Cemerlang: Jurnal Manajemen dan Ekonomi Bisnis
Volume. 6 Nomor. 2 Mei 2026
e-ISSN : 2962-4797; p-ISSN : 2962-3596, Hal. 280-296
DOI: https://doi.org/10.55606/cemerlang.v6i2.8947
Available online at: https://prin.or.id/index.php/cemerlang

Determination of Stock Prices by Macroeconomic Factors: A Study of Inflation, Exchange Rates, and Sbi Interest Rates in Indonesia

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Abstract. This study examines the determinants of the Jakarta Composite Index (JCI) based on three main macroeconomic factors namely inflation, the USD/IDR exchange rate, and the SBI interest rate (BI Rate) covering the period January 2020 to December 2025, in the context of post-COVID-19 pandemic recovery and global economic turmoil. A quantitative approach was employed using the Ordinary Least Squares (OLS) method, with 72 monthly observations derived from secondary data sourced from official institutions including Bank Indonesia (BI), the Central Statistics Agency (BPS), the Indonesia Stock Exchange (IDX), and the Financial Services Authority (OJK). Classical assumption tests were applied comprising the Jarque-Bera normality test, Variance Inflation Factor (VIF) for multicollinearity, Breusch-Godfrey for autocorrelation, White Test for heteroscedasticity, and Ramsey RESET for model specification. Partially, inflation, exchange rate, and BI Rate each demonstrate a positive and significant effect on the JCI ($p < 0.05$). Simultaneously, all three variables exert a significant combined influence on the JCI, with a coefficient of determination $R^2 = 0.4414$, indicating that the model explains 44.14% of the variation in the JCI. The remaining 55.86% is attributed to other variables outside the model. Classical assumption test results reveal violations of normality, autocorrelation, and heteroscedasticity assumptions, although the model is free from multicollinearity. These findings confirm that Bank Indonesia's monetary policy has a significant and measurable impact on capital market performance. Further research is recommended using more advanced time series models such as GARCH or VECM to address violations of classical assumptions and improve estimation efficiency.

Keywords: *BI Rate; Capital Market; Exchange Rate; Inflation; Stock Price.*

1. INTRODUCTION

The Indonesian capital market has become an increasingly popular investment instrument, attracting both domestic and international investors. Stock price movements are a key indicator in the capital market, reflecting investor expectations of future company performance and overall economic conditions (Desta Aprilia Putri Cantika & Ismunawan Ismunawan, 2024). Fluctuating stock prices reflect complex market dynamics, influenced by various factors, both internal and external to the company (Wardita et al., 2021). Internal factors generally include a company's financial performance, such as profitability, debt ratio, and asset growth (Desta Aprilia Putri Cantika & Ismunawan Ismunawan, 2024). However, external factors, particularly macroeconomic conditions, also play a crucial role in shaping investment sentiment and decisions, which in turn influence stock prices.

A country's macroeconomic conditions, such as inflation, exchange rates, and interest rates, have a significant impact on the capital market. Inflation, for example, can erode people's purchasing power and reduce company profitability due to increased production costs, potentially depressing stock prices (Wardita et al., 2021). Research by (Akbar & Afiezan, 2018) and (Astuti & Ponto, 2023) even shows that inflation can have a negative effect on stock prices, although in some cases the impact is not always partially significant. (Budi, 2022) found that

Naskah Masuk: 17 Maret 2026; Revisi: 17April 2026; Diterima: 4 Mei 2026; Terbit: 16 Mei 2026

inflation has a negative and partially significant effect on the Jakarta Composite Index (JCI), indicating that rising inflation tends to depress overall stock market performance.

Currency exchange rates, or rates, are also important macroeconomic factors. Fluctuations in the Rupiah's exchange rate against foreign currencies, particularly the US Dollar, can impact a company's export competitiveness and import costs, ultimately impacting its profits and share prices (Wardita et al., 2021). Several researchers have studied the role of exchange rates in stock price determination. Desta Aprilia Putri Cantika & Ismunawan Ismunawan, 2024, found that exchange rates significantly influence the stock prices of companies in the transportation and logistics sector. Meanwhile, research by Wardita et al., 2021, shows that the effect of exchange rates on stock prices is not always significant. Hawiwika (2021) also concluded that the Rupiah exchange rate influences the Jakarta Composite Index.

Interest rates, particularly the Bank Indonesia Interest Rate (SBI) or Bank Indonesia's benchmark interest rate (BI Rate), are highly influential monetary policy instruments. Interest rate increases tend to increase borrowing costs for companies, reduce the attractiveness of equity investments because investors can obtain higher returns from debt instruments, and potentially depress stock prices (Wardita et al., 2021). Akbar & Afiezan (2018) examined the effect of the BI rate on Islamic stock prices and found that it had no significant effect. However, research (Fitri et al., 2025) found that interest rates, although an external factor, can influence stock prices, although the impact is not always partially significant. Hawiwika (2021) specifically stated that the BI Rate affects the Jakarta Composite Index.

Although numerous studies have examined the determinants of stock prices, most tend to focus on internal company factors such as profitability ratios (ROA, ROE, EPS), liquidity ratios (CR), and leverage ratios (DER) (Desta Aprilia Putri Cantika & Ismunawan Ismunawan, 2024). However, a deeper integration of the combined influence of macroeconomic factors, particularly inflation, exchange rates, and SBI interest rates, on stock prices in Indonesia still requires further exploration. Several studies have attempted to link macroeconomic factors with the capital market, such as (Ardana & Maya, 2019) who examined the influence of the BI Rate, exchange rates, and global oil prices on the Indonesian Sharia Stock Index, and (Hawiwika, 2021) who examined the influence of the BI Rate, the Rupiah exchange rate, and inflation on the Jakarta Composite Index (JCI).

This study will use a quantitative approach to analyze macroeconomic data obtained from Bank Indonesia (BI), the Financial Services Authority (OJK), the Indonesia Stock Exchange (IDX), the Central Statistics Agency (BPS), the Ministry of Finance of the Republic of

Indonesia, and the Coordinating Ministry for Economic Affairs of the Republic of Indonesia. This approach is relevant because stock price movements are often influenced by broader economic dynamics, and data from these institutions provide a comprehensive picture of Indonesia's macroeconomic conditions. For example, inflation data from BPS, exchange rate data from BI, and SBI interest rate data from BI are key indicators that can influence investment decisions (Ardana & Maya, 2019). The relevant observation period, 2020–2025, was chosen to capture the impact of recent global and domestic economic events, including the post-pandemic recovery period and global economic turmoil affecting Indonesia.

This research is crucial given the volatility of the Indonesian capital market, which frequently responds to changes in monetary and fiscal policy, as well as global economic turmoil. Understanding the determinants of stock prices by macroeconomic factors will provide better insights for investors, regulators, and policymakers. Therefore, this research is expected to fill a gap in the existing literature by providing a more focused and integrated analysis of the effects of inflation, exchange rates, and SBI interest rates on stock prices in Indonesia (Yuliansyah & Nurhayati, 2024).

This phenomenon highlights the need for a comprehensive understanding of how these macroeconomic factors interact and collectively influence stock prices. While numerous studies exist on stock price determinants, few have specifically examined inflation, exchange rates, and SBI interest rates simultaneously in the Indonesian context, using the latest data from official institutions. Therefore, this study aims to analyze the macroeconomic factors of inflation, exchange rates, and SBI interest rates in Indonesia for the period 2020-2025. (Ardana & Maya, 2019).

2. RESEARCH METHODOLOGY

This chapter systematically and in detail describes the research methodology used to analyze the determinants of stock prices by macroeconomic factors, specifically inflation, exchange rates, and SBI interest rates in Indonesia. The research approach, population and sample, data types and sources, research period, operational definitions of variables, data collection techniques, and data analysis techniques are comprehensively explained. This methodological framework is designed to ensure the validity and reliability of the research findings while providing a strong foundation for interpreting the results (Wardita et al., 2021).

This research uses a quantitative approach. This approach was chosen because it allows researchers to test hypotheses, measure relationships between variables, and analyze numerical data (Putri & Rachman, 2021). This method is suitable for research that aims to measure the influence of independent variables (inflation, exchange rates, and SBI interest rates) on the dependent variable (stock prices) (Wardita et al., 2021). The quantitative data used includes time series data on macroeconomic factors and stock prices, which will then be analyzed using inferential statistical techniques (Akbar & Afiezan, 2018). This approach also allows for generalization of findings if the sample used is representative.

Quantitative research focuses on objectivity, measurement, and statistical analysis to explain, predict, or control phenomena (Siregar & Farisi, 2018). In this context, a quantitative approach will be used to measure the extent to which changes in inflation, exchange rates, and SBI interest rates can explain stock price variations in Indonesia. Previous studies have also extensively used quantitative approaches to analyze stock price determinants (Asmarawati et al., 2022).

Research Population and Sample

The population in this study comprises all companies listed on the Indonesia Stock Exchange (IDX) whose stock price data is available and relevant to the study period. This population selection was based on the availability of comprehensive data and representation of the Indonesian capital market (Desta Aprilia Putri Cantika & Ismunawan Ismunawan, 2024). However, because the focus of this study is on the influence of macroeconomic factors on stock prices in general, the Composite Stock Price Index (IHSG) is the primary object of the study, representing overall stock price movements on the IDX. This aligns with research examining the determinants of the IHSG by macroeconomic factors (Hawiwika, 2021).

Sampling was conducted using purposive sampling. The purposive sampling method was chosen because researchers can determine specific criteria to select the sample most relevant to the research objectives (Putri & Rachman, 2021). Sampling criteria will include the availability of complete and consistent stock price data throughout the research period, as well as relevant macroeconomic factor data from official sources (Akbar & Afiezan, 2018). The samples used will be monthly or quarterly data from the Jakarta Composite Index (JCI), inflation, exchange rates (the Rupiah exchange rate against the US Dollar), and SBI interest rates (or the Bank Indonesia benchmark interest rate that replaces it) (Wardita et al., 2021). Selecting aggregate data such as the JCI will better reflect the influence of broad macroeconomic factors compared to individual stock data, which may be more influenced by internal company factors (Rahardika et al., 2022).

Data Types and Sources

The type of data used in this study is secondary data. Secondary data is data that has been collected by other parties and is available in published or archived form (Asmarawati et al., 2022). The use of secondary data is considered efficient because the required data is already recorded and available in large quantities and periodically from credible institutions.

Data sources in this study include:

1. Stock Price (IHSG): Composite Stock Price Index (IHSG) data was obtained from the Indonesia Stock Exchange (IDX) through www.idx.co.id This data will be collected monthly throughout the research period. The IDX is the official institution providing information on the Indonesian capital market.
2. Inflation: Inflation rate data (monthly or annual) is obtained from the Central Statistics Agency (BPS) through www.bps.go.id. BPS is a government agency responsible for national statistics.
3. Exchange rate (Rupiah exchange rate against US Dollar): Rupiah exchange rate data against the US Dollar (USD/IDR) was obtained from Bank Indonesia (BI) via www.bi.go.id Bank Indonesia is the central bank that manages monetary and exchange rate policies.
4. SBI Interest Rate (or BI Reference Interest Rate): SBI interest rate data (currently replaced with the BI 7-day Reverse Repo Rate) was obtained from Bank Indonesia (BI) through www.bi.go.id This interest rate is an important indicator in monetary policy (Ardana & Maya, 2019).
5. Additional Macroeconomic Data: To support a more comprehensive analysis, additional macroeconomic data such as GDP growth, fiscal policy, or capital market supervision related data from the Financial Services Authority (OJK) through www.ojk.go.id, Ministry of Finance of the Republic of Indonesia through www.kemenkeu.go.id, and the Coordinating Ministry for Economic Affairs of the Republic of Indonesia throug hwww.ekon.go.id will also be considered if relevant and available. This data provides broader context for the macroeconomic conditions that influence stock prices (Hawiwika, 2021).

Data collection was carried out using documentation techniques, namely recording or downloading relevant data from official sources (Akbar & Afiezan, 2018).

Research Period

The research period selected was from 2020 to 2025. This period was chosen based on several considerations. First, this period encompasses interesting economic dynamics, including the impact of the COVID-19 pandemic and post-pandemic economic recovery, which have the potential to significantly influence stock price movements and variables (Yolanda et al., 2017). Second, the availability of relevant and up-to-date macroeconomic data from institutions such as Bank Indonesia (BI), Statistics Indonesia (BPS), and the Financial Services Authority (OJK) was expected to be complete for this period. Third, the determination of the period until 2025 allows for trend analysis and projections if data is available until the end of the period or using estimated data from credible institutions for future years (if the research is conducted in 2025 or near the end of 2025). This five-year period is considered sufficiently representative to capture short- and medium-term fluctuations and relationships between the studied variables (Wardita et al., 2021).

Operational Definition of Variables

To ensure consistency and clarity in measurement, the variables used in this study are operationally defined as follows:

1. Stock Price (Dependent Variable - Y) Stock prices in this study are represented by the Jakarta Composite Index (JCI). The JCI is a capital market performance indicator that reflects the price movements of all stocks listed on the Indonesia Stock Exchange (IDX) (Asmarawati et al., 2022). The JCI will be measured monthly, based on closing data at the end of each month during the study period. Stock prices represent a company's market value, often influenced by both internal and external factors (Thover et al., 2020).
2. Inflation (Independent Variable - X1) Inflation is the general and continuous increase in the prices of goods and services in an economy (Wardita et al., 2021). In this study, inflation is measured using the annual inflation rate (*year-on-year*) published by the Central Statistics Agency (BPS). Inflation data will be treated as an independent variable that can influence people's purchasing power and company performance, thus having implications for stock prices (Akbar & Afiezan, 2018).
3. Exchange Rate (Rupiah Exchange Rate against the US Dollar) (Independent Variable - X2) The exchange rate is the Rupiah's exchange rate against the United States Dollar (USD/IDR). The exchange rate is an important macroeconomic variable because it affects import costs, export revenues, and company competitiveness (Wardita et al., 2021). The exchange rate data used is the middle rate or monthly reference rate issued by Bank Indonesia. Exchange rate fluctuations can impact the financial performance of companies and investors, ultimately affecting stock prices (Ardana & Maya, 2019).
4. SBI Interest Rate (or BI Reference Interest Rate) (Independent Variable - X3) The SBI interest rate, currently the BI 7-day Reverse Repo Rate (BI7DRR), is the benchmark interest rate set by Bank Indonesia. This interest rate influences borrowing costs, investment rates, and the attractiveness of investments in the capital market compared to other investment instruments such as deposits (Wardita et al., 2021). The data used are

monthly interest rates published by Bank Indonesia. Interest rate increases are generally considered negative for the stock market because they increase the cost of capital and reduce the present value of future cash flows (Ardana & Maya, 2019).

Data Collection Techniques

The data collection technique used was documentation. This technique involves collecting secondary data readily available from various official and reliable sources (Asmarawati et al., 2022). The data collection steps include:

1. Identify and download IHSG monthly data from the official website of the Indonesia Stock Exchange (www.idx.co.id) for the period 2020-2025.
2. Collecting monthly inflation rate data from the official website of the Central Statistics Agency (www.bps.go.id) for the same period.
3. Download monthly data on the Rupiah exchange rate against the US Dollar (USD/IDR) from the official Bank Indonesia website (www.bi.go.id) for the same period.
4. Collecting monthly data of Bank Indonesia's benchmark interest rate (BI7DRR) from the official website of Bank Indonesia (www.bi.go.id) for the same period.
5. Conducting verification and matching of data from various sources to ensure consistency and accuracy (Dewi & Solihin, 2020).
6. Organizing the collected data into a format suitable for statistical analysis, such as a table format in spreadsheet software.

This process ensures that the data used is of high quality and comes from authoritative sources, thus supporting the validity of the research (KHAIRUDIN & Wandita, 2017).

Data Analysis Techniques

The data analysis technique in this study used multiple linear regression analysis (Putri & Rachman, 2021). Multiple linear regression analysis allows researchers to simultaneously test the effect of multiple independent variables on a single dependent variable. Before conducting multiple regression analysis, several prerequisite tests, or classical assumption tests, are conducted to ensure the regression model is valid and meets statistical principles. The classical assumption tests include:

1. Normality Test: Testing whether the data is normally distributed (Putri & Rachman, 2021);
2. Multicollinearity Test: Testing whether there is a high linear relationship between independent variables (Firmansyah & Maharani, 2021);
3. Heteroscedasticity Test: Testing whether there is inequality of variance of residuals in the regression model (Firmansyah & Maharani, 2021);

4. Autocorrelation Test: Testing whether there is a correlation between residuals at different time periods (Yolanda et al., 2017);

After the classical assumption test is fulfilled, multiple linear regression analysis will be carried out with the following model:

Y = a + b1X1 + b2X2 + b3X3 + e

Where:

1. AND= Stock Price (IHSG)
2. a= Constant
3. β1, β2, β3= Regression coefficient
4. X1= Inflation
5. X2= Rate (USD/IDR)
6. X3= BI Reference Interest Rate (BI7DRR)
7. e= Error term (confounding variable)

In addition to regression analysis, this research will also involve several other statistical tests (Amalya, 2018).

1. Statistical t Test (Partial Test): To test the significance of the influence of each independent variable (Inflation, Exchange Rate, Interest Rate) on the dependent variable (Stock Price) individually (Putri & Rachman, 2021);
2. F Statistic Test (Simultaneous Test): To test the significance of the influence of all independent variables (Inflation, Exchange Rate, Interest Rate) on the dependent variable (Stock Price) together (Putri & Rachman, 2021);
3. Coefficient of Determination (R^2): To measure the model's ability to explain variations in the dependent variable (stock price) by independent variables (inflation, exchange rate, interest rate). The coefficient of determination ranges from 0 to 1. Values approaching 1 indicate a better model's ability to explain variations in the dependent variable (Wardita et al., 2021);

Data processing will use statistical software such as SPSS or Eviews to ensure accuracy and efficiency in calculations (Akbar & Afiezan, 2018).

3. RESULTS AND DISCUSSION

Regression Test

Table 1. Regression Test

Dependent Variable: IHSG
Method: Least Squares
Date: 03/26/26 Time: 12:05
Sample: 2020M01 2025M12
Included observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-538.8610	1503.220	-0.358471	0.7211
INFLASI	177.4847	60.78123	2.920057	0.0047
KURS	0.353239	0.111383	3.171379	0.0023
BIRATE	280.2103	91.15750	3.073914	0.0030

R-squared	0.441408	Mean dependent var	6666.498
Adjusted R-squared	0.416765	S.D. dependent var	871.7218
S.E. of regression	665.7327	Akaike info criterion	15.89361
Sum squared resid	30137600	Schwarz criterion	16.02009
Log likelihood	-568.1698	Hannan-Quinn criter.	15.94396
F-statistic	17.91157	Durbin-Watson stat	0.345967
Prob(F-statistic)	0.000000		

*Coefficient*some are very big and some are small

The estimated model is multiple linear regression (OLS):

IHSG = β0 + β1INFLATION + β2EXCHANGE RATE + β3BIRATE

With:

1. IHSG= dependent variable
2. INFLATION, EXCHANGE RATE, BIRATE= independent variable
3. Number of observations =72 (2020M01–2025M12)

   Interpretation of Coefficients:

4. Constant (-538.8610)

   If all independent variables have a value of 0, then the JCI is estimated at -538.86 (not economically meaningful, but still mathematically important).

5. Inflation (177.4847)

   Every 1% increase in inflation → IHSG rises by 177.48 points, all else being equal.

6. Course (0.353239)

   Exchange rate increase (rupiah depreciation) of 1 unit → IHSG rises 0.353 points.

7. BI Rate (280.2103)

   1% interest rate increase → IHSG rises **280.21 points**.

Table 2. Results of Multiple Linear Regression Analysis Using Ordinary Least Squares (OLS) Method

Dependent Variable: LOG(IHSG)
Method: Least Squares
Date: 03/26/26 Time: 12:16
Sample: 2020M01 2025M12
Included observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.141955	2.689924	-0.052773	0.9581
LOG(INFLASI)	0.059940	0.022214	2.698358	0.0088
LOG(KURS)	0.895675	0.285441	3.137859	0.0025
LOG(BIRATE)	0.168965	0.071290	2.370109	0.0206

R-squared	0.386270	Mean dependent var	8.795781
Adjusted R-squared	0.359193	S.D. dependent var	0.138409
S.E. of regression	0.110797	Akaike info criterion	-1.508289
Sum squared resid	0.834760	Schwarz criterion	-1.381808
Log likelihood	58.29842	Hannan-Quinn criter.	-1.457937
F-statistic	14.26595	Durbin-Watson stat	0.334934
Prob(F-statistic)	0.000000		

Table 3. Coefficient Shows The Elasticity Figure

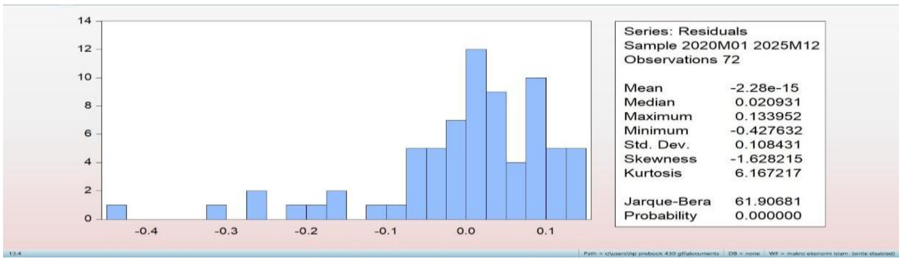
Variables	t-Statistic	Probability	Conclusion
Inflation	2.920057	0.0047	Significant
Exchange Rate	3.171379	0.0023	Significant
BI Rate	3.073914	0.0030	Significant
C	-0.358471	0.7211	Not Significant

Interpretation:

1. All independent variables have **p-value < 0.05**, It means: **Inflation, exchange rate, and BI rate have a significant influence on the JCI**
2. Constant is not significant → does not matter in regression

Classical Assumption Test

Figure 1. Normality Test Results Using Jarque-Bera Method



Probability value < 0.05, then the model data is not normally distributed

Table 4. Normality Test

Statistics	Mark	Interpretation
Mean	-2.28e-15 ≈ 0	The average residual is close to zero (good)
Median	0.020931	The distribution is slightly asymmetrical
Std. Dev	0.108431	The residual variation is relatively small
Minimum	-0.427632	The negative deviation is quite large
Maximum	0.133952	Smaller positive deviation

Based on the results of the normality test using the Jarque-Bera method, a probability value of 0.0000 (<0.05) was obtained, thus it can be concluded that the residuals in the regression model are not normally distributed. This is supported by a negative skewness value

(-1.628) indicating a left-skewed distribution, as well as a kurtosis value greater than 3 (6.167) indicating a leptokurtic distribution. Thus, the model does not fully meet the classical assumptions of normality, so model improvements are needed to increase the validity of statistical inference.

Linearity Test

Table 5. Ramsey RESET Test Results

Ramsey RESET Test
Equation: UNTITLED
Omitted Variables: Squares of fitted values
Specification: LOG(IHSG) C LOG(INFLASI)LOG(KURS)LOG(BIRATE)

	Value	df	Probability
t-statistic	1.877257	67	0.0648
F-statistic	3.524094	(1, 67)	0.0648
Likelihood ratio	3.690849	1	0.0547

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.041713	1	0.041713
Restricted SSR	0.834760	68	0.012276
Unrestricted SSR	0.793047	67	0.011837

LR test summary:

	Value
Restricted LogL	58.29842
Unrestricted LogL	60.14384

Unrestricted Test Equation:
Dependent Variable: LOG(IHSG)
Method: Least Squares
Date: 03/26/26 Time: 12:29
Sample: 2020M01 2025M12
Included observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	345.4330	184.1040	1.876293	0.0650
LOG(INFLASI)	-4.489301	2.423443	-1.852447	0.0684
LOG(KURS)	-67.30057	36.32869	-1.852546	0.0684
LOG(BIRATE)	-12.67911	6.844426	-1.852472	0.0684
FITTED^2	4.328404	2.305707	1.877257	0.0648

R-squared	0.416938	Mean dependent var	8.795781
Adjusted R-squared	0.382128	S.D. dependent var	0.138409
S.E. of regression	0.108796	Akaike info criterion	-1.531773
Sum squared resid	0.793047	Schwarz criterion	-1.373672
Log likelihood	60.14384	Hannan-Quinn criter.	-1.468833
F-statistic	11.97764	Durbin-Watson stat	0.358745
Prob(F-statistic)	0.000000		

The F-statistic probability value shows a figure > 0.05, meaning the regression equation model is linear.

Table 6. Ramsey RESET Test Results

Statistics	Mark	Probability
t-statistic	1.877257	0.0648
F-statistic	3.524094	0.0648
Likelihood Ratio	3.690849	0.0547

Based on the Ramsey RESET test results, the F-statistic probability value was 0.0648, which is greater than the 5% significance level, so the null hypothesis is not rejected. This indicates that the regression model used does not experience significant specification errors. Thus, the model is declared functionally appropriate. However, a probability value approaching the significance limit indicates the possibility of non-linearity or variables that have not been fully accommodated in the model, so further model development is necessary.

Autocorrelation Test

Table 7. Autocorrelation Test Results Using Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	72.84538	Prob. F(2,66)	0.0000
Obs*R-squared	49.55216	Prob. Chi-Square(2)	0.0000

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 03/26/26 Time: 12:35
Sample: 2020M01 2025M12
Included observations: 72
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.553162	1.527225	0.362201	0.7184
LOG(INFLASI)	-0.004076	0.012629	-0.322774	0.7479
LOG(KURS)	-0.054096	0.162015	-0.333895	0.7395
LOG(BIRATE)	-0.018274	0.040631	-0.449751	0.6544
RESID(-1)	0.959578	0.124093	7.732712	0.0000
RESID(-2)	-0.160250	0.126005	-1.271778	0.2079

R-squared	0.688224	Mean dependent var	-2.28E-15
Adjusted R-squared	0.664605	S.D. dependent var	0.108431
S.E. of regression	0.062796	Akaike info criterion	-2.618206
Sum squared resid	0.260258	Schwarz criterion	-2.428483
Log likelihood	100.2554	Hannan-Quinn criter.	-2.542677
F-statistic	29.13815	Durbin-Watson stat	1.840499
Prob(F-statistic)	0.000000		

Because the probability value of Obs*Rsquared > 0.05 means that the regression equation model contains autocorrelation.

Table 8. Breusch-Godfrey Serial Correlation LM Test

Statistics	**Mark**	**Probability**
F-statistic	72.84538	0.0000
Obs*R-squared	49.55216	0.0000

Based on the results of the Breusch-Godfrey Serial Correlation LM Test, a probability value of 0.0000 was obtained, which is smaller than the 5% significance level, so the null hypothesis is rejected. This indicates that the regression model contains autocorrelation. This finding is reinforced by the significance of the first lag residual (RESID (-1)) which has a probability of 0.0000. Thus, the model does not meet the classical assumption of being free from autocorrelation, so model improvements are needed to make the estimation efficient and the statistical inference valid.

Heteroscedasticity Test

Table 9. White Heteroscedasticity Test Results

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	2.837557	Prob. F(8,63)	0.0093
Obs*R-squared	19.07146	Prob. Chi-Square(8)	0.0145
Scaled explained SS	43.95046	Prob. Chi-Square(8)	0.0000

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 03/26/26 Time: 12:39
Sample: 2020M01 2025M12
Included observations: 72
Collinear test regressors dropped from specification

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.030057	3.426347	-1.759908	0.0833
LOG(INFLASI)^2	-0.001402	0.005392	-0.259954	0.7957
LOG(INFLASI)*LOG(KURS)	0.141858	0.179804	0.788963	0.4331
LOG(INFLASI)*LOG(BIRA...	0.036356	0.035441	1.025817	0.3089
LOG(INFLASI)	-1.420680	1.724599	-0.823774	0.4132
LOG(KURS)^2	0.059395	0.039156	1.516863	0.1343
LOG(KURS)*LOG(BIRATE)	-0.708959	0.446800	-1.586747	0.1176
LOG(BIRATE)^2	-0.291363	0.134271	-2.169964	0.0338
LOG(BIRATE)	7.635095	4.072900	1.874609	0.0655

R-squared	0.264881	Mean dependent var	0.011594
Adjusted R-squared	0.171533	S.D. dependent var	0.026540
S.E. of regression	0.024156	Akaike info criterion	-4.492067
Sum squared resid	0.036762	Schwarz criterion	-4.207484
Log likelihood	170.7144	Hannan-Quinn criter.	-4.378774
F-statistic	2.837557	Durbin-Watson stat	0.810758
Prob(F-statistic)	0.009346		

Because the Probability Obs*Rsquared value > 0.05 means the regression equation model does not contain heteroscedasticity (*homoscedasticity*).

Table 10. White Heteroscedasticity Test

Statistics	Mark	Probability
F-statistic	2.837557	0.0093
Obs*R-squared	19.07146	0.0145
Scaled explained SS	43.95046	0.0000

Based on the results of the White heteroscedasticity test, the Obs*R-squared probability value was 0.0145, which is less than the 5% significance level, so the null hypothesis is rejected. This indicates that the regression model experiences heteroscedasticity, meaning the residual variance is not constant. Therefore, the model does not meet the classical assumption of homoscedasticity, requiring model adjustments to obtain efficient estimates and valid statistical inferences.

Multicollinearity Test

Table 11. Multicollinearity Test Results Using Variance Inflation Factor (VIF)

Variance Inflation Factors
Date: 03/26/26 Time: 12:48
Sample: 2020M01 2025M12
Included observations: 72

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	7.235692	42438.50	NA
LOG(INFLASI)	0.000493	2.990856	1.008372
LOG(KURS)	0.081477	44326.97	1.457500
LOG(BIRATE)	0.005082	73.08628	1.463816

The Centered VIF value is below 10, meaning the model does not contain multicollinearity.

Table 12. Multicollinearity Test

Variables	Centered VIF
LOG(INFLATION)	1.008372
LOG(EXCHANGE RATE)	1.457500
LOG(BI RATE)	1.463816

Based on the results of the multicollinearity test using the Variance Inflation Factor (VIF), the centered VIF values for all independent variables were below 10, even approaching 1. This indicates that there is no multicollinearity in the regression model. Therefore, the inflation, exchange rate, and BI Rate variables do not have a strong linear relationship with each other, thus fulfilling one of the classical regression assumptions.

Figure 2. Correlation Matrix Between Variables (IHSG, BI Rate, Inflation, and Exchange Rate)

View | Proc | Object | Print | Name | Freeze | Sample | Sheet | Stats | Spec

	IHSG	BIRATE	INFLASI	KURS
IHSG	1.000000	0.529829	0.288351	0.543804
BIRATE	0.529829	1.000000	0.016951	0.552875
INFLASI	0.288351	0.016951	1.000000	0.051116
KURS	0.543804	0.552875	0.051116	1.000000

Almost all variables have values *Correlation* below 0.85, meaning the model does not contain multicollinearity.

Table 13. Correlation Matrix Results Between Research Variables

Variables	IHSG	BI RATE	INFLATION	EXCHANGE RATE
IHSG	1.000	0.5298	0.2884	0.5438
BI RATE	0.5298	1.000	0.0170	0.5529
INFLATION	0.2884	0.0170	1.000	0.0511
EXCHANGE RATE	0.5438	0.5529	0.0511	1.000

Based on the correlation matrix results, it is known that the relationship between the independent variables and the dependent variable shows varying correlations, with the strength of the relationship ranging from weak to moderate. Furthermore, no high correlations (above 0.80) were found between the independent variables, thus concluding that there is no multicollinearity problem in the model. Therefore, the variables used are suitable for further analysis in a regression model.

4. CONCLUSION

Based on the results of data analysis and discussion regarding the influence of inflation, exchange rates, and the BI Rate on the Composite Stock Price Index (IHSG) for the 2020M01–2025M12 period using the Ordinary Least Squares (OLS) method, the following conclusions can be drawn. Partially, the variables of inflation, exchange rate, and BI Rate have been shown to have a positive and significant influence on the JCI, which indicates that changes in these macroeconomic variables can explain the JCI's movements individually, where rising inflation can reflect growing economic activity, the exchange rate influences the competitiveness of companies, particularly export-oriented ones, and the BI Rate, as a monetary policy instrument, plays a role in influencing investment decisions in the capital market. Simultaneously, the variables of inflation, exchange rate, and BI Rate significantly influence the JCI, as evidenced by the F-statistic probability value being less than the 5 percent significance level, indicating that the overall regression model is suitable for explaining the relationship between the independent and dependent variables. The coefficient of determination (R^2) of 0.4414 indicates that 44.14 percent of the variation in the JCI can be explained by the variables of inflation, exchange rate, and BI Rate, while the remaining 55.86 percent is influenced by other variables outside the model that are not included in this study. Based on the results of the classical assumption test, the normality test shows that the residuals are not normally distributed, the multicollinearity test shows that there is no strong linear relationship between the independent variables so the model is free from multicollinearity, the autocorrelation test shows the presence of serial correlation in the residuals which indicates that the model is not yet able to capture the dynamics of time series data perfectly, the heteroscedasticity test shows that there is inequality in residual variance so the model does not meet the homoscedasticity assumption, and the model specification test (Ramsey RESET) indicates that the model is generally functionally appropriate although there are weak indications of model imperfections. Overall, although the regression model is able to show a significant relationship between macroeconomic variables and the JCI, there are still violations of several classical assumptions, especially autocorrelation and heteroscedasticity, so that the resulting estimates are not yet fully efficient.

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