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# Macroeconomic Determinants of Stock Market Performance: Evidence From Indonesia

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**Abstract**

The Jakarta Composite Stock Price Index (JCI) serves as a key indicator of stock market performance in Indonesia. This study investigates the influence of macroeconomic factors on JCI fluctuations. Utilizing monthly data from January 2022 to December 2024, the research employs multiple linear regression analysis to explore the relationships between interest rates, exchange rate fluctuations, money supply, and the JCI. The findings reveal that interest rates, exchange rate fluctuations, and the money supply have a significant impact on the JCI simultaneously. However, the results show nuanced effects partially. Interest rates have a negative and significant impact on the JCI, suggesting that an increase in interest rates leads to a decline in the index as investors may seek safer, higher-yield alternatives like bank savings. Conversely, the money supply demonstrates a positive and significant effect, implying that a greater money supply encourages investment in the stock market and boosts the JCI. Interestingly, exchange rate fluctuations are found to have a negative but insignificant effect on the JCI. This highlights that while exchange rate movements may be a factor, they are not a dominant driver of JCI performance during the observed period. The novelty of this study lies in its focus on the post-COVID-19 recovery period, which is marked by global monetary tightening, external shocks, and Indonesia's political transition. By employing monthly data, this study captures short-term dynamics that previous research using annual data often overlooked. These results provide valuable insights for investors and policymakers in navigating Indonesia's dynamic stock market.

**Keywords:** exchange rate fluctuations, interest rate, Jakarta Composite Stock Price Index, money supply, multiple linear regression, stock market

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## 1. Introduction

The Indonesian capital market is a vital component of the national economy, serving as a link between those who need funds and those who have excess funds. The Jakarta Composite Index (JCI) has been a leading indicator of national financial market performance since 1999, with stock price movements reflecting changes in investor sentiment and expectations of future economic conditions (Sia et al., 2025). Shares, which represent ownership in various companies, are listed on the Indonesia Stock Exchange (Adnan, 2023). The Composite Stock Price Index (JCI) is a collection of stock movements that have been listed on the IDX, which functions as the leading indicator of stock market performance in Indonesia (Rahayu et al., 2024; Sadiq et al., 2021). JCI fluctuations are very helpful for investors in estimating the situation and prices in the stock market (Fitriana & Khomsiyah, 2025). JCI movements can be influenced by political turmoil, such as general elections or changes in government policies, which can cause investors to withdraw from the market to secure assets from market risk (Elsayed & Helmi, 2021). As the largest economy in Southeast Asia, Indonesia exhibits high economic potential as the region's largest emerging market (Sia et al., 2025), making its macroeconomic determinants of stock market performance highly relevant and essential.

The relationship between macroeconomic variables and stock market performance has been a topic of widespread attention in the international financial literature. Changes in macroeconomic variables can affect the stock market both positively and negatively (Bahmani-oskooee & Saha, 2016). Fundamental theory states that the intrinsic value of stocks is determined by fundamental economic factors, where changes in macroeconomic conditions will affect the valuation of stocks. In the context of investment decision-making, investors tend to consider the macroeconomic conditions of a country. Several factors can influence JCI movements. One of the most dominant factors is the government's monetary policy. Changes in monetary policy, such as interest rate adjustments, money supply, and exchange rate fluctuations, directly affect the JCI. The interest rate, which is determined by Bank Indonesia (BI), has a strong influence on the JCI. Interest rate hikes tend to lower the JCI because investors prefer safer investment instruments such as bank savings. Interest rates reflect the opportunity cost of holding money in financial assets (Bahmani-oskooee & Saha, 2016). Previous research has shown that high interest rates can reduce stock liquidity, which can affect trading activity and market volatility (Eaton et al., 2022).

Meanwhile, the rupiah exchange rate against the United States dollar is an important macroeconomic variable that reflects Indonesia's economic competitiveness in the global market. The movement of the Rupiah affects Indonesia's international competitiveness and trade balance, which in turn affects the company's current and future cash flows, thus impacting the stock price (Rahayu et al., 2024; Sia et al., 2025). Exchange rate fluctuations, especially the Rupiah against the US Dollar, also affected the sentiment of foreign investors. The weakening of the Rupiah can make transaction costs more expensive for foreign investors, reduce their interest and potentially lead to a decline in the JCI (Bianchi et al., 2017).

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On the other hand, the money supply as an indicator of monetary policy has a significant role in the transmission of monetary policy to the real sector. Research shows that an increase in the money supply can encourage an increase in the Jakarta Composite Index. Monetary expansion can increase liquidity in the market, enabling investors to seek higher yields in the stock market, thereby increasing demand and stock prices (Kashyap & Stein, 2023).

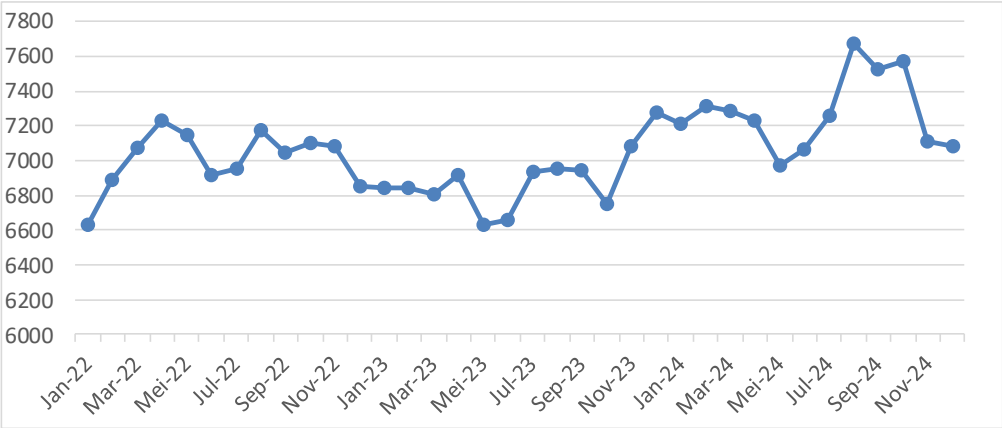


Figure 1. The Jakarta Composite Stock Price Index in 2022-2024
Source: The Central Statistics Agency, the Stockbit and the Investing Broker Platforms

Indonesia's economic condition in recent years has faced various challenges and dynamics that are interesting to study. Historical data shows significant fluctuations in the JCI from January 2022 to December 2024 (Figure 1). In the period from January to April 2022, JCI experienced positive fluctuations from 6631.2 to 7229. This increase occurred due to the normalization of the post-pandemic economy, which made the market recover. However, adverse fluctuations occurred from August 2022 to June 2023. A further decline occurred from August to December 2024, from 7670.73 to 7079.9. This decline was caused by Donald Trump's victory as US president, which triggered capital outflows from the stock market and diverted investment to the US. The uncertainty of JCI movements, which is difficult to predict, highlights the importance of analyzing the factors that affect it (Elsayed & Helmi, 2021).

Research on the relationship between macroeconomic variables and the performance of the Indonesian stock market has been conducted by various researchers with mixed results (Luwihono et al., 2021; Sari et al., 2022). Research using nonlinear models reveals that interest rates show asymmetric effects on stock prices in both the short and long term. In contrast, no asymmetric effects were found for the inflation rate model (Sia et al., 2025). Another study shows that the Jakarta Composite Index is negatively affected by inflation and interest rates. At the same time, an increase in the money supply drives an increase in the Jakarta Composite Index (Şen et al., 2020).

Unlike previous studies that relied on annual data or examined limited macroeconomic indicators, this study uses monthly time series data from 2022–2024, a period characterized by

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post-pandemic recovery, global monetary normalization, and Indonesia's political leadership transition. This unique context and methodological approach highlight the innovative contribution of our work in providing updated and more granular insights into the determinants of Indonesian stock market performance.

Therefore, this study aims to analyze the influence of interest rates, exchange rates, and money supply on JCI using multiple linear regression with monthly data. This research is expected to provide a more comprehensive understanding of the dynamics of the Indonesian capital market, as well as be an essential reference for policymakers and investors in formulating the right strategies amid economic uncertainty.

## 2. Literature Review

The Jakarta Composite Stock Price Index is a composite index of all stocks listed on the IDX. JCI is an index used in the stock market for movement indicators in IDX stocks, so that the movement can be known (Elsayed & Helmi, 2021; Sari et al., 2022). The Composite Stock Price Index is a key consideration for investors when investing in the stock market. Furthermore, JCI is a mirror of the combined stocks that are members of the IDX. In this context, there are three conditions regarding stock price movements, namely *bullish, bearish,* and *sideways* (Lin et al., 2021; Ni et al., 2022).

JCI fluctuations that have increased do not mean that all types of stocks have increased in price; instead, some stocks have increased, while others have decreased. If a stock rises, it means that the stock has a positive correlation with the increase in the JCI. Concerning the JCI in Indonesia, the value of the JCI is calculated by the IDX. The JCI calculation formula is as follows:

$$JCI = \frac{total\ \text{market value of constituent stocks}}{total\ base\ value} \times 100\% \qquad (1)$$

With this formula, if the JCI is above 100, then the market condition is in a crowded state; on the other hand, if the JCI is below 100, the market is in a sluggish state, and if the JCI correctly points to 100, then the market is in a stable state (Abberger et al., 2022). The purchase of a share is usually calculated based on the lot, which serves as the unit of stock trading. Usually, one lot equals 100 shares. This lot calculation is used to facilitate stock transactions by determining the number of tradable shares. This lot system also makes it easier to calculate stock prices and transaction fees (Chan & XIE, 2020).

John Maynard Keynes' theory states that securities transactions are a type of speculative transaction, which is influenced by interest rates (Teupe, 2020). The government, through monetary policy, seeks to reduce JCI fluctuations. Monetary policies, including interest rates, exchange rate fluctuations, and money supply, can help control the stock market during periods of turmoil (Bianchi et al., 2017).

Interest rates are the benchmark for interest on savings and loans of financial institutions throughout Indonesia. In the context of interest rates in Indonesia, the BI-7 Day Reverse Repo

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Rate serves as a new reference, with a strong relationship to the money market due to its transactional nature and its role in deepening the financial market, particularly through the use of repo instruments. Meanwhile, according to Bank Indonesia, the BI Rate is an interest rate policy that reflects the monetary policy stance and is officially announced to the public (Wuri et al., 2024). The change in interest rates is a reference and is used by all banking institutions throughout Indonesia.

Interest rate movements will have an adverse effect on the JCI. This follows the theory put forward by John Maynard Keynes, who stated that interest rates are determined by supply and demand in the money market (Teupe, 2020). If interest rates increase, people and investors tend to choose to keep money in banks or choose more stable investment instruments. But on the other hand, if interest rates have decreased, the public and investors tend to invest in the stock market and make the value of the JCI increase (Bianchi et al., 2017; Şen et al., 2020).

The exchange rate is a comparison between the value of one currency and another, subject to fluctuations that change in response to a country's economic movements. The Rupiah exchange rate shows the price of a country's currency when exchanged with the US Dollar. In addition, the exchange rate is the value or price of a country's currency when exchanged for the US dollar. The *purchasing power parity* theory states that the exchange rate between two currencies will make adjustments to reflect price changes in both currencies.

The effect of exchange rate fluctuations on the JCI is negative (Rahayu et al., 2024). If investors prefer to keep their money in Dollars instead of Rupiah, then it will have a destructive impact on the economy (Sukmawati & Haryono, 2021). The value of the Rupiah has strengthened, so investors will prefer to use the Rupiah compared to the Dollar. To calculate exchange rate fluctuations, use the calculation of the difference between *the expected* and *actual values,* as follows (Hubbard et al., 2014).

$$\mathrm{ERF_t} = \{\mathrm{ER_t} - \mathrm{E(ER_t)}\}/\mathrm{E}(ER_t) \qquad (2)$$

Where:

$\mathrm{ERF_t}$ = Exchange rate fluctuations

$\mathrm{ER_t}$ = Actual exchange rate for period t

$\mathrm{E(ER_t)}$ = Expected exchange rate for period t

The money supply is the total value of money in the community, directly, while the money of the people in the bank is not counted as part of the money supply. All types of money in the economy are the amount of money in circulation in commercial banks (Warjiyo & Juhro, 2019).

Monetary theory explains that money supply is divided into *Narrow Money* (M1) and *Broad Money* (M2). *Narrow money* is the most liquid money supply, making it easy to use for daily transactions. *Narrow money* also symbolizes people's direct purchasing power without first conversion or withdrawal. Meanwhile, *broad money* is a combination of *narrow money* coupled

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with a type of money that is less liquid but can still be used by converting it into cash first.

Regarding the amount of money circulating with the JCI, the type of narrow money is relevant. Since M1 represents money circulating in the community, it has a positive effect, influencing investors to invest in the stock market. This is evident when the amount of money in circulation increases in the community. As a result, investors tend to invest the money in the form of stock investments. Consequently, the JCI will experience fluctuations in its increase, and there will be positive movements in the JCI on the IDX (Kashyap & Stein, 2023).

Recent studies have offered nuanced insights into the interaction between macroeconomic factors and stock markets in emerging economies. For Indonesia, Luwihono et al. (2021) and Sia et al. (2025) highlight that interest rates and inflation exert asymmetric effects on stock performance, while Rahayu et al. (2024) demonstrate the influence of exchange rate volatility during Indonesia's G20 presidency. Comparative evidence from other emerging markets, such as Şen et al. (2020), further confirms that fragile economies are susceptible to monetary shocks. At the same time, Kashyap & Stein (2023) emphasize the role of central banks in shaping investor sentiment, underscoring the policy relevance of monetary instruments. By incorporating these recent findings, this study positions itself within the current frontier of research, offering fresh evidence for the post-pandemic Indonesian context.

*Hypothesis*

The hypothesis in this study was developed based on a literature review and a conceptual framework that has been built, testing the influence of independent variables (interest rates, exchange rate fluctuations, and money supply) on dependent variables (JCI). This hypothesis was formulated to be statistically tested using the data that had been collected.
Hypothesis 1: The Effect of Interest Rates on JCI

This hypothesis is based on economic theory that states that interest rates have an inverse relationship with investment in the capital market. The interest rate hike, determined by Bank Indonesia through the BI-7 Day Reverse Repo Rate (BI7DRR), boosts yields on safer investment instruments such as savings and bank deposits. This condition causes investors to tend to divert their funds from the stock market to banking instruments that are considered more stable and profitable, so that stock demand decreases and JCI also weakens (Bianchi et al., 2017). Conversely, a reduction in interest rates will encourage investors to look for investments with higher yields in the stock market, which has the potential to raise the JCI.

Ho1: There is no negative effect of interest rates on JCI.
Ha1: There is a negative effect of interest rates on JCI.

Hypothesis 2: The Effect of Exchange Rate Fluctuations on JCI

This hypothesis is built on the premise that exchange rate fluctuations, particularly the exchange rate of the Rupiah against the US Dollar, can affect sentiment and investment decisions. The

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weakening of the Rupiah against the Dollar makes the cost of investment in Indonesia more expensive for foreign investors. As a result, foreign investors' interest in investing in the Indonesian stock market will decrease. This condition can cause foreign capital outflows and a decline in the JCI (Sukmawati & Haryono, 2021). Nonetheless, some studies suggest that this effect may not be significant due to its limited scope of impact on specific sectors of the economy.

Ho2: There is no negative effect of exchange rate fluctuations on JCI.
Ha2: There is a negative effect of exchange rate fluctuations on JCI.

Hypothesis 3: The Effect of Money Supply on JCI

This hypothesis is based on a monetary theory that links the availability of money in society to economic activity. An increase in the money supply (measured by *Narrow Money* or M1) indicates an increase in people's liquidity and purchasing power. This condition creates optimism in the market and encourages people to invest, including in the stock market (Kashyap & Stein, 2023). With more money entering the stock market, the demand for stocks will increase, which will ultimately drive the JCI up.

Ho3: There is no positive effect of the money supply on the JCI.
Ha3: There is a positive influence of the money supply on JCI.

Hypothesis 4: Simultaneous Influence of Macroeconomic Variables on JCI

This hypothesis tests the simultaneous influence of the three macroeconomic variables together on the JCI. Changes in one macroeconomic variable are often related to other variables. Therefore, it is essential to analyze how this combination of monetary policy and economic conditions collectively affects the performance of the stock market. This hypothesis assumes that these policies, when implemented in an integrated manner, will have a significant effect on JCI movements, both positive and negative, along with the market's response to overall economic conditions (Bianchi et al., 2017; Elsayed & Helmi, 2021; Kashyap & Stein, 2023).

Ho4: There is no positive effect of interest rates, exchange rate fluctuations, and money supply on JCI simultaneously.
H4: There is a positive influence of interest rates, exchange rate fluctuations, and money supply on JCI simultaneously.

## 3. Methodology

### *3.1 Research Design*

To analyze the influence of interest rates, exchange rate fluctuations, and money supply on stock market performance in Indonesia, this study uses a descriptive quantitative approach. This approach is relevant for analyzing numerical data and using statistical techniques to explain the cause-and-effect relationship between variables. The design of this study focuses on the

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exploration and analysis of these variables to test hypotheses through general theories. This study uses time series data, which allows the detection of patterns and trends of the variables (Enders, 2015).

*3.2 Data and Data Sources*

This study uses monthly secondary data covering the period January 2022 to December 2024. This data is sourced from various trusted institutions and platforms, namely the Central Statistics Agency, the Financial Services Authority, the Ministry of Trade, and the Stockbit and Investing broker platforms.

The variables used in this study are divided into dependent and independent variables. The dependent variables in this study are JCI, while the independent variables are interest rates, exchange rate fluctuations, and money supply. Described in detail in Table 1.

Table 1. Research Variable

| No | Variable | Description | Unit | Data Source |
|---|---|---|---|---|
| 1. | JCI | The Composite Stock Price Index is an index that measures the price performance of all stocks listed on the IDX. | Index | The Central Statistics Agency, the Stockbit and the Investing broker platforms |
| 2. | IR | The interest rate is a reference set by BI for transactions. The interest rate used is *the BI-7 Day Reverse Repo Rate* (BI7DRR). | Percent | The Central Statistics Agency |
| 3. | ERF | Exchange rate fluctuations are the percentage changes in the value of a country's currency against another. Exchange rate fluctuations are measured from the difference between *expected* and *actual values.* | Percent | The Ministry of Trade and the Stockbit and Investing broker platforms |
| 4. | MS | The money supply is the total value of money used by a country in a given period. In this study, MS is measured from *narrow money* (M1) in the form of currency and giro money. | Billion Rupiah | The Ministry of Trade and the Stockbit and Investing broker platforms |

*3.3 Data Analysis Techniques*

This study uses multiple linear regression analysis to test the hypothesis. The mathematical models used are as follows:

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$$JCI_t = \beta_0 + \beta_1 IR_t + \beta_2 ERF_t + \beta_3 MS_t + \mu_t \quad (3)$$

Where:
JCI = Composite Stock Price Index
IR = Interest Rate
ERF = Exchange Rate Fluctuations
MS = Money Supply
$\beta_0$ = Constant
$\beta_1, \beta_2, \beta_3$ = Regression coefficient
$\mu_t$ = Error Term

Before hypothesis testing, a classical assumption test is performed to ensure that the regression model meets the basic requirements to produce the Best Linear Unbiased Estimator (BLUE).

3.3.1 The classical assumption test

The classical assumption test carried out includes:

a. Normality Test

The normality test is a test that is carried out to determine the distribution of variables in the regression model. The normality test in this study tests whether the residuals are normally distributed. The criteria for the normality test are that the significance test value exceeds the significance level (0.05), indicating that the data distribution is considered normal.

b. Multicollinearity Test

The multicollinearity test is a test conducted to determine the correlation between independent variables in regression analysis. The desired outcome is when there is no significant correlation between independent variables. This test aims to find out the correlation between independent variables that can cause problems in the interpretation of the regression coefficient. The values can be seen in the symptoms of multicollinearity, as indicated by the *Variance Inflation Factor* (VIF) and *Tolerance*. The VIF value < 10 and tolerance > 0.1 were declared to be non-multicollinearity.

c. Autocorrelation Test

The autocorrelation test is a test used to identify the correlation between disruptive errors at a given time and disruptive errors in the previous period in linear regression models. This test aims to examine the correlation between the linear regression model and errors in period t-period disruptors, specifically concerning t-period disruptor errors (previously). In the autocorrelation test, the *Lagrange Multiplier* (LM) approach is used to detect the presence of autocorrelation in *residuals.* The criteria for the Lagrange Multiplier (LM) test are that the significance test value must exceed the significance level (0.05), indicating no autocorrelation.

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d. Heteroscedasticity Test

The heteroscedasticity test is a test used to determine whether the residual variance in a regression model differs from one observation to another. The test aims to check if there is an inconsistency in the variation of the regression residuals between observations. The impact of heteroscedasticity is that it interferes with model estimation. This test is carried out by regressing the independent variable on the residual absolute value. The criteria in the heteroscedasticity test (Glejser) must have a significance value between the independent variable and *the residual absolute*> 0.05 so that heteroscedasticity does not occur.

3.2.2 Hypothesis Test

Hypothesis tests were carried out to evaluate the statistical significance of the estimated regression coefficient. The F test is a test used to assess the joint or simultaneous influence of all independent variables on dependent variables in a regression model. The decision criterion for the F test is that the p-value (probability) is less than the set significance level α = 0.05, or 5%, indicating that H1 is accepted and H0 is rejected. So the variables simultaneously have a significant influence on the dependent variables. However, if the p-value (probability) of the F-test exceeds the established significance level α = 0.05 (5%), this indicates that H0 is accepted and H1 is rejected. So the variables simultaneously do not have a significant influence on the dependent variables.

The t-statistical test is a test that indicates the partial impact of independent variables on dependent variables. The T statistical test can help researchers evaluate the relative contribution of independent variables to dependent variables, thereby identifying factors that significantly affect the phenomenon being studied. The decision criterion of the t-test is that the p-value (probability) of the t-test is less than the level of significance set at α = 0.05 or 5% which means that H1 is accepted and H0 is rejected. So independent variables have a significant influence on dependent variables. However, if the p-value (probability) of the t-test exceeds the established significance level α = 0.05 (5%), this indicates that H0 is accepted and H1 is rejected. So, independent variables do not have a significant influence on dependent variables.

The determination coefficient ($R^2$) is a method for measuring the adequate level of independent variables in explaining the variations in dependent variables collectively. The range of values is between zero and one, where higher values indicate a better ability of independent variables to explain variations in dependent variables. On the other hand, a low value indicates that the ability of an independent variable to explain variations in dependent variables is limited.

## 4. Result

### *4.1 Descriptive Statistics*

Based on the results of the descriptive statistical data processed, as shown in Table 4.1, the average value of JCI is 7055.959 points, with a median value of 7067.51 points. The maximum value is 7670.73 points, which occurred in August 2024. The minimum value of 6631.15 points

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occurred in January 2022. The standard deviation value is 246.3641 points.

The average interest rate is 5.3056%, and the median value is 5.75%. The maximum value of 6.25% occurs in April 2024. The minimum value is 3.5% which occurred in January 2022. The standard deviation is 1.0387%.

The average exchange rate fluctuation was -8.6574%, and the median value was -0.0052%. The maximum value of 0.0471% occurred in November 2022. The minimum value is -0.0518% which happens in September 2024. The standard deviation is 0.0234%.

Table 2. Descriptive Statistics

| | JCI | IR | ERF | MS |
|---|---|---|---|---|
| **Mean** | 7055.959 | 5.3056 | -8.6574 | 2491060.7936 |
| **Median** | 7067.51 | 5.75 | -0.0052 | 2477549.245 |
| **Maximum** | 7670.73 | 6.25 | 0.0471 | 2839485.06 |
| **Minimum** | 6631.15 | 3.5 | -0.0518 | 2149551.5 |
| **Std. Dev.** | 246.3641 | 1.0387 | 0.0234 | 168440.8264 |
| **Skewness** | 0.4647 | -0.9813 | 0.2661 | 0.0326 |
| **Kurtosis** | 3.0951 | 2.2276 | 2.4937 | 2.4040 |
| **Jarque-Bera** | 1.3091 | 6.6732 | 0.8093 | 0.5391 |
| **Probability** | 0.5197 | 0.0356 | 0.6672 | 0.7637 |
| **Sum** | 254014.52 | 191 | -0.00031 | 89678188.57 |
| **Sum Sq. Dev.** | 2124335.052 | 37.76389 | 0.0192 | 993030919790.2206 |
| **Observations** | 36 | 36 | 36 | 36 |

Source: Data processed

The average money supply is 2,491,060 billion Rupiah, with a median value of 2,477,549 billion Rupiah. The maximum value is 2,839,485 billion Rupiah, which will occur in December 2024. The minimum value is 2,149,552 billion Rupiah, which occurred in January 2022. The standard deviation value is 168,440 billion Rupiah.

*4.2 Classic Assumptions Test Result*

The results of the classical assumption test, which consisted of the normality test, the multicollinearity test, the autocorrelation test, and the heteroscedasticity test, were presented as follows:

1. Normality Test

The normality test is one of the classic assumption tests used to determine whether the residual (the difference between the observation and prediction values) is distributed normally. The results show a *Probability* value of 0.885395 (>0.05). It can be concluded that the data is distributed normally.

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2. Multicollinearity Test

The multicollinearity test is a test to ensure that there is no high correlation between independent variables that causes the estimation of the regression coefficient to be unstable.

Table 3. Multicollinearity Test

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|---|---|---|---|
| **IR** | 3070.9645 | 78.3026 | 2.8132 |
| **ERF** | 2225650.8297 | 1.0368 | 1.0368 |
| **MS** | 1.1927 | 649.2014 | 2.8731 |

Source: Data processed

Based on the results presented in Figure 3 above, it can be known that the VIF (*Variance Inflation Factor*) value per independent variable is < 10.00, and the tolerance value per independent variable is > 0.1, so that it can be concluded that the assumption of the multicollinearity test has been met.

3. Autocorrelation Test

The autocorrelation test is a stage to determine whether the residuals are correlated with each other. In this test, the Lagrange Multiplier test is used.

Tabel 4. Autocorrelation Test

| Breusch-Godfrey Serial Correlation LM Test: | | | |
|---|---|---|---|
| Null hypothesis: No serial correlation at up to 4 lags | | | |
| F-statistic | 2.266017 | Prob. F(4,28) | 0.0872 |
| Obs*R-squared | 8.803850 | Prob. Chi-Square(4) | 0.0662 |

Source: Data processed

Based on the results presented in Figure 4 above, it can be known that the Probability Value of Obs*R-squared is 0.0662 (>0.05), so that it can be concluded that the assumption of the autocorrelation test has been met.

4. Heteroscedasticity Test

The heteroscedasticity test is a constant *residual variance* across a range of independent variable values, but if it is not constant, it will be biased and inefficient.

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Table 5. Heteroscedasticity Test

| Heteroskedasticity Test: Glejser | | | |
|---|---|---|---|
| Null hypothesis: Homoskedasticity | | | |
| F-statistic | 2.6964 | Prob. F(3.32) | 0.0623 |
| Obs*R-squared | 7.2640 | Prob. Chi-Square(3) | 0.0639 |
| Scaled explained SS | 6.1390 | Prob. Chi-Square(3) | 0.1050 |

Source: Data processed

Based on the results presented in Figure 5 above, *the* Probability Obs*R-Squared value is 0.0639 (>0.05), so that it can be concluded that the assumption of the heteroscedasticity test is fulfilled, or the data passes the heteroscedasticity test.

### *4.3 Multiple Linear Regression*

Multiple linear regression is a regression model that involves more than one independent variable to explain the value of the dependent variable, so that the magnitude of its influence is known both simultaneously and partially.

Table 6. Multiple Linear Regression

| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
|---|---|---|---|---|
| **C** | 4287.760 | 650.2308 | 6.5942 | 1.9657 |
| **IR** | -121.2456 | 55.4163 | -2.1879 | 0.0361 |
| **ERF** | -2724.003 | 1491.8615 | -1.8259 | 0.0772 |
| **MS** | 0.0014 | 0.0003 | 3.9654 | 0.0004 |
| **R-squared** | 0.3790 | **Mean dependent var** | | 7055.9589 |
| **Adjusted R-squared** | 0.3208 | **S.D. dependent var** | | 246.3641 |
| S.E. of regression | 203.0376 | Akaike info criterion | | 13.5691 |
| Sum squared resid | 1319176.8281 | Schwarz criterion | | 13.7450 |
| Log likelihood | -240.2438 | Hannan-Quinn criterion. | | 13.6305 |
| F-statistic | 6.5104 | Durbin-Watson stat | | 1.0260 |
| Prob(F-statistic) | 0.0015 | | | |

Source: Data processed

Based on the regression results in Table 6, the multiple linear regression equation is obtained as follows:

$$JCI = 4287.76 - 121.25\,IR - 2724.003\,ERF + 0.0014\,MS + \mu_t$$

Where JCI is the Composite Stock Price Index, IR is the Interest Rate, ERF is Exchange Rate

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Fluctuations, MS is Money Supply, and $\mu_t$ is the Error Term. To test the influence of interest rates, exchange rate fluctuations, and money supply simultaneously on the Composite Stock Price Index (JCI), the F test was carried out. Based on the data from Table 6, it can be seen that the F-statistical value is 6.5104 and the probability value is 0.0015, which means < 0.05. It can be concluded that the variables of interest rates, exchange rate fluctuations, and money supply have a significant effect simultaneously on the Composite Stock Price Index.

The t-test results show that the interest rate probability is 0.0361. The value is smaller than 0.05, so it can be concluded that interest rates have a negative and significant effect on the JCI. The probability of exchange rate fluctuations is 0.0772. The value is greater than 0.05, so it can be concluded that exchange rate fluctuations do not have a significant effect on the JCI. The probability of the money supply is 0.0004. The value is smaller than 0.05, so it can be concluded that the money supply has a positive and significant effect on the JCI.

The coefficient of determination $(R^2)$ is a measure of the strength and direction of the relationship between dependent and independent variables. Based on the results of the determination coefficient that can be seen in Table 6, the result of the adjusted R-squared is 0.3208. Therefore, from these results, it can be concluded that the contribution of the influence of independent variables to the simultaneous variation of dependent variables is 32.08%. The remaining 67.92% was influenced by other variables not discussed in this study.

## 5. Discussion

*a. The effect of interest rates, exchange rate fluctuations, and money supply on JCI*

The results of the hypothesis test show that interest rates, Rupiah exchange rates, and money supply simultaneously have a significant effect on the Composite Stock Price Index (JCI) in the period from January 2022 to December 2024. The results of simultaneous data analysis in the F test showed a significance of 0.0015, which was smaller than the significance level of the required calculation of 0.05 (a=5%), so that it can be concluded that it was rejected $H_0 4$ and accepted $H_a 4$.

Changes in interest rate policies, exchange rate fluctuations, and money supply will affect the JCI. This happens because the policies carried out by BI will affect economic conditions. If the change is positive, of course, *the market* will respond positively. This means that if interest rates, exchange rate fluctuations, and the money supply change together positively, the JCI will increase. But on the other hand, if the change occurs negatively, the market will also respond negatively. This means that if interest rates, exchange rate fluctuations, and the money supply change together negatively, the JCI will decrease. Therefore, the public and investors will look at economic conditions before making investment decisions (Elsayed & Helmi, 2021; Şen et al., 2020; Sukmawati & Haryono, 2021).

*b. The Effect of Interest Rates on JCI*

The results of the multiple linear regression in Table 6 show that interest rates have a negative and significant effect on the Composite Stock Price Index. The interest rate variable is declared

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significant because its significance value of 0.0361 is less than the 0.05 significance level (sig. value = 0.0361 < level of significance = 0.05 = 5%) with a coefficient of -121.2456. This result means that if there is a change in interest rates, it will have a negative and significant effect on the JCI. A coefficient is a value that shows the magnitude of the influence or contribution of independent variables to dependent variables. This means that if there is an interest rate increase of 1 per cent, the JCI will decrease by 121,245 points. But on the other hand, if the interest rate decreases by 1 per cent, the JCI will increase by 121,245 points, assuming other variables remain the same.

Interest rates will affect investments in the capital market due to their impact on the attractiveness of returns. An increase in interest rates will cause the JCI to decline. This happens because the increase in interest rates prompts investors to secure their money or opt for safer financial instruments. In addition, the rise in interest rates also indicates that the economy is unstable (Bianchi et al., 2017; Wuri et al., 2024). So, it can be concluded that it is rejected $H_0 1$ and accepted $H_a 1$.

*c. The effect of exchange rate fluctuations on JCI*

The results of multiple linear regression show that partial exchange rate fluctuations have a negative and insignificant influence on the JCI. The exchange rate variable was declared insignificant because the significance value of the exchange rate of 0.0772 was greater than the significance level of 0.05 (sig. value = 0.0772 > Level of Significance = 0.05 = 5%) with a coefficient of -2724.003. A coefficient is a value that shows the magnitude of the influence or contribution of independent variables to dependent variables. This means that if there is a change in exchange rate fluctuations in the form of an increase or decrease, it will not have an impact on the JCI.

The weakening of the rupiah currency has resulted in a decline in foreign and local investors' confidence in domestic stocks. Fluctuations in the rupiah exchange rate decreased due to a weak economy, raising concerns about economic stability. But exchange rate fluctuations do not have a dominant influence on the JCI. This is because exchange rate fluctuations have a small scope in some sectors of the economy, such as property & *real estate*, exports, banking, and mining. Therefore, exchange rate fluctuations need to be supported by other variables to have a dominant effect on the JCI (Rahayu et al., 2024; Sukmawati & Haryono, 2021). So it can be concluded that it is accepted $H_0 2$ and rejected $H_a 2$.

*d. The effect of the money supply on the JCI*

The results of multiple linear regression show that, partially, the money supply has a positive and significant influence on the JCI. The variable of the money supply is declared significant because the money supply coefficient is 0.001369, and the significance value of MS is 0.0004 smaller than the significance level of 0.05 (sig. value = 0.0004 < Level of Significance = 0.05 = 5%). A coefficient is a value that shows the magnitude of the influence or contribution of independent variables to dependent variables. This means that every increase in money supply of 1 billion Rupiah will increase the JCI by 0.001369 points, assuming other variables remain the same. On

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the other hand, if there is a decrease in the money supply, it will lower the JCI. This means that the increase in the money supply will increase the JCI.

The increase in money supply indicates that the economy is increasing and people's income is increasing. This makes people's purchasing power increase as well. This encourages people to invest in the stock market (Kashyap & Stein, 2023). So it can be concluded that it is rejected $H_0 3$ and accepted $H_a 3$.

## 6. Conclusion and Recommendations

This study confirms that monetary policy—represented by interest rates, exchange rate fluctuations, and money supply—has a significant simultaneous influence on the Jakarta Composite Stock Price Index (JCI). Partial analysis shows that interest rates negatively and significantly affect the JCI, while the money supply has a positive and significant effect. Exchange rate fluctuations, despite being negatively correlated, are not statistically significant, reflecting their limited role in influencing overall index performance.

The value of this research lies in its novelty and practical relevance. It provides the first empirical evidence based on monthly data in the post-pandemic period (2022–2024), when Indonesia faced global monetary tightening and domestic political transition. These findings not only enrich the academic discourse on macroeconomic determinants of emerging stock markets but also provide actionable guidance: policymakers can design more responsive monetary strategies, and investors can adopt adaptive approaches to mitigate risks. Future research may expand this framework by incorporating additional macroeconomic variables such as inflation, GDP growth, and global sentiment to build a more comprehensive understanding of stock market dynamics in emerging economies.

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