

Research Article

The Effect of World Oil Price Returns, Inflation Returns, and Interest Rate Returns on JCI Returns on the IDX for the Period 2020-2024

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Abstract: The purpose of this study is to analyze the relationship between world oil price returns, inflation returns, and interest rate returns and the performance of the Jakarta Composite Index (JCI) on the Indonesia Stock Exchange from 2020 to 2024. This study applies a quantitative approach using 60 monthly secondary data observations covering the entire research period. The sampling technique used is saturated sampling. Data analysis in this study was conducted using multiple linear regression to test the effect of each independent variable on the JCI return. The results show that world oil price returns have a positive and significant effect on the JCI return. Meanwhile, inflation returns and interest rate returns did not show a significant partial effect on JCI returns. However, simultaneously, these three variables were found to have a significant effect on JCI returns. The adjusted R-squared value of 0.345 indicates that the research model is able to explain 34.5 percent of the variation in JCI returns, while the rest is influenced by factors outside the research model.

Keywords: Inflation Return; Interest Rate; JCI Performance; Oil Price; Stock Market

1. Introduction

The increasingly modern global economic development encourages people to think more rationally in managing and investing their assets. One important instrument that plays a role in supporting economic activity and serving as a means of investment is the capital market. The capital market functions as an intermediary between investors and issuers through transactions involving various long term financial instruments. In Indonesia, capital market activities are organized through the Indonesia Stock Exchange (IDX), where various financial instruments such as equities, bonds, Exchange Traded Funds (ETFs), mutual funds, and derivatives are actively traded (Sunarga, 2020). From the perspective of modern financial theory, the capital market is commonly associated with the Efficient Market Hypothesis (EMH), which posits that security prices incorporate all publicly available information, thereby limiting investors' ability to consistently earn abnormal returns (Brown, 2020). Consequently, movements in stock prices, including returns of the Jakarta Composite Index (JCI), serve as indicators of how the market processes information and forms expectations about prevailing macroeconomic conditions.

Investment behavior in the capital market is fundamentally shaped by the trade-off between risk and return, whereby higher expected returns are generally associated with greater levels of risk assumed by investors (Chen, 2025). In this context, macroeconomic

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indicators such as global oil prices, inflation, and interest rates play a crucial role in shaping investors' expectations regarding asset performance (Dong et al., 2024). As an emerging market, Indonesia's capital market tends to be more vulnerable to external economic shocks, particularly due to the prominent role of retail investors and the reliance on cross-border capital movements (Natalia, 2025). In empirical capital market studies, returns are commonly employed as the primary measure of financial asset performance because they capture changes in asset values across periods. From a methodological standpoint, analyzing variables in the form of returns rather than absolute levels is considered more appropriate, as it mitigates scale related issues and improves the robustness of statistical inference (Gujarati, 2003). Accordingly, this study emphasizes temporal movements in world oil prices, inflation, interest rates, and the Jakarta Composite Index (JCI), enabling a more precise assessment of market reactions to macroeconomic fluctuations.

Amid rapid technological advancement and increasing global emphasis on sustainable economic development, capital markets are required to adapt not only to digital transformation but also to the implementation of sustainability-oriented practices aligned with the Sustainable Development Goals (SDGs). The synergy between digital innovation and sustainability has become a key determinant of the Indonesian capital market's ability to remain competitive at the international level (Ruslaini & Kusnanto, 2020). Furthermore, ensuring transparency in information related to external economic risks such as fluctuations in world oil prices, inflationary pressures, and changes in interest rates is essential for sustaining investor trust and promoting market stability (Sugiharti & Nurjaman, 2025).

The Jakarta Composite Index (JCI) serves as a key benchmark for assessing overall performance in Indonesia's capital market, as it reflects the combined price movements of all equities listed on the Indonesia Stock Exchange. The dynamics of the index are shaped by a combination of domestic conditions and global developments. During 2020, the JCI experienced a sharp decline, reaching 3,937.63 as a result of the COVID-19 pandemic, which exerted substantial pressure on the national economy. Furthermore, global geopolitical events, including the Russia Ukraine conflict in 2022, disrupted international energy and food markets, leading to significant increases in global oil prices and heightened inflationary pressures worldwide (Kompasiana, 2024). Given Indonesia's reliance on imported energy, fluctuations in world oil prices directly affect production costs, household purchasing power, and overall capital market stability.

World oil prices are a macroeconomic variable that significantly influences the movement of the JCI. An increase in world oil prices implies an increase in the income of companies engaged in the energy sector, but at the same time can increase production costs in other industrial sectors. Apart from oil, inflation also has a major impact on the capital market. When inflation rises, people's purchasing power declines and companies production costs increase, thereby putting pressure on issuers profitability. The Central Statistics Agency (BPS) recorded Indonesia's inflation rate at 4.94% in July 2022, the highest in the last seven years, as a result of global food price pressures and the impact of inflation in the United States, which reached 9.1% (Rahayu & Diatmika, 2023). This shows that domestic inflationary pressures cannot be separated from global dynamics.



Figure 1. Graph of Fluctuations in the Jakarta Composite Index (JCI) for the Period 2020–2024.

During the 2020–2024 period, the JCI showed considerable volatility. In 2022, the JCI was under pressure from global inflation, while in 2023, it moved steadily in the range of 6,600–7,000 as a form of market consolidation. By the end of 2024, the JCI closed at 7,079.90 after experiencing an annual correction of 2.65%, making it the weakest performing index in Southeast Asia, compared to Thailand, which fell 1.10%, and Singapore, which actually strengthened 17.14% (Kontan.co.id, 2024). These findings highlight the substantial role of global economic factors such as oil prices, inflation, and interest rates in shaping the dynamics of Indonesia's capital market.

Beyond oil price movements, inflation represents a key macroeconomic variable that significantly affects market conditions. An increase in inflation can erode purchasing power, raise firms' operating costs, and prompt monetary policy responses through adjustments in benchmark interest rates. Such developments ultimately influence the performance of firms listed on the Indonesia Stock Exchange, which is reflected in fluctuations of Jakarta Composite Index (JCI) returns. As a primary indicator of market conditions, JCI returns capture aggregate stock price movements (Sari & Tan, 2023). Periods of rising inflation or sharp increases in world oil prices often lead investors to adopt a more cautious stance, contributing to downward pressure on JCI performance (Mahendra, 2020). Moreover, the benchmark interest rate set by Bank Indonesia (BI7DRR) plays a crucial role in determining investment behavior in the capital market. After declining from 5.00% in early 2020 to 3.50% in 2021, the BI7DRR subsequently increased to a range of 5.25%–6.00% during 2022–2024, reflecting policy responses to both domestic and global economic conditions (BI-Rate, 2025). Rising interest rates tend to redirect investment from equities toward fixed-income instruments such as deposits, whereas lower interest rates stimulate stock market investment by reducing the cost of capital.

Empirical evidence from prior research reveals mixed findings regarding the impact of macroeconomic factors on the Jakarta Composite Index (JCI). Research by Liman et al., (2024) report that fluctuations in world oil prices and interest rates do not significantly influence JCI performance. Conversely, Dientri et al., (2024) document that world oil prices and inflation exert a measurable effect on the JCI, while interest rates remain insignificant. Meanwhile, Wulan et al., (2023) identify world oil prices and interest rates as significant determinants of JCI movements, with inflation showing no discernible impact. Similarly, Alwan et al., (2025) find that world oil prices affect the JCI, whereas inflation and interest rates do not exhibit significant effects. In contrast, Priyana et al., (2024) demonstrate that world oil prices, inflation, and interest rates collectively influence JCI dynamics. The variation in these empirical findings highlights the absence of consensus regarding the role of macroeconomic variables in explaining JCI movements, both at the individual and joint levels. Such inconsistencies suggest the presence of a research gap that warrants further

investigation. Accordingly, this study seeks to extend the existing literature by providing a more comprehensive examination of the relationship between macroeconomic indicators and capital market performance in Indonesia.

2. Literature Review

World Oil Price Returns

World oil price movements are widely regarded as an important indicator of global economic conditions and play a critical role in shaping financial market behavior. Empirical studies suggest that oil price volatility arising from geopolitical tensions, shifts in global demand, or heightened economic uncertainty can influence the stability of national capital markets. Wandawati et al., (2024) demonstrate that fluctuations in world oil prices directly affect investor sentiment and overall stock market performance. This argument is consistent with Basit (2020) who asserts that both increases and decreases in oil prices generate substantial impacts on macroeconomic conditions and capital market dynamics.

In addition, Maharani & Wahyuningsih (2023) emphasize the importance of oil type characteristics in international trade, particularly West Texas Intermediate (WTI), which is classified as light sweet crude oil, and Brent Crude Oil, which serves as a global price benchmark. Differences in crude oil quality lead to varying degrees of price sensitivity and, consequently, diverse effects on financial markets. Synthesizing insights from these studies, it can be inferred that fluctuations in world oil prices function not only as signals of global economic conditions but also as key determinants of investor behavior. Accordingly, this study adopts the oil price return measurement approach proposed by Hartayu & Paramita (2023) to capture inter period price changes.

$$\text{World Oil Price Returns} = \frac{\text{HMt} - \text{HMt-1}}{\text{HMt-1}}$$

The calculation of world oil price returns in this study was carried out by calculating the change in oil prices (Brent Crude Oil) in period t relative to prices in the previous period (t-1), by dividing it by the price in the previous period.

Inflation Returns

Inflation is an economic phenomenon that has long been the focus of research due to its impact on purchasing power, price stability, and investment activity. Inflation is defined as a widespread and sustained increase in the prices of goods and services (Nurmetri & Adnan, 2023). An increase in inflation that is not offset by an increase in income has an impact on the decline in company profitability, as explained by Tammu (2020). This can then trigger an equity effect, namely a decline in stock prices due to weakening company performance (Ali, 2022).

According to Julia & Sulistiyowati (2023) inflation is a classic problem that puts significant pressure on the macroeconomy. Various studies have also identified the determinants of inflation, such as the money supply, production costs, aggregate demand, and external factors such as exchange rates or global commodity prices (Gradianto, 2022). The majority of studies show that inflation has a close relationship with stock market movements. When inflation is high, pressure on purchasing power and corporate profitability increases, causing stock prices to weaken. However, the strength of this influence often depends on a country's economic conditions and monetary policy. The calculation of inflation return in this study uses a relative change between periods (growth rate) approach as described in Gujarati (2003).

$$\text{Inflation Returns} = \frac{\text{IFt} - \text{IFt-1}}{\text{IFt-1}}$$

The inflation return formula in this study is expressed as the difference between the inflation rate in period t and the inflation rate in the previous period (t-1), divided by the inflation rate in the previous period.

Interest Rates Returns

Interest rates are monetary policy instruments that have a direct impact on investment and consumption activities. Interest rates are compensation for the use of money over a certain period (Senen et al., 2020). Interest rate hikes generally reduce investors' interest in investing in the stock market and shift them to fixed-income instruments, as explained by Mahendra et al., (2022). This shows a negative relationship between interest rates and the capital market. In addition, interest rates are a policy signal issued by the central bank to control inflation and maintain economic stability. In Indonesia, the BI 7 Day Reverse Repo Rate (BI7DRR) is the main indicator of monetary policy issued through the Board of Governors' Meeting (RDG) (Hartayu & Paramita, 2023).

Research Rezy (2023) provides a classification of interest rates based on their calculation mechanisms, ranging from fixed, floating, flat, effective, to annuity rates. Through a synthesis of previous studies, it appears that the effect of interest rates on the stock market is consistent: when interest rates rise, investors tend to engage in a flight to safety towards safer instruments. The formula for calculating interest rate returns in this study refers to Junaidi et al., (2025).

$$\text{Interest Rate Returns} = \frac{SB_t - SB_{t-1}}{SB_{t-1}}$$

The interest rate return in this study is calculated by finding the difference between the interest rate in period t and the previous period ($t-1$), then dividing it by the interest rate in the previous period.

Jakarta Composite Index Returns

The Jakarta Composite Index (JCI) functions as the primary benchmark for evaluating the overall performance of Indonesia's capital market. Yusuf et al., (2021) explain that the JCI represents the aggregate returns of all equity securities traded on the Indonesia Stock Exchange. Price changes at the individual stock level are aggregated and incorporated into the index, making the JCI a widely used indicator of general market conditions. Furthermore, Anggriana & Paramita (2020) discuss the contagion effect, whereby economic conditions in one country may spill over to other economies, including through stock market index movements. As a result, fluctuations in the JCI are driven not only by domestic factors but also by global developments such as world oil prices, inflation, and international interest rate movements.

Market capitalization also plays a crucial role in shaping the responsiveness of the JCI. Stocks with large market capitalization, commonly referred to as blue chip stocks, exert a stronger influence on index movements compared to small cap stocks (Kefi & Sutopo, 2020; Savira, 2021). Based on the existing literature, the JCI can therefore be classified as a dependent variable that is highly sensitive to changes in macroeconomic conditions. In this study, the calculation of JCI returns follows the approach proposed by Mahendra et al., (2022).

$$\text{JCI Returns} = \frac{JCI_t - JCI_{t-1}}{JCI_{t-1}}$$

In this study, JCI returns are calculated by measuring the change in the JCI value in period t relative to the previous period ($t-1$), divided by the JCI value in the previous period.

Hypothesis Development

The Effect of World oil Price Returns on JCI Returns

Changes in world oil prices have the potential to affect production costs, macroeconomic risks, and investor expectations. When oil prices fluctuate, capital markets respond by adjusting stock indices, including the JCI (Wandawati et al., 2024). This economic logic suggests that world oil price returns can affect JCI returns.

H1: World oil price returns affect JCI returns.

The Effect of Inflation Returns on JCI Returns

Rising inflation can reduce people purchasing power, affect companies operating costs, and lower stock performance (Julia & Sulistiyowati, 2023). Accordingly, shifts in inflation rates can play a role in driving fluctuations in JCI returns.

H2: Inflation returns affect JCI returns.

The Effect of Interest Rate Returns on JCI Returns

Interest rates function as an important monetary policy indicator that shapes investment decisions. When interest rates rise, investors are more likely to reallocate funds from equities to fixed income assets, which can influence stock market returns (Mahendra et al., 2022). Therefore, interest rate returns are expected to be related to JCI returns.

H3: Interest rate returns affect JCI returns.

The Effect of World Oil Price Returns, Inflation Returns, and Interest Rate Returns on JCI Returns

The three macroeconomic variables of world oil price returns, inflation returns, and interest rate returns are indicators that collectively influence stock market conditions. The combination of changes in these three factors can simultaneously affect JCI returns.

H4: World oil price returns, inflation returns, and interest rate returns simultaneously affect JCI returns.

Based on the theoretical description and hypothesis development, the relationship between variables in this study is visualized in the following research model:

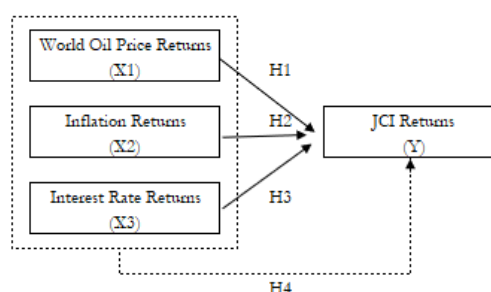


Figure 2. Research Model.

3. Method

This study uses a quantitative approach because all variables analyzed, namely world oil price returns, inflation returns, interest rate returns, and JCI returns, are expressed in numerical form and can be processed statistically. Quantitative research is based on the philosophy of positivism, which emphasizes the objective testing of relationships between variables (Sugiyono, 2019). This approach is also used to verify theories by analyzing the relationship between variables through statistical techniques, as stated by Creswell & Creswell (2018).

The population in this study is all monthly data for the research variables for the 2020–2024 period, consisting of world oil prices, inflation, interest rates, and the JCI. This study uses a saturated sampling technique, which is a sampling technique that involves all members of the population because all available data meet the research criteria (Sugiyono, 2019). Thus, the amount of data used in this study is 60 monthly observations for each variable. This study uses secondary data, which is data accessed through official institutions

and is already available. Information on world oil prices and the Jakarta Composite Index Returns was obtained from id.investing.com, while inflation and interest rate data were accessed through the official website www.bi.go.id.

The data analysis techniques in this study involved several stages. According to Ghozali (2021), first, descriptive statistics were used to describe the basic characteristics of each variable, such as minimum, maximum, mean, and standard deviation values. This analysis was conducted to describe the underlying data characteristics and to identify patterns and variability throughout the study period. Subsequently, classical assumption tests were applied to ensure that the multiple linear regression model yields estimators that are unbiased, efficient, and consistent (Ghozali, 2021). Classical assumption tests are performed to ensure that the regression results are BLUE (Best Linear Unbiased Estimator) and free from bias. The testing stages include:

- a. Normality test, which aims to assess whether the residuals follow a normal distribution. Residuals are considered normal if the Asymp. Sig. (2-tailed) value in Kolmogorov–Smirnov > 0.05 . Conversely, if Asymp. Sig. < 0.05 , the residuals are considered to deviate from normal because there is a significant difference between the data distribution and the theoretical normal distribution.
- b. Multicollinearity Test, this test is used to ensure that there is no high linear relationship between independent variables. The regression model is considered free from multicollinearity when the Variance Inflation Factor (VIF) value is less than 10, indicating that the estimated regression coefficients are stable and can be reliably interpreted.
- c. Heteroscedasticity Test, this test is performed by regressing the absolute residual values against the independent variables. The model is considered free of heteroscedasticity if the Sig. value is > 0.05 . The Glejser test is more objective than the graphical method because it provides a significant measure of residual dispersion.
- d. Autocorrelation Test, this test is used to determine whether the residuals of a period are correlated with the previous period, especially in time series data. The model is declared free of autocorrelation if the Durbin Watson value is in the range of $du < DW < 4 - du$, so that the regression coefficient estimates are not biased.

When the regression model has met the classical assumption requirements, the analysis proceeds to multiple linear regression. This technique is used to test the extent to which world oil price returns, inflation returns, and interest rate returns affect the Jakarta Composite Index Returns returns. The regression model used in this study can be written as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Description:

Y	: Jakarta Composite Index Returns Return
α	: Constant
$\beta_1 \beta_2 \beta_3$: Regression coefficients for each variable
X_1	: World Oil Price Return
X_2	: Inflation Return
X_3	: Interest Rate Return
e	: Error

After the classical assumptions were met, this study applied multiple linear regression to assess the effect of world oil price returns, inflation returns, and interest rate returns on JCI returns. Hypothesis testing included t-tests for partial effects and F-tests for collective effects. The coefficient of determination (R^2) was used to assess the ability of independent variables to explain the variation in dependent variables.

4. Results and Discussion

Descriptive Statistical Analysis

Table 1. Descriptive Statistical Analysis.

Variables	N	Min	Max	Mean	Std. Deviation
World Oil Price Return	60	-0.47	0.43	0.0088	0.11569
Inflation Return	60	-0.30	0.31	0.0015	0.12499
Interest Rate Return	60	-0.07	0.13	0.0037	0.03636
JCI Return	60	-0.17	0.09	0.0030	0.04089

Source : Data processing, 2025.

The results of descriptive statistical analysis show that the return on world oil prices has a minimum value of -0.47 and a maximum of 0.43 , with an average value of 0.0088 and a standard deviation of 0.11569 , indicating relatively high volatility. These results indicate that oil price returns are highly responsive to global economic disturbances. Inflation returns exhibit values ranging from -0.30 to 0.31 , with a mean of 0.0015 and a standard deviation of 0.12499 , suggesting a relatively wide dispersion of observations. This pattern reflects ongoing price adjustment processes influenced by both domestic and international economic conditions, albeit within manageable limits. Returns on interest rates show a minimum of -0.07 and a maximum of 0.13 , accompanied by an average value of 0.0037 and a standard deviation of 0.03636 , pointing to a comparatively more stable behavior. Such stability may be attributed to the implementation of cautious and incremental monetary policy measures that limit excessive volatility in interest rate movements. In contrast, JCI returns vary between -0.17 and 0.09 , with a mean of 0.0030 and a standard deviation of 0.04089 , indicating moderate fluctuations in stock market performance over the observation period. This condition suggests that although the stock market responds to various economic and financial information, the volatility of JCI returns remains lower than that of oil price and inflation returns, making its movements relatively more stable.

Normality Test

Table 2. Normality Test.

		Unstandardized Residual
N		60
Normal Parameters	Mean	0.0000000
	Std. Deviation	0.03223559
Most Extremen Differences	Absolute	0.059
	Positive	0.056
	Negative	-0.059
Test Statistic		0.059
Asymp. Sig (2-tailed)		0.200

Source : Data processing, 2025.

Based on the results of the Kolmogorov Smirnov normality test, the Asymp. Sig. (2-tailed) value is 0.200 , which is greater than 0.05 . This indicates that the residuals in the regression model are normally distributed. Thus, the normality assumption is satisfied and the model is suitable for further regression analysis.

Multicollinearity Test

Table 3. Multicollinearity Test.

		Collinearity Statistics
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	Tolerance	VIF
World Oil Price Return	0.966	1.035
Inflation Return	0.952	1.051
Interest Rate Return	0.965	1.036

Source : Data processing, 2025,

These results show that the VIF values for the variables of world oil price return (1.035), inflation return (1.051), and interest rate return (1.036) are less than 10, meaning that there are no signs of multicollinearity between the independent variables in the model. Therefore, the regression parameter estimates are reliable and not distorted by correlation problems between the explanatory variables.

Heteroscedasticity Test

Table 4. Heteroscedasticity Test.

Variable	Sig.
(Constant)	0.000
World Oil Price Return	0.238
Inflation Return	0.705
Interest Rate Return	0.094

Source : Data processing, 2025.

The results of the heteroscedasticity test above show that the Sig. values for the variables of world oil price return of 0.238, inflation return of 0.705, and interest rate return of 0.094 are above 0.05. Therefore, it can be concluded that the data does not show heteroscedasticity and that there is homoscedasticity.

Autocorrelation Test

Table 5. Autocorrelation Test.

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
0.615	0.379	0.345	0.03309	1.973

Source : Data processing, 2025.

The Durbin Watson (DW) value generated from the regression output is 1.973. Since the DW value of 1.973 falls within the range ($1.6889 < 1.973 < 2.3111$), it can be concluded that the regression model does not contain residual autocorrelation.

Multiple Linear Regression Test

Table 6. Multiple Linear Regression Test.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
(Constant)	0.001	0.004	0.246	0.807
World Oil Price Return	0.219	0.038	5.777	0.000
Inflation Return	0.007	0.035	0.210	0.834
Interest Rate Return	0.005	0.121	0.043	0.966
R-Squared	0.379			
Adjusted R-Squared	0.345			
F-statistic	11.372			
Prob (F-statistic)	0.000			

Source : Data processing, 2025.

Regression Equation Analysis

$$Y = 0.001 + (0.219 \cdot X_1) + (0.007 \cdot X_2) + (0.005 \cdot X_3)$$

Based on the regression output, the constant value of 0.001 means that if all independent variables (world oil price returns, inflation returns, and interest rate returns) remain unchanged or equal to zero, the JCI return is estimated to be 0.001. The regression coefficient for world oil price returns of 0.219 indicates that a one unit increase in world oil price returns will increase JCI returns by 0.219 units, assuming that inflation returns and interest rate returns remain constant. The regression coefficient of inflation return is 0.007, indicating that every one unit increase in inflation return will increase the JCI return by 0.007 units, assuming the other two variables remain constant. Furthermore, the interest rate return regression coefficient of 0.005 indicates that every one unit increase in interest rate return will cause a 0.005 unit increase in JCI return, assuming that the other variables remain unchanged.

Hypothesis Testing

t-test (Partial)

Based on the t-test results in the regression model, the return on world oil prices has a t-statistic value of 5.777 and a probability (p-value) of 0.000. Since the p-value is below 0.05, it can be concluded that the return on world oil prices has a significant and positive effect on the return on the JCI, in accordance with the positive regression coefficient (0.219). According to Gujarati (2003), the sign of the regression coefficient represents the direction of the independent variable's effect on the dependent variable, so a positive coefficient indicates a direct relationship. This means that every increase in world oil price returns will be followed by an increase in JCI returns. For inflation returns, the t-statistic value is 0.210 with a p-value of 0.834, and the interest rate return t-statistic is 0.043 with a p-value of 0.966. Both p-values are above 0.05, indicating that neither inflation returns nor interest rate returns have a significant effect on JCI returns in this model.

F-test (Simultaneous Test)

Based on the regression results, the F-statistic value obtained is 11.372 with a probability (p-value) of 0.000, which is less than the significance level of 0.05. Therefore, it can be concluded that world oil price returns, inflation returns, and interest rate returns simultaneously have a significant effect on the return of the Jakarta Composite Index (JCI).

Coefficient of Determination Test

Based on the estimation results, the Adjusted R-squared value generated from the regression output is 0.345. This indicates that approximately 34.5% of the variation in JCI returns can be explained jointly by world oil price returns, inflation returns, and interest rate returns in the model. The remaining 65.5% is explained by other variables outside the model or by residual factors.

Effect of World Oil Price Return on Jakarta Composite Index Return

Based on the empirical results, world oil price return is found to have a significant effect on JCI return, as indicated by a probability (p-value) of 0.000, which is lower than the predetermined significance level of 0.05. Based on these results, the null hypothesis (H0), which posits that world oil price returns do not exert a partial effect on JCI returns, is rejected, while the alternative hypothesis (H1) is supported. This outcome indicates that variations in world oil price returns have a statistically significant influence on JCI returns.

These findings align with prior empirical studies that document a significant relationship between world oil prices and the Jakarta Composite Index (Alwan et al., 2025; Dientri et al., 2024; Priyana et al., 2024; Wulan et al., 2023). The observed influence can be largely explained by oil's role as a key global commodity, which affects investor perceptions and production cost structures within the Indonesian economy, thereby shaping stock market performance.

Effect on Inflation Return on Jakarta Composite Index Return

The empirical analysis indicates that inflation returns do not have a statistically significant effect on JCI returns, as reflected by a p-value of 0.834, which exceeds the 0.05 significance threshold. Consequently, the null hypothesis (H0) stating that inflation returns have no partial impact on JCI returns is accepted, while the alternative hypothesis (H2) is rejected. This result suggests that variations in inflation returns do not meaningfully influence movements in JCI returns.

This outcome is in line with previous studies by Alwan et al (2025); Wulan et al (2023) which similarly find that inflation does not significantly affect the Jakarta Composite Index. One possible explanation is that equity market participants tend to place greater emphasis on other macroeconomic indicators such as world oil prices and interest rates rather than on domestic inflation changes that are largely anticipated and incorporated into market expectations through monetary policy measures.

Effect of Interest Rate Return on Jakarta Composite Index Return

The results of the analysis show that interest rate returns do not exert a statistically significant influence on JCI returns, as indicated by a p-value of 0.966, which exceeds the 0.05 significance criterion. Accordingly, the null hypothesis (H0) stating that interest rate returns have no partial effect on JCI returns is accepted, while the alternative hypothesis (H3) is rejected. This indicates that changes in interest rate returns do not significantly affect JCI returns during the study period.

Previous studies by Dientri et al (2024); Wulan et al (2023); Liman et al (2024) also find that interest rates do not consistently exert a significant impact on the Jakarta Composite Index, particularly when capital market conditions and the national economy are predominantly influenced by global sentiment and effective monetary policy interventions by the central bank.

Simultaneous Effect of World Oil Price Return, Inflation Return, and Interest Rate Return on Jakarta Composite Index Return

Simultaneously, based on the empirical results, world oil price return, inflation return, and interest rate return jointly have a significant effect on JCI return, as indicated by the F-test probability (p-value) of 0.000, which is substantially lower than the significance level of 0.05. Accordingly, the hypothesis stating that these three macroeconomic variables do not have a significant simultaneous effect on JCI return (H4) is rejected, while the hypothesis

asserting a significant effect is accepted. These results indicate that, when considered simultaneously, the three return variables provide a significant contribution to explaining fluctuations in JCI returns on the Indonesia Stock Exchange.

This evidence is in line with the findings of Priyana et al (2024) who show that world oil price return, inflation return, and interest rate return jointly influence movements in the Jakarta Composite Index. The results highlight that developments in Indonesia's capital market are closely linked to both global economic dynamics and domestic macroeconomic policy conditions.

5. Conclusion

Based on the empirical analysis of monthly data from 2020 to 2024, comprising 60 observations, this study concludes that world oil price returns have a statistically significant effect on the returns of the Jakarta Composite Index (JCI) on the Indonesia Stock Exchange. This result suggests that variations in world oil price returns play an important role in influencing JCI performance, thereby supporting the proposed hypothesis. In contrast, inflation returns and interest rate returns do not exhibit significant partial effects on JCI returns, leading to the acceptance of the hypotheses that propose the absence of individual significance for these two variables. Simultaneously, world oil price return, inflation return, and interest rate return jointly have a significant effect on JCI return; thus, the simultaneously proposed hypothesis is also accepted. These results confirm that the combination of macroeconomic variables collectively contributes to explaining the dynamics of JCI return movements on the Indonesia Stock Exchange during the study period. The adjusted R-squared value of 0.345 indicates that world oil price returns, inflation returns, and interest rate returns are able to explain 34.5% of the variation in JCI returns. According to Ghazali (2021); Gujarati (2003) in economic and financial research, the coefficient of determination is not always high because the dependent variable is influenced by numerous external factors and complex market behavior. Therefore, the adjusted R-squared value remains acceptable, provided that the regression model satisfies the classical assumptions and demonstrates statistical significance.

Based on these findings, several recommendations are proposed for investors and capital market stakeholders. First, investors are encouraged to pay close attention to movements in world oil prices, given their significant role in shaping JCI performance. Second, strengthening portfolio diversification is recommended as a strategy to reduce exposure to risks associated with external shocks, particularly those originating from global economic fluctuations. Third, although inflation and interest rate returns do not show significant partial effects, these indicators should still be observed as supplementary signals that may reflect broader market conditions. In addition, policymakers are advised to enhance the transparency of economic information and reinforce coordination in monetary policy implementation to support capital market stability amid global economic volatility.

For future studies, it is recommended to expand the analytical framework by including variables beyond world oil price returns, inflation returns, and interest rate returns. Potential extensions may involve firm specific fundamentals, investor sentiment indicators, as well as other global macroeconomic variables such as exchange rates and prices of other strategic commodities, in order to achieve a more comprehensive understanding of the factors influencing Indonesia's capital market performance.

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