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THE IMPACT OF MACROECONOMIC FACTORS ON INDONESIAN STOCK MARKET: EVIDENCE FROM A VECM ANALYSIS

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ABSTRACT

Objective: Macroeconomic variables continue to be a compelling subject for research, as numerous studies reveal inconsistent findings and a reliance on the fluctuations of capital markets and international financial markets. The objective of this research is to examine the impact of inflation, the interest rates set by Bank Indonesia, exchange rates, and economic growth on the fluctuations of the Composite Stock Price Index on the Indonesia Stock Exchange.

Research Design & Methods: The research employs a quantitative methodology utilizing a Vector Autoregression (VAR) model. It implements the Vector Error Correction Model (VECM) technique with Eviews 10 analytical tools, utilizing secondary time series data derived from monthly intervals spanning from 2021 to 2024.

Findings: In the long term, only the exchange rate has a significant impact on the IHSG. In the short term, there are substantial adjustment mechanisms leading towards long-term equilibrium, indicating that the model is dynamically stable. Partially, inflation has a significant positive effect on the IHSG. Meanwhile, the BI interest rate and the exchange rate have a significant negative impact, reflecting that an increase in interest rates and the depreciation of the rupiah suppress investment activity and the performance of the IHSG. GDP does not have a significant impact in the short term, suggesting that economic growth has not yet been fully reflected in the stock market.

Implications & Recommendations: This finding emphasizes the need for adaptive monetary policy and effective financial policy coordination to respond to economic fluctuations, mitigate the negative impact of external shocks, and strengthen the resilience of the national financial system.

Contribution & Value Added: This study provides the latest empirical evidence on the impact of GDP and monetary variables on the Indonesia Composite Index through a VECM approach and offers practical implications for investors and policymakers in maintaining the stability of capital markets and the financial system.

Keywords: BI Rate, Indonesia Composite Index, Inflation, Exchange Rate, VECM.

JEL codes: C32, E44
Article type: research paper

INTRODUCTION

The capital market serves as a mechanism for raising capital and gathering long-term funds, with the objective of enhancing public involvement in fund management to facilitate national development financing (Silalahi and Sihombing, 2021). The capital market is recognized as a venue where capital or fund sellers and buyers converge to engage in transactions (Wahyuni and Utiyati,

2022). The capital market plays a very important role in a country's economy because it has two main functions, namely economic and financial functions. It is said to have an economic function because it provides a forum that brings together two parties, namely sellers and buyers of securities. The party selling securities is called the issuer or the party that needs funds, while the party buying securities is called the investor or the party that has surplus funds.

A bullish or bearish capital market can be seen from fluctuations in the prices of listed stocks, which are reflected in the movements of the Composite Stock Price Index (IHSG). The IHSG on the Indonesia Stock Exchange (IDX) is universally recognized as the main indicator and comprehensive barometer that reflects the health and prospects of the national economy (Rohmah, 2025). Fluctuations in the IHSG value, where increases indicate market optimism and improved economic fundamentals, while decreases reflect a weakening market situation or negative sentiment, have significant implications not only for capital market participants but also for monetary and fiscal policymakers (Rohmah, 2025).

One element that may affect the fluctuations of the composite stock price index is the exchange rate (Silalahi and Sihombing, 2021). Currency exchange rates are related to the profits of companies that use imported raw materials. If the exchange rate weakens or depreciates, the company's profits will decrease due to the increase in the cost of imported raw materials. If profits decrease, the company's share price is likely to decline, which will have an impact on the decline of the IHSG. To maintain exchange rate stability, the central bank intervenes in the foreign exchange market at certain times, especially when there is excessive volatility (Ginting and Situmorang, 2008). Handiani (2014) states that the rupiah exchange rate has a positive effect on the IHSG, in contrast to the research by Jayanti et al. (2014) which states that the rupiah exchange rate against the dollar has a negative effect on the IHSG.

Inflation is a trend that indicates an overall increase in the prices of products, caused by an imbalance between the flow of money and the flow of goods (Gilarso, 2004). Excessively high inflation rates can have a negative impact on the economy as a whole, affecting individuals, communities, and economic activity in general (Sukirno, 2006). This situation can also trigger a shortage of goods in the market, as public concerns about future price increases often encourage hoarding of goods, where consumers feel safer storing goods than cash (Diantoro, 2010).

According to Ningsih and Waspada (2018), inflation has a significant effect on the movement of the Composite Stock Price Index (IHSG). However, these results contradict the findings of Wibowo et al. (2016) which show that inflation has no effect on the IHSG. In addition to inflation, another macroeconomic factor that affects the JCI is the Bank Indonesia interest rate (SBI), which is a rupiah-denominated security issued by Bank Indonesia as a short-term debt instrument with a discount system. An increase in the SBI interest rate is usually followed by an increase in deposit interest rates at commercial banks.

Very high interest rates can affect the present value of a company's cash flows, making available investment opportunities less attractive. Very high interest rates can also increase the cost of capital that a company must bear, which in turn causes the return expected by investors from an investment to increase. Several studies show that BI interest rates have a negative effect on the IHSG, as revealed by Kumalasari et al. (2016), but this contradicts the research by Fuad and Yuliadi (2021) which states that SBI interest rates have no significant effect on the IHSG.

The final macroeconomic factor used in this study is Economic Growth. Economic Growth refers to the total production of goods and services produced by production units in a region at a given time. Economic growth can be measured through Gross Domestic Product (GDP). Rapid GDP growth indicates economic growth that has an impact on increasing people's purchasing power. From the results of several studies described above, there are still inconsistencies in the results, so a replication study was conducted on the Effect of Exchange Rates, Inflation, BI Interest Rates, and Economic Growth on the Movement of the Composite Stock Price Index on the Indonesia Stock Exchange for the monthly period 2021-2024.

This study contributes by providing the latest empirical evidence on the impact of GDP and monetary variables on the Composite Stock Price Index (IHSG) through a VECM approach that distinguishes between short-term and long-term effects, and offers practical implications for investors, portfolio managers, and policymakers in understanding and responding to capital market dynamics in response to changes in macroeconomic factors, monetary policy, and exchange rates in order to support financial system stability. The structure of this report is further divided into six sections. Section 2 presents a comprehensive literature review and formulates research hypotheses. Section 3 describes the VECM methodology and operational definitions of variables. Section 4 presents the results of stationarity, cointegration, and VECM model estimation tests. Section 5 discusses detailed interpretations of econometric findings, and Section 6 summarizes the results, outlines limitations, and suggests directions for further research.

LITERATURE REVIEW

Composite Stock Price Index (IHSG)

As stipulated in Article 1, Paragraph (13) of the Capital Market Law of the Republic of Indonesia Number 8 of 1995, the capital market encompasses activities related to public offerings and the trading of securities, as well as public companies associated with the securities they issue, along with institutions and entities related to the securities. The capital market has experienced growth from year to year, triggered by transformations in the stock exchange. This market is abstract in nature, where the main transactions involve long-term funds, particularly those allocated for investments exceeding one year.

The IHSG acts as the main indicator reflecting the price changes of all stocks listed on the Indonesia Stock Exchange, serving as a standard for capital market operations (Anoraga and Pakarti, 2008). The IHSG is used to assess whether stock prices are generally rising or falling. In Indonesia, there are various types of stock indices, both sectoral and non-sectoral, such as the LQ45, JII, and IDX30, which describe the performance of specific groups of stocks. The IHSG was first introduced on April 1, 1983, with a calculation basis of August 10, 1982 (base value of 100), and has become the main reference in assessing the overall performance of the Indonesian capital market.

Theoretical Foundations of Macroeconomics and Capital Markets

The relationship between macroeconomic factors and asset prices is supported by several fundamental theoretical frameworks. The Arbitrage Pricing Theory asserts that asset returns are influenced by various systematic risk factors that cannot be eliminated through diversification, including macroeconomic variables (Khaerunnisa et al., 2025). Furthermore, the Discounted Cash Flow (DCF) model provides a clear transmission mechanism, whereby the IHSG (representing the aggregate value of companies) is influenced by expectations of future cash flows and the discount rate used by investors. Variables such as Economic Growth (GDP) affect cash flow expectations (company earnings), while Inflation and the BI Rate affect the discount rate (cost of capital) (Nurfitriani and Dewi, 2024). An increase in the BI Rate, for example, directly raises capital costs and risk-free interest rates, leading to higher discount rates and lower stock valuations.

Exchange Rate

The exchange rate indicates the worth of the domestic currency in relation to foreign currencies and holds significant importance for nations with open economic systems (Sukirno, 2006). Unstable exchange rate fluctuations can cause uncertainty for businesses, especially those oriented towards export and import (Pohan, 2008). The instability of the rupiah exchange rate against the dollar over time causes stock price fluctuations. This situation tends to cause uncertainty among investors, resulting in a decline in stock market performance (Silalahi and Sihombing, 2021). This observation can be made from the existing securities or stock prices, including both sectoral stock price indices and composite stock price indices. Therefore, it can be concluded that the exchange rate positively influences the Composite Stock Price (Pohan, 2008; Sukirno, 2006).

Inflation

Inflation refers to the widespread increase in the prices of goods, which results in a decrease in the purchasing power of currency (Sukirno, 2006; Tandelilin, 2010). Inflation rises that are not counterbalanced by increases in interest rates can diminish the appeal of investments in the money market. Furthermore, elevated inflation fosters hoarding tendencies as a result of worries regarding potential future price surges (Diantoro, 2010). Inflation indicators are generally measured using the Consumer Price Index (CPI). According to Pohan (2008), high inflation hinders banks in collecting public funds because it lowers real interest rates, which ultimately reduces banks' ability to extend credit. This situation generates economic instability and undermines the operational reliability of banks, resulting in a demonstrable adverse and substantial impact on the IHSG (Ahmad and Badri, 2022; Hermawan and Purwohandoko, 2020).

Interest Rate

The SBI interest rate is the interest rate set by Bank Indonesia on the issuance of Bank Indonesia Certificates (SBI). The BI Rate or SBI interest rate serves as a monetary instrument to control inflation (Raharjo, 2010). Tandelilin (2010) states that high interest rates will cause an increase in the expected return on investment for investors. Investors tend to choose investments with the expectation of greater returns and lower risks. Therefore, with the increase in SBI interest rates, investors will shift from the capital market to banking. This shows that interest rates have a significant and negative effect on the IHSG (Hermawan and Purwohandoko, 2020; Putri et al., 2015).

Economic Growth

Economic growth is the process of long-term per capita output growth driven by internal economic mechanisms (Boediono, 1999). Theoretically, economic growth is characterized by an increase in real gross national product, reflecting an improvement in society's welfare. When the economy grows, people's incomes increase, thereby boosting their ability to save and invest, including in the capital market through the purchase of shares, which ultimately contributes to an increase in the Composite Stock Price Index (IHSG) (Giri, 2008). In addition, economic growth also plays a role in reducing poverty levels, as found by Pernia (2003), that a 1% increase in GDP can reduce the number of poor people by more than 1%. Thus, economic growth positively affects the movement of the IHSG (Kewal, 2017).

METHODS

The data analysis method applied in this study is the Vector Autoregression (VAR) method if the data used is stationary at the level. There is no cointegration relationship, but if the data used is stationary at the first difference, the Vector Error Correction Model (VECM) method is used to analyze the short-term and long-term relationships between multi-variable data (Pebruary and Hani' ah, 2024). The data used is monthly secondary data comprising 48 observations from January 2021 to December 2024, sourced from IDX, BPS, and Bank Indonesia. The variables analyzed include the Jakarta Composite Index (IHSG) as the dependent variable, as well as inflation (INF), the BI rate (INT), the rupiah exchange rate (KURS), and economic growth (GDP) as independent variables. GDP data, which was originally quarterly, was interpolated to monthly to maintain frequency consistency, while a natural logarithm transformation was applied to the IHSG, KURS, and GDP to stabilize variance. The VECM model is a specific case of the Vector Autoregression (VAR) model, which is applied when time series variables are non-stationary at their original level but stationary at the first difference, and they are integrated (cointegrated) (Lasmini and Soebagyo, 2018). The VECM equation in this study is as follows.

$$IHSG = c + INFX1 + INTX2 + KURSX3 + GDPX4 + \varepsilon$$

Description

IHSG = Composite Stock Price Index

INFX1 = Inflation

INTX2 = BI rate

KURSX3 = Exchange Rate

GDPX4 = Economic Growth

C = Constant

ε = Residual

This research framework comprises multiple phases of analysis and testing, which include a unit root test to assess the stability of variables, an optimal lag test to identify the model's optimal lag, and a VAR stability test to confirm the validity of model and data (Pratiwi et al., 2022). Additionally, Granger Causality and Cointegration tests are conducted to analyze the causal relationships among the variables and to identify long-term connections. The VECM (Vector Error Correction Model) approach is employed to investigate the short-term and long-term dynamics of the variables in this study. This VECM method will produce various outputs, including Granger Causality, Impulse Response Functions (IRF), and Variance Decomposition (VDC).

RESULT

Stationary Test Results

The Augmented Dickey-Fuller (ADF) test was performed on the dataset both prior to and following differencing to assess its stationarity. The dataset is considered non-stationary when the absolute value of the t-statistic falls below the critical value specified in MacKinnon's table at various confidence levels (1%, 5%, and 10%). Additionally, if the p-value is greater than 0.05, the dataset is similarly classified as non-stationary, and the opposite holds true (Barkah et al., 2022).

Table 1. Stationary Test Results at Level

Variable	Probability	Stationary Test Results at Level
IHSG	0.1916	Not Stationary
INF	0.1344	Not Stationary
INT	0.5703	Not Stationary
KURS	0.5804	Not Stationary
GDP	0.8952	Not Stationary

According to the stationarity test results in Table 1, the IHSG, Inflation, BI Rate, Exchange Rate, and GDP data do not exhibit stationarity at the level, as all p-values exceed 0.05. Additionally, the IHSG, Inflation, BI Rate, Exchange Rate, and GDP data were retested for stationarity at the first difference. The results of the stationarity test conducted on the first difference are shown in Table 2.

Table 2. Results of the Stationary Test on First Difference

Variable	Probability	First Difference Stationary Test Results
IHSG	0.0000	Stationary
INF	0.0000	Stationary
INT	0.0184	Stationary
KURS	0.0000	Stationary
GDP	0.0009	Stationary

Based on the results of the Dickey-Fuller stationarity test, the intercept model at the first-difference level indicates that all data are stationary at that level.

Optimal Lag Test Results

The optimal lag length for each criterion determines the duration of the influence of endogenous variables on other endogenous variables. These values are presented in Table 3, which displays the results of the optimal lag length test.

Table 3. Optimum Lag Test Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1046.956	NA	1.22e+15	48.92818	49.13297*	49.00370*
1	-1018.255	49.39256*	1.04e+15*	48.75604*	49.98478	49.20916
2	-1002.501	23.44738	1.68e+15	49.18610	51.43880	50.01682
3	-975.1809	34.30910	1.71e+15	49.07818	52.35483	50.28651
4	-946.1899	29.66521	1.86e+15	48.89255	53.19316	50.47848

Based on the optimal lag test results in Table 3, lag 1 is selected as the optimal lag.

Stability Test

A VAR model is said to be stable if the modulus value is within a radius of < 1, and unstable if the modulus value is > 1. If the largest modulus value is less than 1 and is at the optimal point, then the composition is already at the optimal position and the VAR model is stable. Based on the stability test results in Figure 1, it is known that the model is stable and has passed the stability test. This can be seen from the modulus value which is still below one.

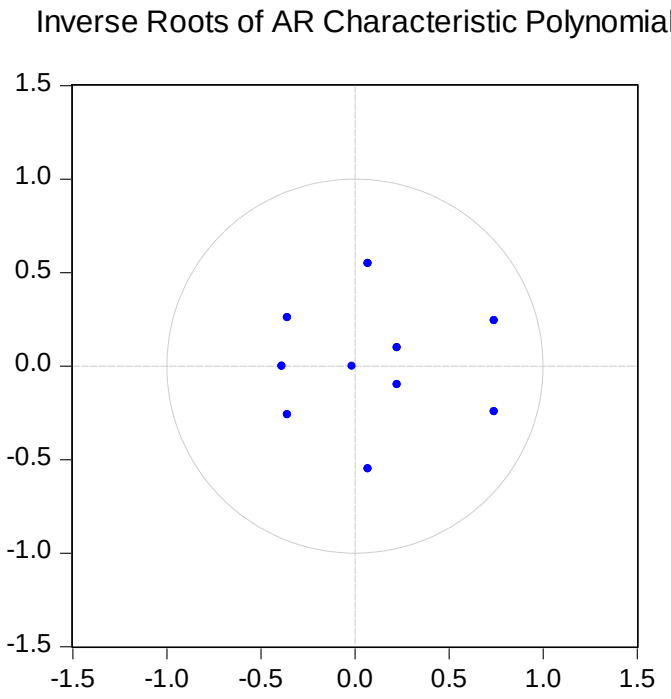

Figure 1. Stability Test Results

Johansen Cointegration Test

After conducting stability testing, cointegration testing was then performed. Cointegration testing was conducted using the Johansen cointegration test.

Table 4. Cointegration Test Results

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.550313	88.26503	60.06141	0.0000
At most 1 *	0.337132	52.30090	40.17493	0.0020
At most 2 *	0.285155	33.79784	24.27596	0.0024
At most 3 *	0.226598	18.69184	12.32090	0.0038
At most 4 *	0.146507	7.128799	4.129906	0.0090

According to the findings of Johansen's cointegration test presented in Table 4, the probability values in the None row and the rows labelled at most 1 to 4 are less than 0.05. This indicates the presence of a cointegration equation, signifying a long-term equilibrium.

Granger Causality Test Results

The results of Granger Causality test indicate a dynamic relationship between macroeconomic variables and the Composite Stock Price Index (IHSG) throughout the research period. In general, inflation does not have a significant effect on IHSG, and vice versa, indicating that stock price movements in Indonesia are not directly triggered by inflation fluctuations. However, a one-way relationship was found between the IHSG and the BI Rate (p = 0.0322) and the exchange rate (KURS) (p = 0.019), indicating that movements in the IHSG have the potential to be an early signal for changes in monetary policy and exchange rate fluctuations. In addition, the JCI also has a nearly significant influence on economic growth (GDP), indicating that capital market activity can reflect expectations of national economic performance. Meanwhile, there is a strong two-way relationship between the BI Rate (INT) and inflation (p = 0.0038 and 0.000003), reinforcing the classical monetary theory that interest rate policy and price stability simultaneously influence each other. The rupiah exchange rate has been shown to affect the BI Rate (p = 0.0007), indicating an adaptive monetary policy response to external shocks. Economic growth has also been shown to affect inflation (p = 0.0233), reflecting inflationary pressures due to increased aggregate demand. Meanwhile, the relationship between GDP and the exchange rate or BI Rate is not significant, indicating that the impact of economic growth on the financial sector is indirect. Overall, these results confirm that the IHSG serves as a leading indicator for macroeconomic conditions. At the same time, monetary stability in Indonesia is more determined by the close interaction between interest rate, exchange rates, and inflation.

Table 5. Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
INFLATION does not Granger cause IHSG	47	0.04835	0.8270
IHSG does not Granger cause INFLATION		0.34626	0.5592
INT does not Granger cause IHSG	47	0.38471	0.5383
IHSG does not Granger cause INT		4.89587	0.0322
KURS does not Granger cause IHSG	47	1.40206	0.2427
IHSG does not Granger cause KURS		5.92581	0.0190
GDP does not Granger cause IHSG	47	0.00093	0.9758
IHSG does not Granger cause GDP		2.85752	0.0980
INT does not Granger cause INFLATION	47	9.33483	0.0038
INFLATION does not Granger cause INT		28.3645	3.E-06
KURS does not Granger cause INFLATION	47	2.29771	0.1367

INFLATION does not Granger cause KURS		0.02338	0.8792
GDP does not Granger cause INFLATION	47	5.52652	0.0233
INFLATION does not Granger cause GDP		0.31621	0.5767
KURS does not Granger cause INT	47	13.3594	0.0007
INT does not Granger cause KURS		0.97534	0.3288
GDP does not Granger cause INT	47	0.00540	0.9418
INT does not Granger cause GDP		1.38857	0.2450
GDP does not Granger cause KURS	47	3.51383	0.0675
KURS does not Granger cause GDP		0.37508	0.5434

VECM model

According to the VECM model estimates, both long and short-term relationships exist among the IHSG, inflation, BI rate, exchange rate, and GDP variables. In the cointegration equation, the exchange rate (KURS) variable demonstrates a significant impact on IHSG, with a coefficient of –4.965773 and a t-statistic value of –6.19056, which exceeds the t-table value of 2.0166. This indicates that, over the long term, an increase in the exchange rate (depreciation of the rupiah) will lead to a substantial decrease in the IHSG. Conversely, the variables of inflation, BI rate (INT), and GDP do not exhibit a significant long-term effect, as their t-statistic values are lower than the t-table values (1.33530; 0.46529; 0.71649).

In the short term, the Error Correction Term (ECT) results show a coefficient value of –0.099814 with a t-statistic of –3.31517 (< –2.0166), which means that there is a significant adjustment mechanism towards long-term equilibrium. This indicates that the model is dynamically stable. Partially, lag 1 inflation has a significant positive effect on the IHSG (t-statistic = 2.10195 > 2.0166), which means that previous increases in inflation can drive the IHSG in the short term. Meanwhile, BI rate lag 1 has a significant negative effect (t-statistic = –2.23480 > 2.0166), indicating that an increase in the benchmark interest rate suppresses the performance of the IHSG. The exchange rate lag 1 also has a significant negative effect (t-statistic = –3.09621 > 2.0166), reinforcing the evidence that the depreciation of the rupiah has a negative impact on the stock market. The GDP variable is not significant in the short term because t-statistic = –0.54588 < 2.0166.

Table 6. VECM model

Cointegrating Eq:	CointEq1
D(IHSG(-1))	1.000000
D(INFLATION(-1))	633.3131 (474.284) [1.33530]
D(INT(-1))	501.4785 (1077.77) [0.46529]
D(KURS(-1))	-4.965773 (0.80215) [-6.19056]
D(GDP(-1))	0.009657 (0.01348) [0.71649]

C	109.3733				
Error Correction:	D(IHSG,2)	D(INFLATION,2)	D(BI,2)	D(KURS,2)	D(GDP,2)
CointEq1	-0.099814	8.61E-06	7.08E-07	0.247682	2.085400
	(0.03011)	(7.3E-05)	(1.8E-05)	(0.03999)	(2.30864)
	[-3.31517]	[0.11733]	[0.03847]	[6.19430]	[0.90330]
D(IHSG(-1),2)	-0.401430	-1.66E-05	-3.01E-05	-0.349003	2.549814
	(0.12922)	(0.00031)	(7.9E-05)	(0.17161)	(9.90808)
	[-3.10664]	[-0.05270]	[-0.38141]	[-2.03373]	[0.25735]
D(INFLATION(-1),2)	115.3944	-0.628971	-0.070590	-250.1178	3464.219
	(54.8986)	(0.13378)	(0.03358)	(72.9083)	(4209.51)
	[2.10195]	[-4.70160]	[-2.10208]	[-3.43058]	[0.82295]
D(INT(-1),2)	-573.7379	0.839959	-0.220541	241.7948	2430.105
	(256.729)	(0.62560)	(0.15704)	(340.950)	(19685.5)
	[-2.23480]	[1.34264]	[-1.40438]	[0.70918]	[0.12345]
D(KURS(-1),2)	-0.335776	3.09E-05	9.46E-05	0.244418	4.636794
	(0.10845)	(0.00026)	(6.6E-05)	(0.14402)	(8.31551)
	[-3.09621]	[0.11708]	[1.42601]	[1.69707]	[0.55761]
D(GDP(-1),2)	-0.001133	-2.45E-06	8.02E-08	-0.002831	-0.306863
	(0.00207)	(5.0E-06)	(1.3E-06)	(0.00274)	(0.15842)
	[-0.54858]	[-0.48725]	[0.06348]	[-1.03182]	[-1.93696]
C	1.843556	-0.004008	0.000354	-10.04438	159.1727
	(28.1035)	(0.06848)	(0.01719)	(37.3230)	(2154.92)
	[0.06560]	[-0.05852]	[0.02060]	[-0.26912]	[0.07386]
R-squared	0.488404	0.397085	0.200505	0.600430	0.131033
Adj. R-squared	0.407626	0.301888	0.074269	0.537340	-0.006173
Sum sq. resids	1335478.	7.930190	0.499684	2355416.	7.85E+09
S.E. equation	187.4678	0.456825	0.114672	248.9671	14374.63
F-statistic	6.046233	4.171187	1.588334	9.517052	0.955010
Log likelihood	-295.5603	-24.79256	37.40769	-308.3275	-490.8429
Akaike AIC	13.44713	1.413003	-1.351453	14.01455	22.12635
Schwarz SC	13.72816	1.694039	-1.070417	14.29559	22.40739
Mean dependent	4.933333	0.000667	0.000000	-1.733333	108.1236
S.D. dependent	243.5727	0.546748	0.119183	366.0254	14330.46
Determinant resid covariance (dof adj.)		9.43E+14			
Determinant resid covariance		4.05E+14			
Log likelihood		-1076.033			
Akaike information criterion		49.60149			
Schwarz criterion		51.20741			
Number of coefficients		40			

In summary, the R-squared value of 0.488404 and the Adjusted R-squared value of 0.407626 suggest that roughly 40–48% of the variation in the JCI can be attributed to these macroeconomic variables. The F-statistic value of 6.046233 further indicates that the model is significant as a whole. Therefore, the behavior of the IHSG in both the short and long term is significantly affected by monetary factors, especially exchange rates and interest rates, which serve as crucial indicators for investors and policymakers aiming to uphold the stability of the Indonesian capital market.

Impulse Response Function (IRF) and Variance Decomposition (VD)

The Impulse Response Function (IRF) results show that IHSG is most sensitive to changes in exchange rates and BI rates, while the effects of inflation and GDP tend to be small and long-term. The JCI's response to its own shocks was strong at the beginning of the period (187.47) and declined steadily to 93.49 in the 10th period, indicating the market's ability to adapt to internal shocks. Inflation initially had a positive impact (27.82) but turned negative from the third period (-20.38) to the end (-6.56), indicating the long-term effects of inflationary pressure. The BI rate had a consistently negative impact from -50.22 to -4.63, indicating that interest rate hikes reduced investment interest. Conversely, currency appreciation had a positive impact from 33.89 to 54.98, strengthening the JCI. Meanwhile, the response to GDP was negatively stable from –29.23 to –23.20, indicating that economic fluctuations have not significantly affected the stock market directly.

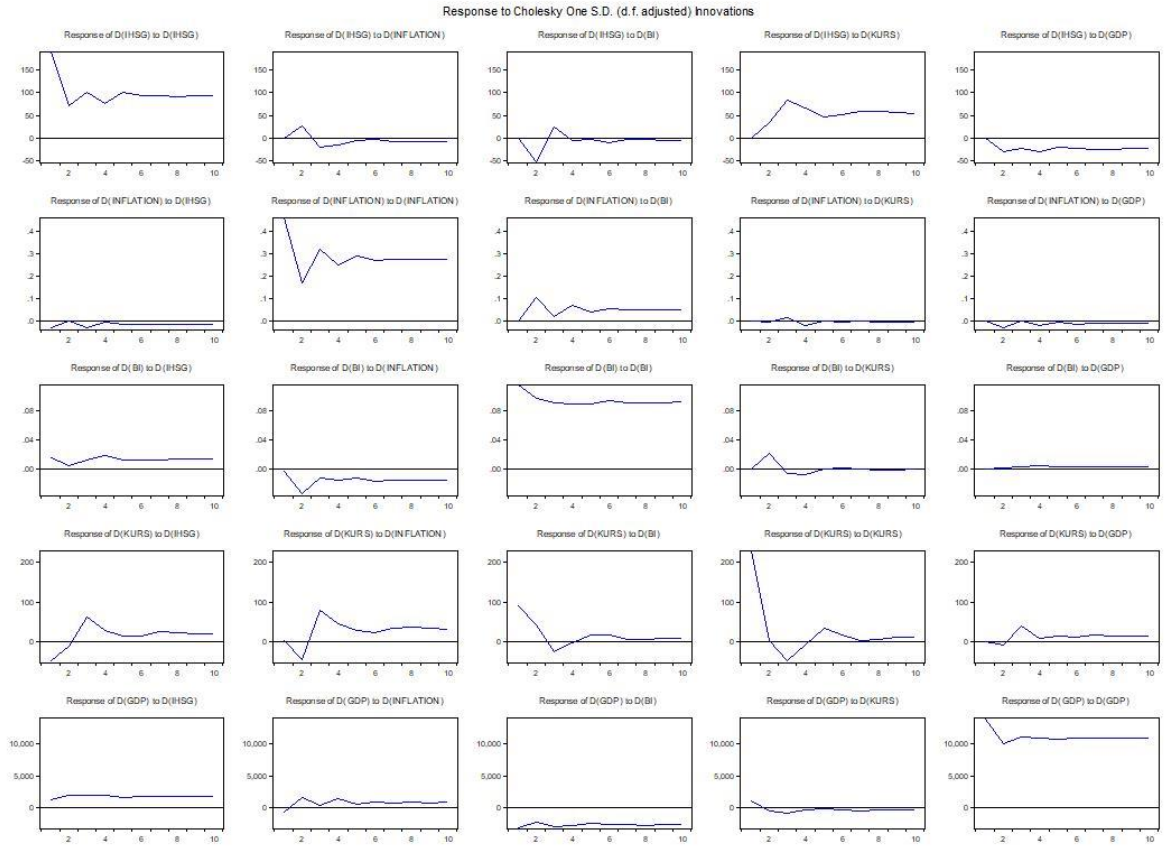

Figure 2. Impulse Response Factor Results

The results of the Variance Decomposition analysis show that fluctuations in the IHSG at the beginning of the period were entirely explained by itself, but the internal contribution declined to around 73% in the 10th period, with the greatest influence coming from the exchange rate (±20%) and the BI rate (±3%), while inflation and GDP had a relatively small impact. The variables of inflation, BI rate, and GDP tend to be endogenous because most of their variation is explained by themselves (>90%), while the exchange rate shows a dynamic relationship with the IHSG and monetary policy. Overall, these results indicate that the movement of the IHSG in Indonesia is most sensitive to monetary factors and exchange rates, while inflation and economic growth are relatively stable against external shocks.

DISCUSSION

In the short term, inflation has a significant positive effect on IHSG (t-statistic = 2.10195 > t-table = 2.0166). This indicates that a moderate increase in inflation can boost the IHSG, as it is interpreted as a sign of increased domestic demand and economic growth. Investors view controlled inflation as an indication of healthy economic activity, thereby increasing confidence in the stock market. These results are in line with the research by Astuti et al. (2016), which found that inflation has a positive effect on the JCI as long as it remains within Bank Indonesia's target range. However, these findings differ from those of Silalahi and Sihombing (2021), who concluded that high inflation actually puts pressure on the JCI because it reduces people's purchasing power and increases companies' operating costs. In the long term, inflation has no significant effect on the IHSG (t-statistic = 1.33530 < 2.0166). This indicates that, in the long term, the stock market has adjusted its expectations of inflation changes in response to monetary policy. This finding is consistent with Pratiwi et al. (2022) who state that the effect of inflation on the IHSG is temporary and tends to be neutral in the long term.

The benchmark interest rate (BI rate) shows a significant negative effect on the JCI in the short term (t-statistic = –2.23480 > 2.0166). This indicates that an increase in interest rates reduces investment interest in the stock market because investors prefer low-risk assets such as deposits or bonds. In addition, corporate borrowing costs increase, thereby reducing profitability and stock prices. These results are in line with research (Fauzi and Wijoyo, 2025; Pinem, 2019) that interest rate increases reduce liquidity in the capital market and lower the IHSG. However, in the long term, the BI rate does not show a significant effect on the JCI (t-statistic = 0.46529 < 2.0166). This finding supports the Efficient Market Hypothesis (EMH) theory, which states that the stock market adjusts quickly to monetary information, so that the long-term effect is neutral.

The exchange rate of the rupiah has a significant negative impact both in the short term (t-statistic = –3.09621 > 2.0166) and in the long term (t-statistic = –6.19056 > 2.0166). The depreciation of the rupiah against the US dollar has diminished foreign investor confidence, increased import costs for companies, and exerted pressure on corporate profits, resulting in a decline in IHSG. These results are in line with Saputra (2019) research, which found that the rupiah exchange rate has a significant negative effect on the IHSG. A weakening exchange rate causes volatility in the stock market due to increased investment risk. This contrasts with the findings of Sutandi et al. (2021), which indicate that the exchange rate has a negligible positive impact on the IHSG. The stability of the rupiah exchange rate against the US dollar is very important for the business world. This is due to the fact that fluctuations in the rupiah exchange rate against the US dollar can cause automatic increases in the prices of imported goods. This shows that the impact of the exchange rate is sectoral, although overall, this exchange rate continues to have a negative impact on the Composite Stock Price Index (IHSG)

The estimation results show that GDP does not have a significant effect on changes in the JCI. This insignificance is evident in both the short term, where the t-statistic value of –0.54588 is below the critical value of 2.0166, and in the long term, where the t-statistic of 0.71649 is also less than 2.0166. These findings confirm that the dynamics of the IHSG are not influenced by fluctuations in GDP, suggesting that the movement of the index is more likely determined by factors other than domestic economic growth. This suggests that economic growth does not directly influence the movement of the IHSG, as the stock market is forward-looking and is more affected by expectations of future growth rather than by actual GDP figures. These results are consistent with the research of Ahmad (2021); Koapaha (2022) which states that economic growth does not have a significant effect on the movement of the IHSG. The relationship between GDP and the IHSG tends to be weak because investors react more quickly to policies and market expectations. However, these findings are not in line with Silalahi and Sihombing (2021) that economic growth has a significant impact on the composite stock price index on the Indonesia Stock Exchange (IDX).

The findings from the Impulse Response Function (IRF) and Variance Decomposition (VD) analyses illustrate the dynamics of how macroeconomic variables affect the Composite Stock Price Index (IHSG) over a specified timeframe. According to the IRF results, the IHSG's response to

inflation exhibits a negative reaction at the onset of the period, suggesting that increasing inflation generally dampens the movement of the IHSG due to heightened production costs and a reduction in investor purchasing power. However, in the following period, this effect gradually stabilizes as the market adapts to higher inflation conditions. This is in line with Fama (1981) findings, which state that inflation is negatively related to stock returns because it weakens the real value of financial assets, but differs from the research by Maysami et al. (2004) which found a positive relationship in the long term in the Singapore stock market.

Furthermore, the IHSG initially reacts negatively to shifts in the exchange rate. A weakening rupiah relative to the US dollar tends to pressure stock market performance, as it raises import expenses and heightens overall economic uncertainty. However, in the medium to long term, the effects of exchange rates tend to diminish. These results are in line with the research by Ramasamy and Yeung (2005) which found a negative relationship between exchange rates and stock markets in developing countries. The effect of interest rates (BI Rate) on the IHSG shows a fairly strong negative response, illustrating that interest rate hikes reduce investor interest in stock instruments due to the increased attractiveness of low-risk instruments such as bonds.

From the results of Variance Decomposition, macroeconomic variables contribute variably to IHSG fluctuations. In the short term, IHSG movements are dominated by self-explained variance, indicating internal stock market stability. However, in the long term, external influences such as inflation, exchange rates, and interest rates begin to increase, especially the contribution of inflation, which plays an important role in explaining the volatility of the IHSG. Overall, these results show that macroeconomic factors have a significant influence on the JCI in both the short and long term, with the direction and magnitude of the effects varying over time.

CONCLUSION

This study aims to analyze the dynamic relationship between macroeconomic variables–consisting of inflation, BI Rate, exchange rate, and GDP and the Composite Stock Price Index (IHSG) in Indonesia using the VECM method, which includes stationarity tests (ADF), optimal lag, stability test, Johansen cointegration, Granger causality, as well as IRF and VD analysis. Based on the results of the analysis using the VECM, this study shows that there is a long-term and short term relationship between the IHSG, inflation, BI rate, exchange rate, and GDP variables. In the long term, only the exchange rate has a significant effect on the IHSG, indicating that the depreciation of the rupiah tends to lower the performance of the Indonesian stock market. Conversely, inflation, interest rates, and economic growth do not show a significant effect in the long term, indicating that these three factors are not yet the main determinants of IHSG movements in the long term. In the short term, the model exhibits a significant adjustment mechanism towards long-term equilibrium, indicating that it is dynamically stable. Partially, inflation has a significant positive effect on the IHSG, indicating that a moderate increase in inflation can drive stock market movements. Meanwhile, the BI rate and exchange rate have a significant negative effect, reflecting that interest rate hikes and rupiah depreciation suppress investment activity and IHSG performance. As for GDP, it does not have a significant impact in the short term, indicating that economic growth is not yet fully reflected in the stock market.

Monetary policy stability and exchange rate control can be key instruments in maintaining investor confidence in the capital market. The government and Bank Indonesia must enhance their coordination efforts to ensure the stability of the rupiah and maintain interest rates at a level conducive to fostering investment growth. In addition, the development of the real sector and improvements in economic competitiveness are necessary so that economic growth can contribute more to strengthening the stock market. For investors, these results signal that changes in exchange rates and interest rate policies are important indicators that need to be considered when making investment decisions in the Indonesian capital market.

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