building sub-sector companies for the period

2014-2018.

**Table 1**

Stock Return, Inflation, Interest Rate (BI rate), and Exchange Rate in construction and building sub-sector companies for the period 2014-2018.

	2014	2015	2016	2017	2018
Stock Return	25.13	-8.83	1.02	13.67	-2.18
Inflation	6.42	5.86	3.53	3.81	3.2
Interest Rate	7.54	7.52	6	4.56	5.1
Exchange Rate	11884.5	13448.6	13333.4	13398.8	14272.4

**Source:** Data processed, 2020

Based on Table 1. above, when inflation declines stock returns also decreased, this occurred in the 2014-2015 period. In addition, when inflation experienced an increase, stock returns also increased, this happened in the 2016-2017 period. This is contrary to the theory presented by Patma et al. (2021) which states that an increase in inflation causes a drop in stock prices, which is followed by a drop in stock returns. In addition to some of the facts found in the field, several previous studies have different research results. In several previous studies, it was also found that there were differences in the results of research conducted by Riwayati and Diena (2021); Sumaryoto, Nurfarkhana, and Anita (2021), and Umaryadi, Saragih, and Burhan (2021) stating that inflation affects stock returns. Meanwhile, research conducted by Wahyuni and Gunarsih and Kusumaningtyas, Widagdo, and Nurjannah (2021) Putra (2021) states that stock returns are unaffected by inflation.

Based on Table 1. above, when the Interest Rate (BI rate) decreased, stock returns also decreased, this occurred in the 2014-2015 period. This is contrary to the theory presented by Patma et al. (2021) which states that an increase in the interest rate (BI rate) will cause a drop in stock prices, which will be accompanied by a drop in stock returns. Meanwhile, in previous studies, different outcomes emerge from the link between interest rates and stock return Safitri (2021), in his research found that interest rates do not affect stock returns. However, (Pratiwi & Mustafa, 2021) stated different results changes in interest rates have a positive impact on stock returns.

Based on Table 1. above, when the rupiah exchange rate (exchange rate) increases, stock returns also increase, this occurs in the 2016-2017 period. This fact shows a condition that is contrary to the theory presented by Patma et al. (2021) which states that an increase in the exchange rate can lead to a drop in stock prices, which is followed by a drop in stock returns, and vice versa, that a drop in the rupiah exchange rate can lead to a rise in stock prices, which is followed by an increase in stock returns. The research that tested the effect of the exchange rate on stock returns that had been carried out by Kalsum, Hidayat, and Oktaviani (2021) stated that stock results were influenced by the exchange rate. Research conducted by Susanto (2015) states that the exchange rate affects stock returns. Meanwhile, research conducted by Safitri (2021) and Pratiwi and Mustafa (2021) shows that stock returns are unaffected by exchange rates.

Several macroeconomic factors that have been mentioned above, namely inflation, interest rates (BI rate), and the rupiah exchange rate (exchange rate) are thought to influence stock returns and the authors are interested in proving through research that will be conducted on the Indonesia Stock Exchange's Construction and Building sub-sector.

## Literature Review

### Stock Return

Return is an advantage in the form of the rate of return on security owned by investors. The amount of return is the main consideration for investors in investing in a company's securities. Return is one of the reasons that encourages investors to interact, as well as a compensation for their willingness to take risks with their money (Pan & Long, 2021). The difference between the amount received and the amount invested, divided by the amount invested, is the rate of return (Ibrahim & Isiaka, 2021). The rate of return received over time, as well as the risk of the investment, are referred to as stock return (Nugraha, 2021). There are two forms of return received by investors from stock activities, namely dividends and capital gains (Simatupang & Franzlay, 2016).

## **Inflation**

Inflation is defined as the widespread and continuing rise in prices. Inflation cannot be defined as an increase in the price of one or two commodities unless the increase is widespread and leads to an increase in the price of other commodities (Lee, Lee, & Wu, 2021). In line with this opinion, Adrian and Shin (2010) sinflation is defined as the propensity for prices to rise continuously. The most important aspect of the concept of inflation to remember is that prices are constantly rising, price increases that are only temporary cannot be said to be inflation (Wulandari, Suhono, & Manda, 2021).

Inflation also causes a decrease in the purchasing power of money (Angelina & Nugraha, 2020). If purchasing power decreases, the income of the community, including investors, will decrease which will have an impact on decreasing the desire to invest (Sugianto, Hasyim, Muda, & Soemitra, 2021). This will result in a drop in stock prices, as well as a drop in stock returns (Patma et al., 2021). As a result, the higher the rate of inflation, the lower the stock return of a corporation. This statement is supported by several previous studies, including Sumaryoto et al. (2021) and Umaryadi et al. (2021) that stock returns are significantly negatively affected by inflation.

H<sub>1</sub>: Inflation affects Stock Return

## **Interest Rate (BI Rate)**

The interest rate (BI rate) is a one-month interest rate issued by Bank Indonesia periodically for a length of time that acts as a monetary policy signal, according to Bank Indonesia ([www.bi.go.id](http://www.bi.go.id)). Based on the foregoing knowledge of the interest rate (BI rate), it can be inferred that the interest rate (BI rate) is a signal of monetary policy produced by Bank Indonesia. As a result, the magnitude of growth or drop in the BI rate can be used to gauge monetary policy.

When a company's profitability falls, stock prices fall, and investors see a drop in their stock returns (Wulandari et al., 2021). An increase in interest rates will cause high production costs so that product prices will also increase which will have an impact on consumers to delay their purchases and prefer to save their money in banks. As a result, the company's income and profits will be reduced, and the stock return will be reduced, because investors prefer to deposit their money when interest rates are low. It may be concluded from the explanation that when the interest rate is high, the stock return will be lower. This assertion is backed up by the findings of a study conducted by Riwayati and Diena (2021) and Sumaryoto et al. (2021) that stock returns are significantly affected by interest rates.

H<sub>2</sub>: Interest Rates Affect Stock Returns

## **Exchange Rates**

According to Serebriakov and Dohnal (2015), states that the price in the exchange of two different currencies, there will be a price comparison or value between the two currencies, in particular, this value comparison is called exchange rates. Meanwhile, according to Paulina (2021), the price of a currency in relation to another country's currency is known as the exchange rate. Because the exchange rate may translate prices from different nations into the same price, it plays an essential role in spending decisions.

Changes in the exchange rate have an impact on a company's competitiveness, which then has an influence on the company's products, which has an impact on the stock price. The cost of imported raw materials or items related to imported items will rise when the rupiah exchange rate falls. This causes production costs to increase and company profits to fall. If the company's profits fall, It will result in a drop in the company's stock price, as well as a drop in the stock return demanded by investors. Research conducted by Sumaryoto et al. (2021) and Kusumaningtyas et al. (2021) found that the exchange rate affects stock returns.

H<sub>3</sub>: Exchange Rate Affects Stock Returns



## Research Methodology

Hypotheses are tested through statistical data processing and testing in this study's research approach, namely descriptive-verification analysis whose research results will be processed and conclusions are drawn. (Ayunitha, Sulastri, Fauzi, Sakti, & Nugraha, 2020; Susanti, Widajatun, Aji, & Nugraha, 2020) The population in this study consists of all companies registered on the Indonesia Stock Exchange in the construction and building sub-sector from 2014 to 2018, a total of 16 businesses. In this study, 9 companies were chosen as a sample based on the selection strategy utilized, which was purposive sampling based on a number of considerations or specified criteria. (Nugraha, Fitria, Puspitasari, & Damayanti, 2020; Puspitasari, 2021) The data in this study uses quantitative data. (Nugraha, Johanes, & Hendiarto, 2021; Nugraha, Ramadhanti, & Amaliawati, 2021) Secondary data, in the form of company financial statements retrieved from the Indonesia Stock Exchange website, was used in this study. (Feni, Burhanuddin, & Guasmin, 2021; Nugraha & Susyana, 2021) Data was collected using library studies and using documentation. (Nugraha, Yahya, Nariswari, Salsabila, & Octaviantika, 2021; Taohid, Sujai, & Nugraha, 2021) In this study, inflation, interest rates (BI rate), and exchange rates are the independent variables, whereas stock returns are the dependent variable. Multiple linear regression analysis was utilized to analyze the data. (Nugraha, 2021; Nugraha, Johanes, et al., 2021) To test the feasibility of the model, it is done through a classical assumption test. (Nugraha, Fitria, Nurlaela, Nugraha, & Torong, 2021; Sumantri, 2021) To find out the extent to which the model explains the dependent variable, it is done through the coefficient of determination test (Nariswari & Nugraha, 2020). The t-test was used for partial testing and the F-test was used for simultaneous testing to evaluate the hypothesis (Nugraha & Susanti, 2019; Setiyono, 2021).

## Results and Discussion

The Random Effect Model, or REM, was shown to be the best regression model in this study based on the findings of data testing (Amalia, 2021). The following are the outcomes of computations performed with Eviews version 8 software:

**Table 2**

Multiple Linear Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.07863	13.94795	2.156449	0.0367
INFLATION	0.000982	0.000394	2.486369	0.0186
INTEREST RATE	-7.498963	3.575096	-2.096943	0.0437
EXCHANGE LEVEL	-0.988746	1.424936	-0.694432	0.4926 8

**Source:** Output Eviews 8, 2020

The panel data regression model used in this investigation is based on table 2:

$$Y = 30.07863 + 0.000982X_1 - 7.498963X_2 - 0.988746X_3 + \varepsilon$$

The following is an interpretation of the aforementioned equation:

1. If the independent variable is inflation, interest rate (BI rate), and the exchange rate is deemed constant or zero, then  $a =$  constant of 30.07863, then the dependent variable, namely stock returns will have a value of 30.07863.
2. If the inflation variable's regression coefficient is 0.000982, it means that the inflation variable will increase by one unit while the other independent variables, such as the interest rate (BI rate) and the exchange rate, will remain steady or zero, then the dependent variable, namely stock returns, will increase by 0.000982.
3. If the interest rate variable (BI rate) has a regression coefficient value of -7.498963, it means that if the interest rate variable (BI rate) increases by one unit and the other independent variables, namely inflation and the exchange rate are considered constant or zero, then the dependent variable is stock returns will decrease by 7.498963.
4. If the exchange rate variable's regression coefficient is -0.988746, it means that if the exchange rate variable increases by one unit while the other independent variables, such

as inflation and the interest rate (BI rate), remain steady or zero, then the dependent variable, namely stock returns, will decrease. of -0.988746.

To determine the partial influence of each independent variable on the dependent variable, a hypothesis t-test was used (Nugraha, Widajatun, & Aji, 2020). The results of the t-test may be found in table 2.

The results of data processing show that the inflation variable has a prob value. The t statistic is  $0.0186 < 0.05$ , which means that the inflation variable affects stock returns.

The results of data processing show the interest rate variable (BI rate) has a prob value. The t statistic is  $0.0437 < 0.05$ , this means that stock returns are influenced by interest rates (BI rate).

The exchange rate variable has a prob value of  $0.4926 > 0.05$ , according to the data processing results, which means the exchange rate variable does not affect stock returns.

**Table 3**

Simultaneous Hypothesis Test Results (Test F)

<b>R-squared</b>	<b>0.671149</b>	<b>F-statistic</b>	<b>19.59256</b>
Adjusted R-squared	0.636894	Prob(F-statistic)	0.000000

**Source:** Output Eviews 8, 2020

Table 3. shows that the  $F_{count}$  is 19.59256 and Prob(F-statistic) is 0.000000 while the  $F_{table}$  is 3.18 at a significance level of 0.05. These results indicate that the  $F_{count}$  is  $19,59256 > F_{table}$  is 3.18 and Prob (F-statistic) is  $0.000000 < 0.05$  which means that the inflation variable, interest rate (BI rate), and exchange rate have a linear relationship with stock prices or the model used. it's right. So that there is a simultaneous or simultaneous influence of the Inflation variable ( $X_1$ ), Interest Rate (BI rate) ( $X_2$ ), and the Exchange Rate ( $X_3$ ) on Stock Return (Y). The coefficient of determination (R-squared) of 0.671149 or 67.11% indicates that Inflation ( $X_1$ ), Interest Rates (BI rate) ( $X_2$ ), and Exchange Rates ( $X_3$ ) have an influence of 67.11% on the Stock Return (Y), while the remaining 32.89% is influenced by variables not studied.

Inflation has an impact on stock returns, according to the study's findings. This corresponds to earlier hypotheses. The theory that has been described previously states that if there is an increase in inflation, the stock price will decrease, followed by a decrease in the stock return obtained. If inflation falls, the stock price rises, as does the stock return. Inflationary pressures lowered consumer purchasing power. Furthermore, excessive inflation might result in a decline in the real income generated by an investor's investments. Inflation will have a negative influence on the company's sales and production expenses. When looking at inflation from the perspective of an investor, it was less than 10% during the research period, it was considered reasonable and stable, and was not a determining factor or explanatory factor for changes in stock returns, so investors paid more attention to how companies generate high profits to generate higher returns. high for investors.

With a coefficient of 2.486369, the test findings with panel data suggest that inflation has an effect on stock returns of construction and building sub-sector companies on the Indonesia Stock Exchange from 2014 to 2018. The significant probability number in the table is 0.0186 which is smaller than the significant rate used, which is 0.05, this indicates that there is a strong connection. As a result, it may be inferred that inflation has an impact on stock price increases so that rising inflation includes a company's stock return also increasing.

The findings of this study are consistent with research by Sumaryoto et al. (2021), which found that inflation has a considerable impact on stock returns. However, the findings of this study contradict those of Putra (2021), who found that inflation has no effect on stock returns. The results of the experiment reveal that the interest rate (BI rate) has an impact on stock returns. The findings of this investigation support the explanations that have been proposed previously. The theory that has been described previously states that if there is an increase in interest rates, the stock price will decrease, followed by a decrease in the stock return obtained. In the case of a fall in interest rates, the stock price will rise and the stock returns will rise as well. The findings of this study corroborate those of (Sumaryoto et al., 2021), who found that interest rates had an impact on stock returns. The findings of this study, however, are inversely proportionate to those of Kusumaningtyas et al. (2021) and Putra (2021), who found that interest rates have no meaningful impact on stock returns.

The findings of this study's tests revealed that the exchange rate has no impact on stock returns.

This means that according to the theories that have been put forward that the exchange rate (exchange rate) influences stock returns. According to the previous theory, if the exchange rate rises, the stock price falls, followed by a drop in stock returns for investors; on the other hand, if the exchange rate falls, the stock price rises, followed by an increase in stock returns for investors is expected to rise.

The exchange rate had no effect on stock returns of construction and building sub-sector companies on the Indonesia Stock Exchange for the 2014-2018 period, according to the test results with panel data, with a coefficient of -0.694432. The significant probability number in the table is 0.4926, which is greater than the significant rate used, which is 0.05, which means that there is no significant relationship.

The ability of the construction and building sub-sector companies in managing their finances cause the company to not be affected by the exchange rate that occurs. This capability will maintain investor confidence and not decline due to exchange rate shocks. In this case, the company still uses materials originating from within the country, so the company is not directly affected by the exchange rate.

The findings of this study agree with those of Wahyuni and Gunarsih, who found that the exchange rate had an impact on stock returns. However, the findings of this study differ from those of Putra (2021) and Kusumaningtyas et al. (2021), who found that the exchange rate has no impact on stock returns.

## Conclusion

The following conclusions can be reached based on the findings of research and discussion on The Effect of Inflation, Interest Rates (BI rate), and Exchange Rates on Stock Returns for the 2014-2018 period: Based on the test results, Inflation, Interest Rates (BI rate), and Exchange Rates have a linear relationship with the Stock Return of the Construction and Building Sub-Sector for the period 2014-2018; in other words, the variables of Inflation, Interest Rate (BI rate), and Exchange Rate affect the Stock Return of the Construction and Building Sub-Sector for the period 2014-2018. Inflation has a significant positive impact on the Construction and Building Sub-stock Sector's return. For the period 2014-2018, the Interest Rate (BI rate) has had a significant negative impact on the Stock Return of the Construction and Building Sub-Sector. For the period 2014-2018, the exchange rate had no impact on the stock return of the Construction and Building Sub-Sector.

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