

AN ANALYSIS OF MACROECONOMIC INDICATORS ON EXCHANGE RATES IN INDONESIA

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Abstract

Elections represent a significant political event in Indonesia, often leading to fluctuations in the financial sector. The impact of these fluctuations can be observed through the trends in the Composite Stock Price Index (IHSG) and the exchange rate during presidential election periods. Historical data from presidential elections between 2009 and 2019 indicates a consistent increase in both the IHSG and the exchange rate. However, the 2024 presidential election presents an unusual scenario where the IHSG shows a strengthening trend leading up to the election, while the Indonesian rupiah remains weak against foreign currencies, particularly the USD. Following a decline in the IHSG, the rupiah experienced a sharp drop. Consequently, this study aims to elucidate the determinants of the exchange rate by examining several macroeconomic variables, including Gross Domestic Product (GDP), global oil prices, the budget deficit, foreign direct investment, inflation, and interest rates. Utilizing time series data from 1991 to 2023 in Indonesia and employing multiple linear regression analysis, the research identifies that global oil prices significantly influence the exchange rate by positively moderating the effect of GDP. Additionally, interest rates are found to have a significant negative impact on the exchange rate.

Keywords: Exchange Rate, Gross Domestic Product, Crude Price Oil

1. Introduction

Elections represent a significant political event occurring every five years in Indonesia, often resulting in fluctuations within the financial sector. During the electoral period, encompassing the campaign phase, voting, and the announcement of election results, both the exchange rate and the Composite Stock Price Index (IHSG) typically exhibit an upward trend due to heightened investor optimism. The IHSG serves as a comprehensive indicator of the overall movement of a collection of stock prices that are assessed periodically. Research conducted by Oskooee and Saha (2017) indicates that fluctuations in stock prices can influence exchange rate movements. This relationship arises because an increase in stock prices suggests a rise in trading volume within the stock market, which has the potential to yield higher stock returns. A similar phenomenon can be observed in Indonesia, where an increase in stock prices, as reflected by the IHSG, is often associated with a strengthening currency, thereby attracting investors to purchase stocks.

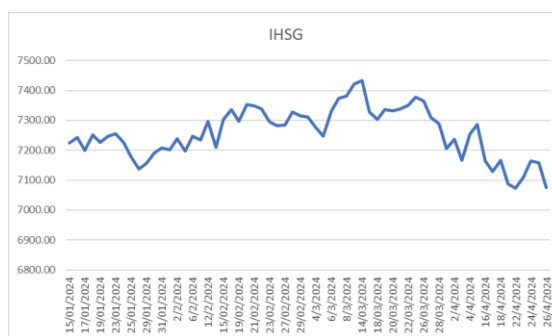
However, an unusual situation has emerged in the political year of 2024, where the IHSG has shown a strengthening trend leading up to the elections, yet the value of the rupiah against foreign currencies, particularly the US dollar (USD), has not appreciated. Furthermore, when the IHSG experiences a decline, the rupiah immediately depreciates. Historical data from previous elections in Indonesia, spanning from 2004 to 2019,

indicates that the IHSB has consistently trended upward, accompanied by a strengthening of the rupiah. Notably, the most significant increase in the IHSB occurred in 2009, a period characterized by considerable optimism among investors. Historical data illustrating the rise of the IHSB and the strengthening of the rupiah during election periods is presented in Table 1.

Table 1. Percentage increase of the Composite Stock Price Index (IHSB) and the strengthening of the exchange rate during elections.

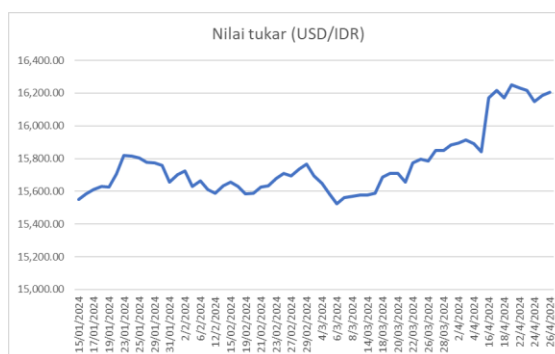
Year	Increase of IHSB	Strengthening of the rupiah.
2004	17,70%	0,19%
2009	53,70%	0,49%
2014	17,60%	0,43%
2019	4,60%	0,28%

Source: CNBC Indonesia (processed).



Source: Investing.com (processed)

Figure 1. Indonesia Composite Index January – April 2024.



Source: Investing.com (processed)

Figure 2. Exchange Rate of Indonesia January-April 2024

The increase in the Jakarta Composite Index (IHSB) observed during this election period mirrors the trend seen in the previous election of 2024, where data indicates a rise of 1.57 percent in the IHSB. However, this increase was not sustained for long. It was recorded that a few days post-election, the IHSB experienced a decline, primarily attributed to profit-taking actions by investors. An analysis of Figures 1 and 2 reveals a consistent upward trend leading up to the presidential and vice-presidential election (voting day) prior to February 14, 2024, followed by a downturn in the IHSB shortly after the voting day. Conversely, during the same timeframe, the exchange rate of the rupiah remained stagnant, with a tendency to weaken in the days following the election. The lack

of strengthening in the rupiah amidst the rise in the IHSG serves as a foundation for this research, aimed at identifying the macroeconomic factors that significantly influence the exchange rate.

Exchange rate fluctuations can be attributed to various macroeconomic factors, which can substantially impact market participants' decisions due to the associated costs and benefits in trading activities across securities, goods, and services. This study selects several macroeconomic variables, including Gross Domestic Product (GDP), World Oil Prices (COP), the state budget deficit (APB), Foreign Direct Investment (FDI), Inflation (INF), and Interest Rates (INT) as independent variables. Additionally, the research will examine the COP variable as a potential moderating factor to determine whether it strengthens or weakens the influence of GDP and Inflation on the exchange rate, as well as whether the APB variable can enhance or diminish the effect of FDI on the exchange rate, thereby clarifying the relationships among these variables.

2. Theoretical Background

Gross Domestic Product

Gross Domestic Product (GDP) represents the comprehensive monetary value of all goods and services generated within a nation, taking into account the value of goods and services employed in the production process. It is calculated by summing consumption expenditures, gross private domestic investment, net exports of goods and services, along with government consumption expenditures and gross investment (Dyanan & Sheiner, 2018). The impact of GDP on trade and investment is significantly influenced by various factors, including trade policies and other transactions. This dynamic can potentially alter the levels of demand and supply for foreign currency, ultimately affecting exchange rates, particularly in a freely floating system. Such fluctuations can influence the money supply, prompting central banks to raise interest rates to mitigate these effects, which in turn can lead to an increased demand for domestic currency, resulting in appreciation (Kuroda & Ueda, 2020). Several studies have indicated a relationship between GDP and exchange rates. Uktufia & Septiani (2022) found that GDP negatively impacts exchange rates, while Nguyen and Do (2023) reported a positive influence of GDP on exchange rates.

H1: GDP significantly affects exchange rates.

Global Oil Prices (COP)

Crude oil serves as a fundamental component in the global economy, exhibiting a significant correlation with exchange rates, which act as a bridge between domestic and international economies. Consequently, countries that adopt market-oriented and open economies experience fluctuations in crude oil prices that can lead to alterations in their exchange rates (Ramasamy & Abar, 2015). The global oil price can influence exchange rates through various mechanisms, including the levels of demand and supply for crude oil, trade channels, and wealth and portfolio effects (Buetzer et al., 2016).

a. Mechanism of Demand and Supply for Crude Oil

Fluctuations in exchange rates impact the prices received by both oil producers and consumers, thereby affecting the demand and supply dynamics of the commodity. The demand for oil is significantly influenced by its fluctuating price, which is affected by changes in exchange rates. Oil prices per barrel are denominated in U.S. dollars, necessitating transactions to be conducted in this currency. As a result, consumers, particularly countries that import oil, must convert their local currencies into U.S. dollars. This demand for foreign currency can weaken the domestic currency (Diana et al., 2019).

Currency devaluation leads to higher prices for imported goods, thereby increasing demand for domestically produced products, which become relatively cheaper. Conversely, producers of oil may experience cost-push inflation; as oil prices rise, their costs increase. When governments strive to maintain balance in their trade accounts, these countries tend to depreciate their domestic currencies relative to other currencies, which can enhance export levels and subsequently improve the current account deficit, thereby fostering economic growth (Mawardi, 2023).

b. Mechanism of Trade Channels

The influence through trade channels was first introduced by Amano and Van Norden (1998), establishing a connection between oil prices and the price levels that affect real exchange rates. In instances where the non-tradable sector of a country (for example, country A) is more energy-intensive than its tradable sector, the output prices of this sector will relatively increase compared to the output prices in another country (for instance, country B). Consequently, the exchange rate of country A will experience currency appreciation due to rising inflation (Buetzer et al., 2016).

c. Mechanism of Wealth and Portfolio Effects

Another mechanism is the wealth and portfolio channel, as proposed by Golub (1983), which examines the relationship between oil prices and exchange rates through portfolio choices and current account imbalances. This wealth channel impacts exchange rates in the short term, while the portfolio channel influences them in the medium to long term. The model assumes the existence of three regions: OPEC, the United States, and the European Union. An escalation in oil prices leads to a redistribution of wealth from nations that import oil to those that export it, with transactions typically conducted in U.S. dollars. This shift influences the current account balance of importing countries, primarily due to an increase in their export activities. Consequently, the currencies of oil-exporting nations tend to appreciate, while those of oil-importing nations experience depreciation. Moreover, there exists a potential for the U.S. dollar to gain strength over the medium to long term, driven by wealth effects, particularly if oil-exporting countries allocate their revenues towards dollar-denominated investments.

A variety of studies have explored the dynamics between crude oil prices and exchange rates, producing diverse findings. For instance, research by Ogundepe et al. (2014) highlights that variations in crude oil prices contribute to instability in Nigeria's exchange rate, underscoring the necessity for a reduced dependence on crude oil. Additionally, the work of Suliman and Abid (2020) identifies a long-term causal link between these two factors, indicating that rising oil prices generally lead to currency appreciation, which in turn influences the demand for oil itself.

H2: Crude oil prices significantly influence exchange rates.

The Budget Deficit

The budget deficit of APBN can significantly impact exchange rates, as elucidated by the IS-LM model (Mundell-Fleming Framework). This model illustrates that a budget deficit can influence the current account deficit through interest rates and output levels. When the government opts to implement a budget deficit, it tends to raise interest rates to attract capital inflows, which in turn leads to an appreciation of the domestic currency (Lajevardi & Chowdhury, 2024). Government revenue is primarily derived from taxes imposed on the populace; however, if tax revenues fall short of covering government

expenditures, one potential solution is to incur foreign debt. An increase in foreign debt can subsequently affect exchange rate fluctuations (Ramasamy & Abar, 2015).

H3: The budget deficit significantly influences exchange rates.

Foreign Direct Investment

Foreign Direct Investment (FDI) serves as a stable source of financing, prompting many developing nations to seek to enhance FDI inflows (Cambazoglu & Gunes, 2016). The influx of foreign investment into an economy typically leads to increased demand for the local currency, resulting in its appreciation. This finding aligns with research conducted by Rehman et al. (2010), which examined the effects of FDI inflows on exchange rates in Pakistan, revealing that such inflows contribute to currency appreciation. Conversely, a study by Kulkarni (2018) found that FDI inflows can lead to currency devaluation.

H4: FDI significantly influences exchange rates.

Inflation (INF)

Inflation is characterized by a sustained increase in the prices of goods and services over an extended period, which may be triggered by currency devaluation (Ibrahim, 2019). The inflation rate serves as an indicator of the changes in price levels of goods and services over time, typically expressed as a percentage (Indriyani, 2016). Numerous studies have been conducted to explore the relationship between inflation and exchange rates. For instance, Lajevardi and Chowdhury (2024) found a positive and significant impact of inflation on exchange rates, while Alawiyah et al. (2019) reported a negative influence of inflation on exchange rates. The interplay between inflation and exchange rates is significant, as fluctuations in inflation levels can affect the demand for currency, subsequently influencing international trade patterns. A country experiencing rising prices is likely to see its currency depreciate against foreign currencies that do not face similar price increases.

H5: Inflation significantly affects exchange rates.

Interest Rates (INT)

Interest rates represent the cost incurred for the use of funds or the expense associated with borrowing. They can influence exchange rates through interest rate parity (Hashchyshyn et al., 2020). An increase in domestic interest rates tends to boost the number of deposits in the domestic currency and enhance returns, thereby elevating demand for the domestic currency. This scenario typically results in the appreciation of the domestic currency relative to foreign currencies (Tafa, 2015). Research conducted by Tafa (2015) in Albania indicated that rising interest rates significantly enhance exchange rates. Conversely, a study by Sarac and Karagoz (2016) examining the effects of short-term interest rates on exchange rates in Turkey found no evidence that high interest rates lead to currency depreciation.

H6: INT significantly affect exchange rates.

The variable COP has been demonstrated in various studies to serve as a moderating factor for macroeconomic variables. For instance, research conducted by Kasongwa and Minja (2022) examined the effects of interest rates, inflation, and exchange rates on stock market performance, with oil prices acting as a moderating variable. The findings indicated that oil prices significantly moderated the impact of inflation on stock market performance. A study conducted by Katircoglu et al. (2018) examined the impact of oil

price volatility on the interplay between service trade, tourism, and real income growth, as indicated by GDP in Turkey. The findings indicated that fluctuations in oil prices had a detrimental moderating effect on the relationship between foreign trade, service trade, and tourism with real income growth in Turkey. These studies collectively suggest that oil prices effectively moderate the interactions among macroeconomic variables, prompting the current research to explore whether oil prices can also moderate the relationship between GDP and inflation on exchange rates.

Furthermore, oil prices may enhance the influence of GDP on exchange rates. As previously noted, oil-exporting countries benefit from wealth transfers from oil-importing nations, which consequently affects the income levels of both exporters and importers. An increase in one component of GDP, such as imports driven by rising oil prices, could potentially weaken the currency. Therefore, oil prices are likely to amplify the effect of GDP on exchange rates.

H7: COP significantly moderates the impact of GDP on exchange rates.

H8: COP significantly moderates the impact of inflation on exchange rates.

APB as a Moderating Variable for FDI on Exchange Rates

This study also aims to investigate whether the budget deficit (APB) moderates the impact of Foreign Direct Investment (FDI) on exchange rates. When the government opts to implement a budget deficit, one of the strategies to address this deficit is by increasing interest rates, which subsequently attracts capital inflows, including investments from foreign investors. The government's policy to establish a budget deficit is expected to elevate interest rates to stimulate capital inflow, which, in turn, will lead to an appreciation of the domestic currency (Lajevardi & Chowdhury, 2024).

H9: The budget deficit significantly moderates the effect of FDI on exchange rates.

3. Methods

This research employs a quantitative descriptive method, analyzing numerical data and testing hypotheses. If the classical assumption tests are satisfied, the results of multiple linear regression analysis will be utilized to evaluate the hypotheses. The study population consists of annual time series data from Indonesia covering the period from 1991 to 2023. The variables included in this research are Gross Domestic Product (GDP), World Oil Prices, Budget Deficit (APB), Foreign Direct Investment (FDI), Inflation, and Interest Rates. The sample is selected using purposive sampling, comprising annual time series data from 1991 to 2023, adhering to the criteria of complete data within the required timeframe for the study. Data sources include the World Bank, Bank Indonesia, the Ministry of Finance, BPS, and id.investing.com. This research encompasses seven variables, with one dependent variable, which is the exchange rate (EXR), and six independent variables: Gross Domestic Product (GDP), World Oil Prices (COP), Budget Deficit (APB), Foreign Direct Investment (FDI), Inflation (INF), and Interest Rates (INT). Based on the observed phenomena and various literature reviews, the resulting equation model is formulated as follows:

$$\text{EXR}_t = \beta_0 + \beta_1.\text{GDP}_t + \beta_2.\text{COP}_t + \beta_3.\text{APB}_t + \beta_4.\text{FDI} + \beta_5.\text{INF}_t + \beta_6.\text{INT}_t + \beta_7.\text{GDP}_t.\text{COP}_t + \beta_8.\text{INF}_t.\text{COP}_t + \beta_9.\text{APB}_t.\text{FDI}_t + \mu_t \quad (1)$$

Where:

- EXR : Exchange rate
- GDP : Gross Domestic Product
- COP : Crude Oil Price

- APB : State Budget Deficit
- FDI : Foreign Direct Investment
- INF : Inflation
- INT : Interest Rate
- β_0 : Constant term
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$: Coefficients of GDP, COP, GDP.COP, APB, FDI, APB.FDI, INF, INF.COP, INT
- μ : Error Term
- t : Data Time Series

Definition of Operational Variables (DOV)

The dependent variable and its independent factors are as follows:

Table 2. Operational Definition of Variables

No	Variable	Type of Variable	Measurement Type	Symbol	Measurement Formula
1	Exchange Rate	Dependent	Ratio	EXR	$\frac{(KT_t - KT_{t-1})}{EXR = (KT)_{t-1}}$ KT _t : Midpoint exchange rate for period t KT _{t-1} : Midpoint exchange rate for period t-1 Source: (Prastowo, Malavia, & Wahono, 2018)
2	Gross Domestic Product	Independent	Ratio	GDP	$GDP = C + I + G + NX$ C: Consumption I: Investment G: Government Spending NX: Net Exports Source: (Bryniuk, 2023)
3	Global Oil Price	Independent	Ratio	COP	Data sourced from investing.com
4	State Budget Deficit	Independent	Ratio	APB	State Budget Deficit = Total Revenue – Total Government Expenditure
5	Foreign Direct Investment	Independent	Ratio	FDI	Total foreign investment in Indonesia
6	Inflation	Independent	Ratio	INF	$INF = \frac{(IHK_t - IHK_{t-1})}{(IHK)_{t-1}} \times 100\%$ IHK _t : Consumer Price Index for period t IHK _{t-1} : Consumer Price Index for period t-1 Source: (Zulifah & Susilowibowo, 2014)
7	Interest Rate	Independent	Ratio	INT	$INT = \frac{(SBI_t - SBI_{t-1})}{(SBI)_{t-1}} \times 100\%$ SBI _t : SBI interest rate for period t SBI _{t-1} : SBI interest rate for period t-1 Source: (Puspita & Aji, 2018)

Source: data processing results (2024)

4. Results And Discussion

Prior to examining the results of the research variables, it is essential to conduct classical assumption tests for time series data analysis. This step is necessary to ensure that the data meets the criteria for BLUE (Best Linear Unbiased Estimation).

a. Normality Test

The purpose of the normality test is to assess the distribution of the data within the variables utilized in the study. In this research, the sample size exceeds 30. According to Altman and Bland (1995), a sample size greater than 30 indicates that any violations of the normality assumption are not significantly problematic. This suggests that the results of the tests can still be considered valid, even if the data does not follow a normal distribution.

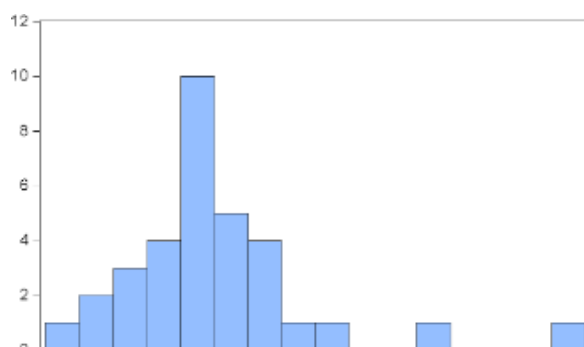


Figure 3. Data processing results from EViews Normality Test

b. Autocorrelation Test

The autocorrelation test is conducted to examine the correlation between the error term at time t and the error term from the previous period within a linear regression model (Ghozali, 2018). This testing can be performed using the Breusch-Godfrey Serial Correlation LM Test. To determine the presence of autocorrelation issues, one can analyze the Chi-Square(2) value, which represents the p-value of this test. In this study, the obtained value is 0.6518, which exceeds the significance level of 5%. Consequently, the null hypothesis (H_0) is accepted, indicating that there are no autocorrelation problems present.

Table 3. Results of Autocorrelation Testing

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.279599	Prob. F(2,21)	0.7589
Obs*R-squared	0.855947	Prob. Chi- Square(2)	0.6518

Source: EViews Data Processing Results on Heteroskedasticity Testing

c. Heteroskedasticity Test

Heteroskedasticity testing is conducted to evaluate the presence or absence of unequal variance in the residuals. This examination involves analyzing the Prob. Chi-Square value associated with Obs*R-Square. In this study, the obtained value is 0.4908, which exceeds the significance level of 5%. Consequently, the null hypothesis (H_0) is accepted, indicating that the model exhibits homoskedasticity and does not present issues related to heteroskedasticity.

Table 4. Results of Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.877730	Prob. F(9,23)	0.5582
Obs*R-squared	8.436553	Prob. Chi-Square(9)	0.4908
Scaled explained SS	13.21176	Prob. Chi-Square(9)	0.1533

Source: Data processing results from EViews Heteroskedasticity Test.

d. Multicollinearity Test

The multicollinearity test is conducted to determine the presence of correlation or inter-correlation among the independent variables in the regression model. The results of the multicollinearity test in this study indicate that all variance inflation factors are below 0.8, suggesting that there are no multicollinearity issues present.

Table 5. Results of Multicollinearity Testing

Variance Inflation Factors

Date: 04/05/24 Time: 16:15

Sample: 1991 2023

Included observations: 33

Variable	Coefficient Variance
C	4.08E-08
GDP	4.83E-10
COP	3.33E-06
GDP*COP	2.83E-07
APB	1.08E-10
FDI	5.58E-10
APB*FDI	3.37E-10
INF	2.25E-07
INT	3.94E-06
INF*COP	0.000138

Source: EViews Data Processing Results

e. Regression Test

Table 6. Regression Test Results.

Dependent Variable: EXR

Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000674	0.000202	3.333514	0.0029
GDP	-3.85E-05	2.20E-05	-1.749652	0.0935
COP	-0.003759	0.001824	-2.060723	0.0508
APB	-1.77E-05	1.04E-05	-1.711420	0.1005
FDI	-3.78E-05	2.36E-05	-1.600851	0.1231
INF	0.000419	0.000474	0.883127	0.3863
INT	-0.005001	0.001984	-2.520294	0.0191
GDP*COP	0.001563	0.000532	2.937558	0.0074
INF*COP	-0.018549	0.011751	-1.578443	0.1281
APB*FDI	3.15E-05	1.83E-05	1.718361	0.0992
R-squared	0.584271		Mean dependent var	0.000193
Adjusted R-squared	0.421594		S.D. dependent var	0.000215
S.E. of regression	0.000164		Akaike info criterion	- 14.34980
Sum squared resid	6.18E-07		Schwarz criterion	- 13.89632
Log likelihood	246.7718		Hannan-Quinn criter.	- 14.19722
F-statistic	3.591608		Durbin-Watson stat	1.655508
Prob(F-statistic)	0.006635			

Source: EViews Data Processing Results

This research utilizes a significance threshold of 5%. The results reveal that the variable exerting a significant influence on the exchange rate is GDP*COP, which denotes the Gross Domestic Product (GDP) adjusted for crude oil prices, alongside INT, the interest rate. Moreover, the F-statistic value of 0.006635, which is below the 5% threshold, indicates that the collective impact of all independent variables is significantly positive on the exchange rate. Specifically, a 1% increase in GDP, COP, APB, FDI, INF, and INT correlates with a 3.591608% increase in the exchange rate. The GDP*COP variable has a positive effect on the exchange rate, suggesting that an increase in GDP*COP results in a depreciation of the rupiah relative to the US dollar. Conversely, a decline in GDP*COP leads to an appreciation of the rupiah. A 1% rise in GDP*COP is associated with a 0.001563% increase in the exchange rate. This finding is consistent with Kumar's (2019) study, which investigated the causal relationship between global oil prices, exchange rates, and stock prices in India using the NARDL test, demonstrating that oil price shocks positively influence the exchange rate. In contrast, Mensah et al. (2016) analyzed the effects of crude oil prices on exchange rates and GDP in Ghana through the VECM approach, identifying a negative long-term relationship between oil prices and the exchange rate. Additionally, Obioma and Charles (2015) explored the connections between crude oil prices, consumer price levels, and exchange rates in Nigeria using VAR methodology, concluding that variations in oil prices adversely affect the exchange rate.

The fluctuations in international crude oil prices significantly impact various facets of the economy, drawing particular attention to their effects on oil-importing nations (Qiang et al., 2019). Indonesia remains one of the countries that continues to import ready-to-use oil. The persistent increase in demand is a key factor contributing to the rising levels of oil imports. As previously noted, the price per barrel of oil is denominated in US dollars, which escalates Indonesia's demand for US dollars, consequently leading to an appreciation of the dollar and a depreciation of the rupiah (Silitonga et al., 2017). Numerous studies indicate that oil price volatility can influence economic growth, as evidenced by increases in GDP. Musa et al. (2019) assert that both crude oil prices and exchange rates have a significant positive impact on economic growth in both the short and long term.

In addition to the GDP*COP variable, interest rates also significantly affect exchange rates negatively. A decrease in interest rates leads to an appreciation of the rupiah against the US dollar, indicating a weakening of the dollar. Conversely, an increase in interest rates results in a depreciation of the rupiah against the US dollar, signifying a strengthening of the rupiah. Specifically, a 1% rise in interest rates results in a 0.005001% decline in the exchange rate. This finding aligns with research conducted by Farlian et al. (2019), which examined the effects of inflation and interest rates on the rupiah's exchange rate, concluding that interest rates significantly influence the exchange rate, albeit with a manageable impact that can be balanced to avoid disrupting economic stability.

5. Conclusion

The electoral events that occur every five years in Indonesia often induce fluctuations in the nation's economy. Historical data from previous Indonesian elections indicate a tendency for the Jakarta Composite Index (IHSG) and exchange rates to rise, reflecting a general optimism among the populace. However, during the 2024 Indonesian elections, while the IHSG showed an increase, the exchange rate did not exhibit similar strength. This study aims to elucidate the macroeconomic factors influencing the exchange rate.

The findings reveal that certain variables significantly affect the exchange rate, particularly GDP, which is moderated by global oil prices. Additionally, interest rates have also been shown to significantly impact the exchange rate. The research indicates that global oil prices significantly moderate the relationship between GDP and the exchange rate, suggesting that increases in global oil prices enhance the influence of GDP on the exchange rate. Consequently, both government and private sectors should pay closer attention to fluctuations in global oil prices.

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