

The effect of fed rates and inflation on the movement of the IDX80 index on the Indonesia Stock Exchange for the period 2021–2024



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ABSTRACT

This study examines the influence of the Federal Funds Rate (Fed Rate) and inflation on the performance of the IDX80 Index on the Indonesia Stock Exchange during the 2021–2024 period. Employing a quantitative approach, the study utilizes monthly secondary data obtained from the Federal Reserve, Statistics Indonesia (BPS), and the Indonesia Stock Exchange (IDX). The findings indicate that the Fed Rate exerts a negative effect on the IDX80 Index, suggesting that increases in U.S. interest rates tend to weaken stock market performance by reducing capital inflows and increasing investment uncertainty. In contrast, inflation demonstrates a positive influence when maintained within a manageable range, reflecting stable economic conditions and sustained market activity. The results further reveal that the Fed Rate and inflation jointly contribute to explaining movements in the IDX80 Index, although a substantial proportion of market fluctuations remains attributable to other macroeconomic factors. These findings underscore the importance of both global monetary policy and domestic economic stability in shaping stock market dynamics in emerging economies. The study contributes to the growing literature on capital market determinants and provides insights for investors and policymakers in responding to external and domestic economic developments. Future research is encouraged to incorporate additional macroeconomic variables, such as exchange rates, domestic interest rates, and global commodity prices, to develop a more comprehensive understanding of stock market behavior.

Keywords: Fed Rate; IDX80; Inflation; Stock Price



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INTRODUCTION

Capital markets facilitate the transfer of financial resources from surplus units to entities requiring investment funds, making them an essential component of economic development (Hartono, 2020; Samuelson & Nordhaus, 2020). The IDX80 index, which contains highly liquid stocks with strong fundamentals, is often used as an indicator to gauge the response of the Indonesian capital market to global and domestic economic dynamics. Changes in the US benchmark interest rate or Federal Funds Rate (Fed Rate) are one of the global factors that most influence capital flows to developing countries, including Indonesia. An increase in the Fed Rate usually encourages capital outflows because investors choose dollar assets that are considered safer (Rahmawati & Sahlan, 2024). Previous research has also found that the Fed Rate has a negative relationship with the performance of the Indonesian stock index (Chandra, 2020).

In addition to global factors, domestic inflation also affects capital market activity. High inflation can suppress purchasing power and reduce company performance, thereby potentially weakening the stock index (Huda, 2020). However, some studies show that stable inflation can actually reflect healthy economic conditions and boost investor confidence (Darmawan et al., 2023). For example, "controlled inflation sends a positive signal about macroeconomic stability" (Mishkin, 2019 : 42).

Although many studies have examined the impact of the Fed Rate and inflation on major indices such as the IHSG and IDX30, research specifically examining its impact on the IDX80 Index is still limited. This is the main research gap that this study aims to bridge, given that the IDX80 represents blue-chip stocks that serve as a benchmark for institutional investors.

Based on this background, this study formulates the main question: do the Fed Rate and inflation affect the movement of the IDX80 Index during the 2021–2024 period? The purpose of this study is to analyze the influence of each variable and their simultaneous influence on the performance of the IDX80 using a quantitative descriptive approach.

LITERATURE REVIEW

Fed Rate

The Federal Funds Rate (Fed Rate) is the benchmark interest rate set by the United States Federal Reserve that influences borrowing costs, monetary policy, and global financial markets (Federal Reserve Economic Data [FRED], 2024; Mishkin, 2020). This triggers capital outflows and weakens the domestic stock market (Rahmawati & Sahlan, 2024). Chandra's (2020) research also confirms that the Fed Rate has a negative impact on the Indonesian stock index, as its increase reduces foreign investors' interest in risky assets. In theory, an increase in global interest rates puts pressure on stock valuations because the present value of a company's cash flows also decreases (Mankiw, 2020).

Inflation

Inflation is a general increase in the prices of goods and services that can reduce purchasing power and affect company profitability (Sukirno, 2016). High inflation puts pressure on production costs and reduces profits, which can lead to a decline in stock prices (Huda, 2020). However, inflation within controlled limits actually reflects healthy economic activity and can increase investor confidence. Darmawan et al. (2023) found that stable inflation sends a positive signal to the capital market because it indicates macroeconomic stability. According to Fisher's theory, nominal interest rates move in

line with inflation in an effort to maintain the purchasing power of money (Mishkin, 2019).

IDX80 Index

The IDX80 Index is a stock index containing 80 highly liquid issuers with strong fundamentals that investors use as a reference in assessing the condition of the Indonesian capital market (Indonesia Stock Exchange, 2023). The movement of this index is sensitive to domestic and global macroeconomic dynamics. Research by Nurul and Wijayanto (2022) shows that the Fed Rate and inflation can affect the movement of leading indices on the IDX, making it relevant to see how these variables affect the IDX80. The IDX80's response to changes in the Fed Rate and inflation reflects investor sentiment and the stability of the Indonesian stock market.

METHOD

this study uses a quantitative descriptive method that aims to describe and analyze the effect of the Fed Rate and inflation on the movement of the IDX80 Index on the Indonesia Stock Exchange during the period 2021–2024. The scope of the study focuses on global and domestic macroeconomic variables relevant to the dynamics of the Indonesian capital market, namely the Fed Rate, inflation, and the IDX80 index.

The research population includes all monthly data on the Fed Rate, inflation, and IDX80 during the period 2021–2024. The research sample consists of 48 monthly observations, taken using purposive sampling techniques (Sugiyono, 2019), with the criteria of complete and consistently available data during the research period. This technique was chosen because the research uses time series data that has been determined temporally.

The data used is secondary data obtained from official publications of the Federal Reserve (FRED), the Central Statistics Agency (BPS), and the Indonesia Stock Exchange (IDX). Data collection was carried out through documentation and searching relevant statistical archives. The analysis methods used include descriptive statistical analysis and a series of classical assumption tests such as normality, multicollinearity, heteroscedasticity, and autocorrelation tests (Ghozali, 2018; Gujarati, 2020).

Furthermore, the relationship between variables was tested using multiple linear regression analysis to determine the partial and simultaneous effects of the Fed Rate and inflation on the IDX80 Index.

RESULTS AND DISCUSSION

Descriptive Statistical Test

Descriptive statistical analysis is used to summarize and describe the characteristics of research data through measures such as the minimum value, maximum value, mean, and standard deviation. This analysis provides an overview of the distribution and variability of each research variable before further inferential statistical analysis is conducted (Ghozali, 2018).

Table 1 presents the results of the descriptive statistical analysis of the Fed Rate, inflation, and the IDX80 Index during the 2021–2024 observation period.

Table 1
Descriptive Statistical Test

	N	Minimum	Maximum	Mean	Std. Deviation
Fed Rate	48	,06	5,33	2,9827	2,32206
Inflation	48	1,33	5,95	2,9388	1,40096
IDX80	48	118,00	153,00	132,3333	7,10808
Valid N (listwise)	48				

Source: Processed secondary data from the Federal Reserve Economic Data (FRED), Statistics Indonesia (BPS), and the Indonesia Stock Exchange (IDX), 2025.

The research period from January 2021 to December 2024 covers 48 monthly data points. As shown in Table 1, the Fed Rate fluctuated significantly between 0.06% and 5.33% with an average of 2.98%, increasing sharply in 2022–2023. Indonesia's inflation rate ranged from 1.33% to 5.95%, with an average of 2.94%, remaining relatively under control despite a rise in mid-2022 due to energy and food prices. The IDX80 index moved moderately between 118 and 153 with an average of 132.33, indicating reasonable variation in the movement of leading stocks. Overall, the data reflects global interest rate dynamics, stable inflation, and moderate movement in the Indonesian stock market.

Normality Test

Before interpreting the regression results, it is necessary to verify whether the residuals follow a normal distribution. This assumption is examined through the normality test because normally distributed residuals improve the reliability of statistical inference (Ghozali, 2018). A normal distribution of residuals is one of the classical assumptions in multiple linear regression because it ensures that the statistical tests used to evaluate the regression coefficients produce valid and reliable results (Ghozali, 2018; Gujarati, 2020).

In this study, the normality assumption was evaluated using the One-Sample Kolmogorov–Smirnov (K–S) test. The decision criterion is that if the significance value (Asymp. Sig.) is greater than 0.05, the residuals are considered to be normally distributed; otherwise, if the significance value is less than 0.05, the residuals are not normally distributed (Ghozali, 2018). Table 2 presents the results of the One-Sample Kolmogorov–Smirnov normality test.

Table 2
Normality Test

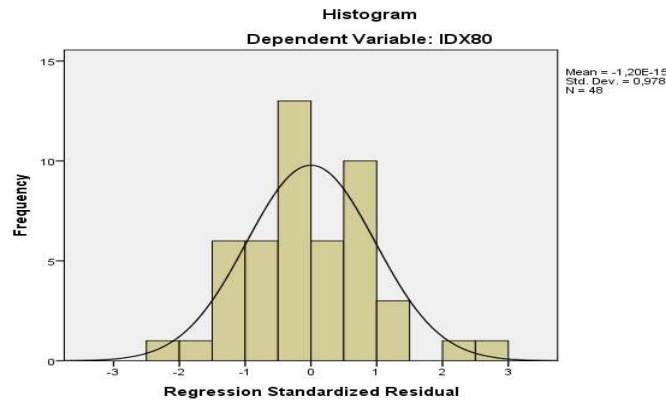
<i>One-Sample Kolmogorov-Smirnov Test</i>		
		Unstandardized Residual
N		48
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	5,62716516
Most Extreme Differences	Absolute	,067
	Positive	,067
	Negative	-,064
Test Statistic		
Asymp. Sig. (2-tailed)		,200 ^{c,d}

Source: Processed secondary data using IBM SPSS 25, 2025.

As presented in Table 2, the Kolmogorov–Smirnov test produced an Asymp. Sig. (2-tailed) value of 0.200, which is greater than the significance level of 0.05. Therefore, the residuals are normally distributed, indicating that the regression model satisfies the

normality assumption. The fulfillment of this assumption suggests that the deviations between the observed and predicted values are not excessive, thereby supporting the validity of subsequent regression analysis (Ghozali, 2018; Gujarati, 2020).

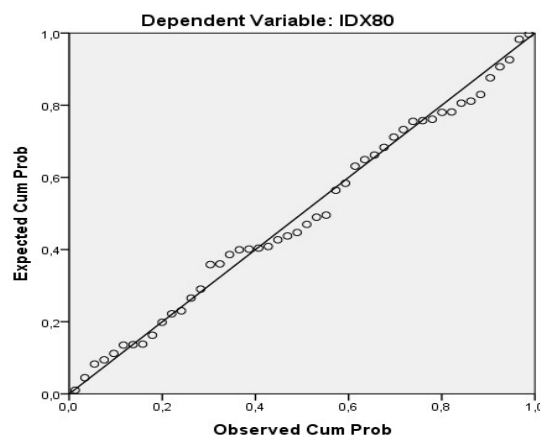
To strengthen the statistical findings, the normality assumption was also evaluated visually using a histogram and a Normal Probability–Probability (P–P) Plot. Figure 1 illustrates the distribution of the regression residuals using a histogram.



Source: Output generated using IBM SPSS 25, 2025

Figure 1
Histogram of Regression Standardized Residuals

The histogram in Figure 1 shows that the residuals form an approximately bell-shaped and symmetrical distribution around the mean. Most residual values are concentrated near the center, with only a few observations located at the tails of the distribution. This pattern indicates that there are no substantial deviations from normality, supporting the results of the Kolmogorov–Smirnov test (Ghozali, 2018). Furthermore, Figure 2 presents the Normal P–P Plot of the regression standardized residuals.



Source: Output generated using IBM SPSS 25, 2025

Figure 2
Normal P–P Plot of Regression Standardized Residuals

As shown in Figure 2, the Normal P-P Plot of Regression Standardized Residuals shows that the residual data points are scattered close to the diagonal line, indicating that the data distribution conforms to the theoretical normal distribution. Most points follow the diagonal line with very small deviations, indicating that there are no extreme outliers in the data. This shows that the regression model has a residual distribution that is consistent with the assumption of normality.

Multicollinearity Test

The multicollinearity test is conducted to determine whether there is a high linear correlation among the independent variables in a regression model (Ghozali, 2018; Gujarati, 2020). Multicollinearity may reduce the precision of the estimated regression coefficients and make it difficult to determine the individual effect of each independent variable (Gujarati, 2020).

Therefore, this test is essential to ensure that each explanatory variable contributes independently to the regression model (Ghozali, 2018; Gujarati, 2020). The assessment is based on the Tolerance and Variance Inflation Factor (VIF) values. A regression model is considered free from multicollinearity if the Tolerance value is greater than 0.10 and the VIF value is less than 10 (Ghozali, 2018). Table 3 presents the results of the multicollinearity test.

Table 3
Multicollinearity Test Result

		<i>Coefficients^a</i>	
		Collinearity Statistics	
Model		Tolerance	VIF
1	Fed Rate Inflation	,902	1,108
		,902	1,108

a. Dependent Variable : IDX80

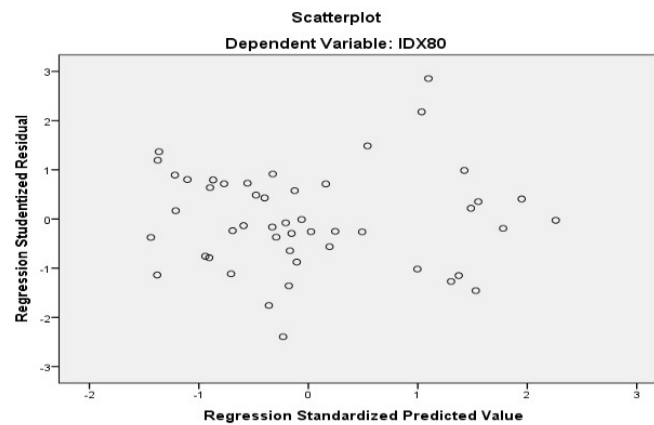
Source: Processed secondary data using IBM SPSS Statistics 25, 2025.

As presented in Table 3, the Tolerance value obtained was 0.902 and the Variance Inflation Factor (VIF) value was 1.108 for both independent variables, namely the Fed Rate and Inflation. General criteria indicate that a regression model is said to be free from multicollinearity if the Tolerance value is > 0.10 and the VIF value is < 10 (Ghozali, 2018). Thus, these results indicate that there is no multicollinearity among the independent variables used in this study. This means that the Fed Rate and Inflation do not have a strong linear relationship with each other, so that each variable can explain its effect on the IDX80 Index independently without excessively influencing each other.

Heteroscedasticity Test

The heteroscedasticity test is performed to determine whether the variance of the regression residuals remains constant across all levels of the predicted values. A regression model satisfies the homoscedasticity assumption when the residual variance is constant (Ghozali, 2018; Gujarati, 2020). Conversely, heteroscedasticity occurs when the residual variance changes systematically, potentially leading to inefficient parameter estimates and unreliable statistical inferences (Ghozali, 2018; Gujarati, 2020).

In this study, heteroscedasticity was assessed using the Scatterplot method. If the residual points are randomly distributed without forming a specific pattern, the regression model is considered free from heteroscedasticity (Ghozali, 2018). Figure 3 presents the scatterplot used to evaluate heteroscedasticity.



Source: Output generated using IBM SPSS Statistics 25, 2025.

Figure 3
Scatterplot of Heteroscedasticity Test

The results of the heteroscedasticity test using Scatterplot show that the residual points are randomly scattered without any particular pattern, indicating constant (homogeneous) residual variance. This shows that there is no heteroscedasticity, so that the regression model meets the classical assumptions and the estimation of the effect of the Fed Rate and Inflation on the IDX80 Index can be trusted (Ghozali, 2018).

Autocorrelation Test

The autocorrelation test is conducted to determine whether the residuals in one observation are correlated with those in another observation, particularly in time-series data (Gujarati, 2020; Ghozali, 2018). The presence of autocorrelation violates one of the classical assumptions of linear regression and may result in inefficient parameter estimates and biased hypothesis testing.

In this study, autocorrelation was evaluated using the Durbin–Watson (DW) statistic (Gujarati, 2020; Ghozali, 2018). As a general guideline, a Durbin–Watson value close to 2 indicates no autocorrelation, a value substantially below 2 suggests positive autocorrelation, and a value substantially above 2 indicates negative autocorrelation (Gujarati, 2020). Table 4 presents the results of the Durbin–Watson autocorrelation test.

Table 4
Autocorrelation Test Result

<i>Model Summary^b</i>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,611 ^a	,373	,345	5,75085	,683

Source: Processed secondary data using IBM SPSS Statistics 25, 2025.

Based on the autocorrelation test results, the Durbin–Watson (DW) value of 0.683 indicates weak positive autocorrelation, as this value is still well below 2. According to Gujarati's (2020) criteria, a DW value close to 2 indicates no autocorrelation, below 2 indicates positive autocorrelation, and above 2 indicates negative autocorrelation. Although there are indications of autocorrelation, this is considered normal in monthly

time series data such as the Fed Rate, Inflation, and IDX80. Thus, autocorrelation is not a serious problem, and the regression model can still be used for further analysis (Gujarati, 2020; Ghozali, 2018).

Multiple Linear Regression Test

Multiple linear regression analysis is used to examine the relationship between two or more independent variables and one dependent variable simultaneously. This method estimates the regression equation and determines the direction and magnitude of the effect of each independent variable on the dependent variable while controlling for the influence of other variables in the model (Gujarati, 2020; Ghozali, 2018). Table 5 presents the results of the multiple linear regression analysis.

Table 5
Multiple Linear Regression Test Result

<i>Coefficients^a</i>					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	126,745	2,023		,000
	Fed Rate	-1,176	,380	-,384	,003
	Inflation	3,095	,630	,610	,000

a. Dependent Variable : IDX80

Source: Processed secondary data using IBM SPSS Statistics 25, 2025.

The results of multiple linear regression show that the Fed Rate and Inflation have a significant effect on the IDX80 Index, with significance values of 0.003 and 0.000, respectively, which are less than 0.05. The estimated regression coefficient (-1.176) suggests that increases in the Federal Funds Rate are associated with a decline in the IDX80 Index, assuming the remaining variables remain unchanged. Conversely, the Inflation coefficient of 3.095 indicates a positive relationship, where moderate inflation drives the index upward, reflecting investor optimism about domestic economic growth. These results confirm that both global and domestic factors contribute significantly to the movement of blue chip stocks in Indonesia. Overall, this regression model is able to objectively explain the influence of both variables on stock market dynamics.

Partial Test (T-test)

The partial test (t-test) is used to examine whether each independent variable individually has a significant effect on the dependent variable while controlling for the effects of other independent variables in the regression model. This test helps determine the significance and direction of the relationship between each explanatory variable and the dependent variable (Ghozali, 2018; Gujarati, 2020).

The decision criterion is based on the significance value (Sig.). If the significance value is less than 0.05, the independent variable is considered to have a statistically significant partial effect on the dependent variable. Conversely, if the significance value is greater than 0.05, the variable does not have a significant partial effect (Ghozali, 2018). Table 5 presents the results of the partial (t-test) analysis.

Table 6
T- Test Result

		<i>Coefficients^a</i>			t	Sig.
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	126,745	2,023		62,639	,000
	Fed Rate	-1,176	,380	-,384	-3,092	,003
	Inflation	3,095	,630	,610	4,910	,000

a. Dependent Variable : IDX80

Source: Processed secondary data using IBM SPSS Statistics 25, 2025.

Based on the t-test, the significance value of the Fed Rate is 0.003 and Inflation is 0.000, both of which are less than 0.05, so both have a significant partial effect on the IDX80 Index. The Fed Rate coefficient of -1.176 indicates a negative relationship, meaning that a one-unit increase in the Fed Rate tends to lower the IDX80, reflecting the impact of tight US monetary policy on domestic investor interest. Conversely, the Inflation coefficient of 3.095 indicates a positive relationship, where moderate inflation drives an increase in the IDX80 as it signals healthy economic activity. These results confirm that both global and domestic factors influence the movement of Indonesia's leading stock index.

Simultaneous Test

The simultaneous test (F-test) is used to determine whether all independent variables jointly have a significant effect on the dependent variable. This test evaluates the overall significance of the regression model by examining whether the independent variables collectively explain the variation in the dependent variable (Ghozali, 2018; Gujarati, 2020).

The decision criterion states that if the significance value is less than 0.05, the independent variables simultaneously have a significant effect on the dependent variable. Conversely, if the significance value is greater than 0.05, the regression model is not statistically significant (Ghozali, 2018). Table 7 presents the results of the simultaneous (F-test) analysis.

Table 7
Simultaneous Test Result

		<i>ANOVA^a</i>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	886,412	2	443,206	13,401	,000 ^b
	Residual	1488,254	45	33,072		
	Total	2374,667	47			

Source: Processed secondary data using IBM SPSS Statistics 25, 2025

Based on the F test, the calculated F value of 13.401 with a significance of 0.000 (< 0.05) indicates that the Fed Rate and Inflation simultaneously have a significant effect on the IDX80 Index. This means that changes in these two variables together can explain the variation in the IDX80 movement during January 2021–December 2024. The R Square value of 0.373 indicates that 37.3% of the IDX80 variation is explained by the Fed Rate and Inflation, while the remaining 62.7% is influenced by other factors such as exchange rates, domestic interest rates, oil prices, and global investor sentiment. Thus, global and

domestic factors together play an important role in determining the direction of blue chip stock movements in Indonesia.

CONCLUSION AND SUGGESTION

This study concludes that both variables studied have an effect on the movement of the IDX80 Index during the 2021–2024 period. The Fed Rate has been proven to have a negative effect, as every increase in the US benchmark interest rate tends to weaken the IDX80 due to capital flows shifting to safer dollar assets. Conversely, inflation shows a positive effect when it is at a controlled level, as this condition reflects economic stability that can increase investor confidence and encourage index strengthening. Overall, the Fed Rate and inflation both contribute to the dynamics of the IDX80, although other macroeconomic variables continue to play a greater role in explaining fluctuations in Indonesia's leading stock index.

Based on the limitations of the study, which only covered two macroeconomic variables, further research is recommended to add other variables that also have the potential to influence index movements, such as the rupiah exchange rate, domestic interest rates, and global commodity prices, so that the analysis results are more comprehensive. In addition, expanding the observation period or using more in-depth analysis methods can provide a more accurate picture of the factors that influence stock index movements in Indonesia.

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