

Impact of United States Political Uncertainty on Rupiah Fluctuations and Indonesia's Monetary Indicators

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Abstract

This study analyzes the macroeconomic factors influencing the Rupiah exchange rate against the US Dollar (USD/IDR) in Indonesia, considering that exchange rate volatility can affect economic stability. The dynamics of imports, exports, money supply (M2), inflation, and Bank Indonesia's (BI) benchmark interest rate are believed to play a crucial role in currency movements. The primary objective of this research is to analyze the long-term and short-term effects of these variables on the USD/IDR exchange rate in Indonesia. This study is quantitative in nature, using time series data and applying the Error Correction Model (ECM) to identify long-term relationships among variables as well as short-term adjustment mechanisms. The analysis results indicate that in the long run, Money Supply (M2), inflation, and BI interest rates have a significant positive relationship with the exchange rate (Rupiah depreciation), while imports and exports show a significant negative relationship (Rupiah appreciation). In the short term, changes in all independent variables also significantly affect exchange rate movements, with M2, inflation, and BI interest rates causing depreciation, while imports and exports cause appreciation. A significant error correction value indicates the presence of an adjustment process to return to long-term equilibrium. The implications of this study highlight the importance of managing the money supply, controlling inflation, and implementing balanced trade policies in maintaining Rupiah exchange rate stability, as well as the understanding that BI interest rate hikes are often a response to existing depreciation pressures.

Keywords: Exchange Rate; Imports; Exports; Money Supply; Interest Rate; Inflation; Error Correction Model

Introduction

Rupiah exchange rate stability holds significant role in maintaining Indonesia macroeconomic equilibrium, but its vulnerability to external factors mainly to US politics volatility is inevitable. Indonesia's balance of trade tends to be profitable when Rupiah exchange rate strengthens, while the depreciation of the rupiah against the Japanese yen, for example, increases the value of exports and reduces imports (Aminda et al., 2023). The exchange rate is the value of a domestic currency against the prevailing foreign currency value (Khamidah & Sugiharti, 2022). As a global economic power, US political and economic policies have a broad impact on world financial markets, including Indonesia. The political conditions of the United States (US) have high urgency because of its role as a global economic power, which directly affects global economic conditions, especially exchange rates in Indonesia.

The stability of the Rupiah exchange rate is a key factor in maintaining Indonesia's macroeconomic balance. However, the Rupiah remains highly vulnerable to external shocks, particularly those stemming from political uncertainty in the United States. As the world's largest economy, the U.S. has significant influence on global capital flows, international trade, and investor sentiment in emerging markets. According

to Azad and Serletis (2020), monetary policy decisions by the U.S. Federal Reserve have substantial spillover effects on exchange rate volatility in developing economies, including Indonesia. Political uncertainty in the U.S., such as shifts in trade policy, presidential transitions, or unpredictable fiscal measures, can trigger capital outflows from emerging markets, putting additional pressure on domestic currencies. Sunday & Yuliarmi (2024) argue that Rupiah volatility is not only determined by domestic monetary factors but also by external pressures arising from U.S. policy and political developments.

In addition to these external factors, domestic macroeconomic variables also play an important role. An increase in imports may raise the demand for foreign currency, potentially weakening the Rupiah (Osei and Kim 2020). Conversely, strong export performance can boost foreign exchange reserves and strengthen the Rupiah (Chen 2021). Excessive growth in the money supply without proportional real sector expansion can fuel inflationary pressures and lead to currency depreciation. High inflation reduces purchasing power and can cause the exchange rate to depreciate (Sunday and Yuliarmi 2024). Changes in Bank Indonesia’s policy interest rate also influence capital flows and exchange rate stability through the investment attractiveness channel (Abu Bakar et al. 2021). Rupiah experienced a consistent depreciation trend against the U.S. dollar, with fluctuations influenced by import-export dynamics, rising money supply, inflationary pressures, and changes in interest rates. This period also witnessed several episodes of U.S. political uncertainty — including trade tensions, Federal Reserve rate hikes, and fiscal policy disputes — which directly and indirectly affected Indonesia’s financial markets. Therefore, it is important to examine how U.S. political uncertainty interacts with domestic macroeconomic factors such as imports, exports, money supply, inflation, and interest rates in determining the Rupiah’s exchange rate movements, both in the short and long run.

US monetary policy through The Fed affects interest rates and world capital flows, which can cause volatility in the rupiah exchange rate. The exchange rate has crucial impact on Indonesian economy, especially regarding to exports, imports, and economic growth. Exchange rate volatility affects Indonesia’s main commodity exports namely ore, chemicals, rubber, and pulp, both in short and long term, with greater impact on the exports than the imports (Susanto & Sugiharti, 2020). Rupiah depreciation against the US dollar will generally reduce economic growth, while rupiah appreciation tends to drive growth. The exchange rate also affects economic growth through its influence on the balance of trade, and it is influenced by macroeconomic factors such as interest rates and money supply.

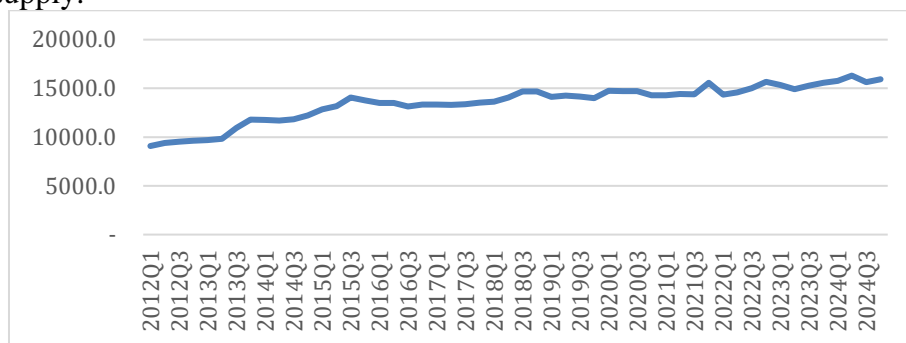


Figure 1. Exchange Rate Movement/Trend/Fluctuation (Thousand Rupiah)

Source: Bank Indonesia

Figure 1 illustrates the Rupiah’s exchange rate movement against the US Dollar from 2012 to 2023, where higher values indicate depreciation. The rate rose from around IDR 9,000 in 2012 to IDR 14,915 in Q3 2023, showing a clear long-term depreciation trend despite quarterly fluctuations. This pattern aligns with studies linking emerging

market currency depreciation to global monetary policies and investor sentiment. Federal Reserve policy shifts often trigger capital outflows that weaken local currencies (Azad & Serletis, 2020), while global shocks such as the COVID-19 pandemic further increased volatility and pressure on the Rupiah (Dias & Santos, 2020).

In the long term, interest rates, money supply and exports are more dominant factors (Zendato et al., 2023). So that the pressure on the exchange rate weakening is getting higher along with the increasing uncertainty of the global financial market and in emerging market countries or developing countries including Indonesia, the outflow of foreign portfolio investment has also exacerbated the strengthening of the US dollar causing the rupiah to strengthen amid high global energy and food prices. The variation in the value of the Rupiah against the United States Dollar has a major impact on various sectors of the Indonesian economy. When the Rupiah decreases from one US Dollar, the cost of importing products will always increase with the cost of acquiring products valued in US Dollars, which has a negative impact on Indonesia as a country that depends on imports (Kukreja, 2022). Import is the activity of purchasing and bringing goods from abroad into the country. While the import value is the total price of a commodity or product obtained from purchasing goods abroad (Purnawan et al., 2024). Exports will refer to products and services produced in other countries to be commercialized to other countries (Mankiw, 2018).

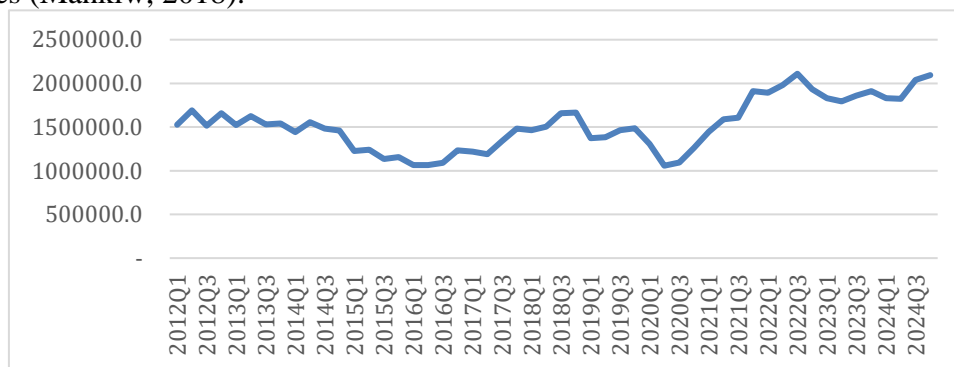


Figure 2. Imports Data (Million USD)

Source: Badan Pusat Statistika, 2025

Figure 2 Indonesia's import volume from 2012 to mid-2023, marked by significant fluctuations. Imports were high in 2012 (around 1.5–1.6 million), declined and stabilized at 1.0–1.2 million during 2015–2017, then rose again after 2020, reaching 1,792,590 in Q2 2023, reflecting post-pandemic recovery. This trend is influenced by domestic income (Millia et al., 2021), global supply chain disruptions during COVID-19 (Baldwin & Freeman, 2020), and exchange rate volatility affecting trade flows (Chen, 2021). Rising imports increase demand for foreign currency, particularly the US Dollar, which may put depreciation pressure on the Rupiah (Wijaya, 2020).

Studies show that US monetary policy uncertainty has a significant effect on the depreciation of exchange rates in emerging economies, including Asia (Cortes et al. 2022). The transmission occurs through capital flows and directly affects import costs (Lan, Huang, and Yan 2021). Trade and policy uncertainty from the US also significantly increases systemic risk in ASEAN, with impacts seen in currency depreciation and trade flows, particularly through higher import costs (Khaier et al. 2022). Guobuzaitė & Teresienė, (2021) further emphasize that domestic income drives import growth in developing countries. Baldwin and Freeman (2020) also highlight that supply chain disruptions caused by the COVID-19 pandemic contributed to import surges. Lan et al., (2021) find that imports exert depreciating pressure on exchange rates in emerging economies.

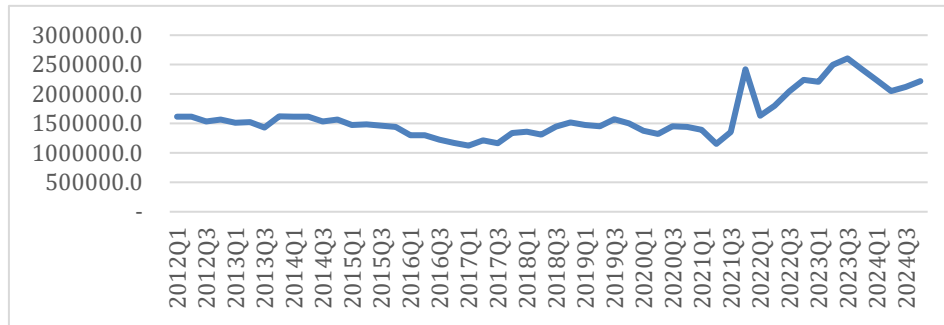


Figure 3. Exports Data (Million USD)

Source: Badan Pusat Statistika, 2025

Figure 3 shows Indonesia's export performance from 2012 to Q2 2023. Exports were relatively stable from 2012–2014 but declined in 2015–2017 due to the global slowdown and falling commodity prices (Oke et al., 2020). From 2021 onwards, exports rebounded sharply, peaking at 2,498,351 in Q2 2023, supported by global recovery and rising commodity prices. Export growth tends to strengthen the Rupiah through higher foreign exchange earnings, although the relationship with exchange rates is complex and influenced by inflation, money supply, and external shocks.

Exports in emerging economies tend to weaken when U.S. economic uncertainty increases, with the exchange rate acting as the main transmission channel (Nabin et al. 2022). Similarly, exports from Asian countries, including Indonesia, decline significantly when U.S. political uncertainty rises, mainly through the global demand channel (Zhang 2021). Furthermore, while exports strengthen exchange rate stability, they remain vulnerable to external shocks, particularly U.S. trade policy shifts (Lan et al. 2021). Additional studies support this relationship. In a broader context, (Kohn, Leibovici, and Szkup 2020) show that global policy uncertainty raises trade risks and depresses exports from developing countries.

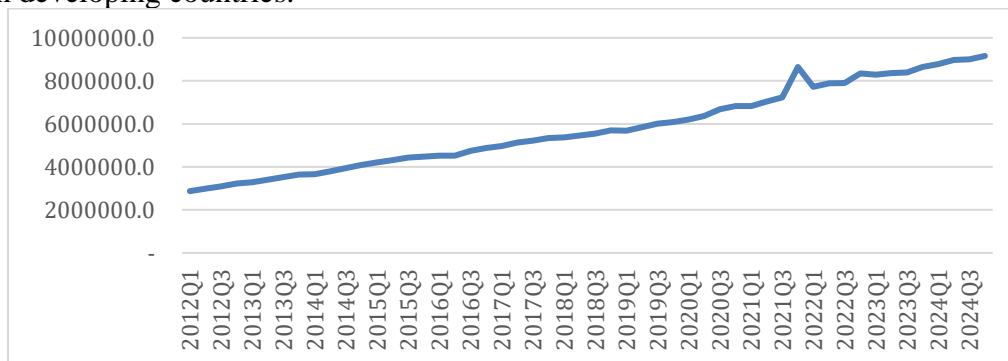


Figure 4. Total Money Supply (in Billion)

Source: Badan Pusat Statistika, 2025

Figure 4. Explains the Money Supply (JUB) in Indonesia shows a significant and consistent increasing trend from 2012 to the second quarter of 2023. At the beginning of the period in 2012 quarter 1, JUB was recorded at 2,872,231, and this figure continues to show stable and sustainable growth, reaching 4,481,401 in 2015 Q4, and soaring sharply to reach 8,353,837 in 2023 Q2. This significant increase in JUB can be interpreted as the result of an expansionary monetary policy implemented by the central bank to encourage economic growth and maintain system liquidity, especially in facing economic challenges such as the COVID-19 pandemic (Pasaribu et al., 2023). This rapid growth in JUB also reflects an increase in economic activity and higher transactions, although excessive growth in money supply without being balanced by production growth can cause inflationary pressures (Akhtar et al., 2024).

According to Hakim & Aji (2025), M2 has a significant positive effect on Rupiah/USD depreciation, both in the short and long run. Similarly, Syamad & Rossanto Dwi Handoyo (2023) find that money supply growth generates an overshooting effect on the exchange rate, where a 1% increase in M2 leads to more than 1% depreciation, particularly in the short term. Furthermore, Agustina & Permadi (2023) show that M2 and the Rupiah exchange rate exert a positive partial and simultaneous influence on inflation, indicating that an increase in M2 weakens the Rupiah while also driving inflationary pressures. Inflation affects the Rupiah exchange rate. Higher inflation rates in Indonesia compared to other countries can significantly reduce the purchasing power of the Rupiah and potentially cause the exchange rate to weaken. Conversely, controlled inflation can maintain exchange rate stability. In setting monetary policy to maintain exchange rate stability and economy entirety, data of increasing inflation indicates changes in the prices of goods and services in the Indonesian economy.



Figure 5. Inflation Rate (Percentage)

Source: Bank Indonesia, 2025

Figure 5 explains the dynamics of inflation and the Rupiah exchange rate against the US Dollar in Indonesia from 2012 to mid-2023. In the early period of 2012-2014, inflation showed high volatility, peaking at 8.60% in 2013 Q3, before then tending to decline and stabilize in the range of 3-5% until 2018. However, in 2022-2023, inflation jumped significantly again, reaching 5.55% in 2022 Q4, largely driven by rising global commodity prices and post-pandemic demand recovery. In line with inflation movements, the Rupiah exchange rate showed a consistent weakening trend throughout the period, from 9,088 in 2012 Q1 to 14,915 in 2023 Q3. This phenomenon is consistent with economic theory that higher domestic inflation can depress the value of the local currency (Sunday & Yuliarini, 2024). In addition, exchange rate dynamics and inflation are also greatly influenced by external factors, including spikes in global commodity prices and central bank monetary policy (Zabczyk et al., 2022).

Rior studies indicate mixed findings regarding inflation's impact on the Indonesian Rupiah. In one study, inflation had a significant negative effect on Indonesia's budget deficit, but its effect on the exchange rate was not directly examined (Hastuti, Asriyani, and Abd. Rahim 2023). Another study using an ARDL model found that inflation did not significantly affect the Rupiah/USD exchange rate, suggesting a limited short-term impact. In contrast, variables such as the Bank Indonesia policy rate and money supply (M2) had a more dominant influence (Hakim and Aji 2025).

High interest rates can attract foreign capital, increase demand for the Rupiah and potentially strengthen it, but can also slow economic growth. Conversely, low interest rates can encourage economic growth but have the potential to weaken the Rupiah if not matched by other countries. This results in increased demand for the country's currency, resulting in appreciation or depreciation of the Rupiah exchange rate, which has an impact on the exchange rate of the country's currency.

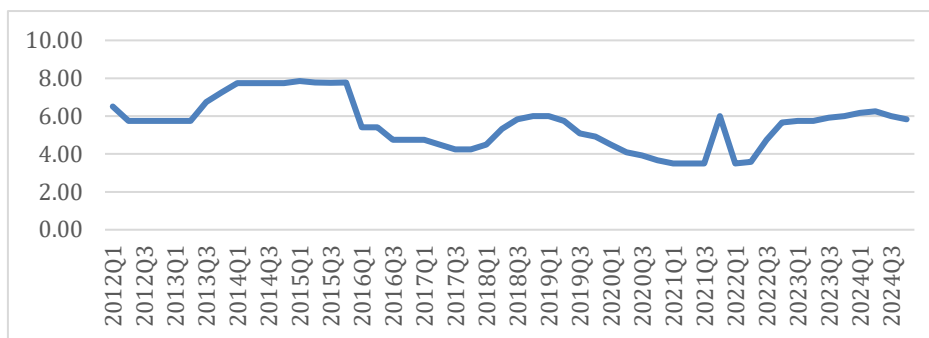


Figure 6. Interest Rate (Percentage)

Source: Bank Indonesia, 2025

Figure 6 illustrates the dynamics of Bank Indonesia’s (BI) benchmark interest rate and the Rupiah/USD exchange rate from 2012 to mid-2023. BI’s interest rate fluctuated sharply, rising to 7.75% in 2014–2015, dropping to 4.25% in 2017, and climbing again to 5.75% in early 2023. Over the same period, the Rupiah consistently depreciated from 9,088 (2012 Q1) to 14,915 (2023 Q3). Although theory suggests higher interest rates should attract capital inflows and strengthen the currency (Yuliadi et al., 2024), the data indicate that global factors often outweighed domestic rate hikes, as seen during 2013–2014 when the Rupiah weakened despite rising interest rates (Umoru et al., 2023).

Changes in interest rates affect capital flows and exchange rate stability. Santos et al. (2020) showed that an increase in the BI rate can attract foreign capital and reduce Rupiah depreciation. Kim et al. (2021) also found that interest rates influence exchange rate stability in Asia. Meanwhile, S.-L. Chen & Wu, (2020) demonstrated that U.S. Federal Reserve policies significantly affect domestic interest rates in emerging economies.

Political uncertainty in the United States has the potential to strengthen the U.S. Dollar as a safe-haven asset, thereby exerting downward pressure on the Rupiah exchange rate, increasing international transaction costs, raising the burden of foreign debt repayment, and diminishing investor confidence. The depreciation of the Rupiah consequently raises the price of imported goods, leading to higher costs for raw materials and capital goods, which may hinder domestic production and push up prices in the domestic market. While a weaker Rupiah can provide a price advantage for Indonesian exports in international markets, this benefit may be offset if U.S. political uncertainty suppresses global demand. External pressures may also prompt Bank Indonesia to increase the money supply to maintain liquidity stability, although such measures risk triggering inflation if not accompanied by real output growth. Rising prices of imported goods, particularly energy and food, can erode household purchasing power and increase living costs, especially for low-income groups. In response, Bank Indonesia may raise its benchmark interest rate to maintain capital inflows and stabilize the exchange rate; however, this policy could also dampen investment and domestic consumption.

Significant fluctuations in the Rupiah exchange rate against the U.S. Dollar, as reflected in historical data, underline the urgency of conducting in-depth research on the macroeconomic factors influencing such volatility. International trade activities, represented by imports and exports, directly affect the balance of payments and the equilibrium between foreign exchange supply and demand. Likewise, the money supply plays a crucial role in determining domestic liquidity, which, if left uncontrolled, may trigger inflationary pressures. Inflation, in turn, erodes the purchasing power of the Rupiah and shapes investor perceptions, both of which are intrinsically linked to exchange rate stability. Furthermore, Bank Indonesia’s benchmark interest rate, as the primary monetary policy instrument, is used to control inflation and stabilize the exchange rate

through its influence on capital flows. However, existing analyses often focus predominantly on domestic factors and tend to overlook the role of external shocks, particularly political uncertainty in the United States. As the world's largest economy, the U.S. has substantial influence over global capital movements, commodity prices, and investor sentiment, with episodes of political uncertainty such as presidential elections, fiscal policy gridlocks, and abrupt trade policy shifts proven to increase market volatility and trigger capital outflows from emerging markets, including Indonesia. Given these interconnections, this study is both relevant and necessary to examine how key macroeconomic variables imports, exports, money supply, inflation, and interest rates interact with U.S. political uncertainty in shaping the USD/IDR exchange rate, by employing the Error Correction Model (ECM) to capture both short-term and long-term dynamics toward market equilibrium.

Method

This research employs an associative quantitative design aimed at analyzing the relationship between macroeconomic variables and the Rupiah exchange rate, both in the short run and the long run, with a focus on Indonesia's national macroeconomic conditions influenced by external factors, particularly political uncertainty in the United States. The dependent variable is the Rupiah exchange rate against the U.S. Dollar, while the independent variables include imports, exports, money supply (JUB), inflation, and the Bank Indonesia policy interest rate (BI). The study uses quarterly time series data from Q1 2012 to Q4 2024, yielding 52 observations, sourced from official publications of Bank Indonesia and the Central Statistics Agency and supported by relevant academic literature. Data were collected using documentation techniques by compiling, recording, and processing secondary data, then analyzed through the Error Correction Model (ECM) approach, starting with stationarity testing, followed by cointegration testing to capture long-run relationships among variables, and ECM estimation to determine both short-run and long-run effects of the independent variables on the Rupiah exchange rate. To ensure robustness, classical assumption tests—normality, multicollinearity, heteroskedasticity, and autocorrelation—were also applied. The ECM specification used in this study is formulated as $\Delta Y = \alpha_0 + \alpha_1 \Delta X_t + \alpha_2 EC_t + \varepsilon_t$, where $EC_t = (Y_{t-1} - \beta_0 - \beta_1 X_{t-1})$, with α_1 representing the short-run coefficient, β_1 the long-run coefficient, and α_2 the error correction coefficient that indicates the adjustment speed toward equilibrium, while in this study the derivation of the ECM E-G equation is written as $D(\text{Kurs}) = C(1) + C(2)*D(\text{Imports}) + C(3)*D(\text{Exports}) + C(4)*D(\text{JUB}) + C(5)*D(\text{Inflation}) + C(6)*D(\text{BI}) + C(7)*ECT(-1)$.

Result and Discussion

1. Stationarity Testing

Table 1 shows the results of stationary testing at the degree level, six variables that are not stationary are: EXCHANGE RATE, IMPORT, EXPORT, JUB, INFLATION, and BI. Therefore, testing of unit roots needs to be continued at the first difference level (Ardana, 2016). Table 2 shows the results of root testing at the first difference. It also shows the results of stationary testing at degree 1, which displays all research variables, namely: EXCHANGE RATE, IMPORT, EXPORT, JUB, INFLATION, BI have only been stationary at degree 1, so that the long-term effect testing stage (cointegration) can be continued.

Table 1. Stationary Test Results at Degree Level

No.	Variables	Unit Root Test	Finding
1	KURS	0.2256***	Not Stationary
2	IMPOR	0.7683***	Not Stationary
3	EKSPOR	0.3802***	Not Stationary
4	JUB	0.9971***	Stationary
5	INFLASI	0.4861***	Not Stationary
6	BI	0.2733***	Stationary

* Denotes significance at 1%; ** Denotes significance at 5%; *** Denotes significance at 10%

Source: Secondary Data Processed, 2025

Table 2. Stationary Test Results at Degree 1

No.	Variables	Unit Root Test	Finding
1	KURS	0.0000*	Stationary
2	IMPOR	0.0000*	Stationary
3	EKSPOR	0.0000*	Stationary
4	JUB	0.0000*	Stationary
5	SBI	0.0000*	Stationary
6	LOGINF	0.0000*	Stationary
7	PDB	0.0000*	Stationary

* Denotes significance at 1%; ** Denotes significance at 5%; *** Denotes significance at 10%

Source: Secondary Data Processed, 2025

This study applies the Augmented Dickey-Fuller (ADF) test at a 5% significance level to assess variable stationarity and prevent spurious regression. The results show that some variables are non-stationary at the level but become stationary after first differencing, a typical feature of macroeconomic time series with long-term trends. With the same order of integration and evidence of cointegration, long-run relationships can still be estimated using the Error Correction Model (ECM), enabling valid analysis of both short-run dynamics and long-run equilibrium.

2. Long – Term Analysis

Cointegration test is conducted after unit root test and degree of integration. Cointegration test is conducted to produce a stable relationship in the long term between variables integrated at the same degree. The results of the previous stationarity test indicate that all variables in this study are integrated at the same degree, namely at degree one so that the cointegration test can be conducted. Engle Granger and Johansen cointegration tests are used. If there is cointegration, the regression equation can be considered as a long-term multiplier that measures the long-term influence (long-term effect) permanently (Muhammad, 2014). In the Engle Granger cointegration test (Engle, R.F. & Granger, 1987) changing the OLS equation, or the equation to obtain the residual value (u), is the first step in the cointegration test. The test criterion is that there is cointegration in the regression equation if the prob value < the significance level α . Table 3 shows the results of the Engle-Granger test, with a prob value of $0.0022 < \alpha = 0.05$. The results show that H_0 is rejected, or that the variables used in this research model have the tendency to reach long-term equilibrium.

Table 3. OLS Estimation Results of Cointegration Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
JUB	0.001476	7.20E-05	20.51061	0.0000
INFLASI	98.55779	57.06672	1.727062	0.0909
IMPOR	-0.001668	0.000375	-4.443473	0.0001
EKSPOR	-0.002200	0.000400	-5.498822	0.0000
BI	443.5141	84.97802	5.219163	0.0000
C	8212.837	546.8175	15.01934	0.0000
R-squared	0.944501			
F-statistic	3.086.099			
Prob(F-statistic)	0.000000			

Source: Secondary Data Processed, 2025

Table 3 shows the long-term estimation results for the exchange rate (KURS) in Indonesia. From the estimation results, it can be seen the variables of import, export, money supply (JUB), and interest rate (BI) have significant effect on the KURS. The results of the analysis of the influence equation on the exchange rate are as follows:

The data processing results show that imports have a negative coefficient of -0.001668 with a high level of significance (0.0001), indicating that an increase in imports actually strengthens the Rupiah against the US Dollar. Theoretically, higher imports should increase demand for the Dollar and weaken the Rupiah. However, this can be explained if imports are dominated by capital goods or raw materials that support the production and export sectors in the future, or if their financing is supported by capital inflows (Osei & Kim, 2020). In the long run, such productive imports can strengthen the economic foundation and stabilize the exchange rate. Nevertheless, without detailed data on import composition, this explanation remains hypothetical, so it is recommended to include relevant data from BPS. Additionally, in the context of US political uncertainty such as upcoming elections or fiscal conflicts Indonesia may attract capital inflows as a relatively stable emerging market, which helps support the exchange rate despite rising imports.

Exports have a negative coefficient of -0.002200 with a highly significant probability (0.0000), indicating that an increase in exports leads to an appreciation of the Rupiah against the US Dollar. This aligns with international economic theory, where higher exports bring more foreign currency into the domestic market, increasing the supply of US Dollars and demand for Rupiah, thus strengthening the local currency (Chen, 2021). Strong export performance also reflects economic competitiveness and boosts investor confidence, further supporting currency appreciation. In the global context, political uncertainty in the US often raises demand for commodities from emerging markets like Indonesia. Therefore, increased Indonesian exports driven by such external demand can contribute to Rupiah appreciation.

The Money Supply (JUB) has a positive coefficient of 0.001476 with a highly significant probability (0.0000), indicating that an increase in money supply causes Rupiah depreciation against the US Dollar. This aligns with monetary theory, which states that excessive monetary expansion not matched by real output growth leads to inflationary pressure and currency depreciation (Al-Qarni, 2024). This effect can be intensified during global uncertainty, when markets are highly sensitive to aggressive monetary easing. If Bank Indonesia increases money supply significantly amid a flight to quality, confidence in the Rupiah may decline.

The inflation variable has a positive coefficient of 98.55779, significant at the 10% level, indicating that higher domestic inflation leads to Rupiah depreciation against the US Dollar. This supports Purchasing Power Parity (PPP) theory, where inflation differentials drive long-term exchange rate movements (Minteh et al., 2025). In the context of US political uncertainty, capital may flow into emerging markets, but high domestic inflation can reverse this trend, causing Rupiah depreciation. This highlights that global uncertainty does not automatically benefit emerging economies if domestic factors like inflation are not controlled, emphasizing the need for internal stability amid external risks.

The BI (Bank Indonesia) interest rate variable shows a significant positive coefficient of 443.5141 with a probability level of 0.0000. This contrasts with conventional theory, where higher interest rates attract investment and strengthen the currency. However, in developing countries, rate hikes often respond to existing depreciation or inflation pressures rather than cause appreciation (Eklou, 2023). Bank Indonesia likely raises rates defensively to stabilize the Rupiah amid external shocks, such as US political uncertainty. Without strong domestic fundamentals, global market volatility may limit the effectiveness of interest rate increases in attracting capital.

The constants (C) indicate the average value of the Rupiah/USD exchange rate when all other independent variables are zero. In an economic context, this constant often does not have a directly relevant economic interpretation because these variables are unlikely to be zero. R-squared (0.944501), this indicates that about 94.45% of the variation in the Rupiah/USD exchange rate can be explained by variations in the independent variables (JUB, Inflation, Import, Export, BI) in this model. This is a very high R-squared value, indicating that the model has strong explanatory power. F-statistic (3086.099) and Prob(F-statistic) (0.000000), the very large F-statistic value and its probability close to zero indicate that this regression model is statistically significant overall. This means that there is at least one independent variable that significantly affects the Rupiah/USD exchange rate.

Table 4. Unit Root Test Results on Long-Run Regression Equation Residuals

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.863078	0.0044
Test critical values: 1% level	-3.565430	
5% level	-2.919952	
10% level	-2.597905	

Source: Processed Data, 2025

Table 4 above shows that the research data has a stationary regression residual, namely by looking at the Prob.* value of 0.0044 which is smaller than the α value (5%). This means that there is a significant relationship (cointegration) in the long term between non-performing loans and the variables that influence them, namely imports, exports, the amount of money in circulation, inflation and interest rates, so that testing can be continued to the short-term equation estimation stage.

3. Model Error Correction Model (ECM)

The short-term equation is sought through the Error Correction Model (ECM) test. The target of forming the Error Correction Model (ECM) is to identify changes in variables between imports, exports, money supply, inflation, and interest rates. The results of this study are presented in the following table:

Table 5. Error Correction Model Test Results (ECM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(JUB)	0.000805	0.000292	2.753497	0.0085
D(INFLASI)	95.07889	47.31110	2.009653	0.0506
D(IMPOR)	-0.000678	0.000370	-1.831428	0.0738
D(EKSPOR)	-0.000681	0.000359	-1.899010	0.0641
D(BI)	338.4762	88.10416	3.841773	0.0004
ECT(-1)	-0.252609	0.104460	-2.418231	0.0198
C	59.66699	53.20611	1.121431	0.2682
D(JUB)	0.000805	0.000292	2.753497	0.0085
R-squared	0.614861			
F-statistic	11.70740			
Prob(F-statistic)	0.000000			

Source: Processed Data, 2025

The results of short-term data processing from the Error Correction Model (ECM) provide insight into the dynamics of Rupiah/USD exchange rate adjustments. Changes in the Money Supply (D(JUB)) show a positive coefficient of 0.000805 with a probability of 0.0085, indicating that an increase in the JUB growth rate significantly causes Rupiah depreciation in the short term. Likewise, changes in inflation (D(INFLATION)) with a coefficient of 95.07889 and a probability of 0.0506 are also positively and significantly correlated with Rupiah depreciation in the short term, in line with the theory that rapid inflation erodes the purchasing power of the domestic currency.

In contrast to JUB and inflation, changes in imports (D(IMPORTS)) and exports (D(EXPORTS)) show a significant negative relationship with exchange rate changes in the short run. An increase in import changes with a coefficient of -0.000678 (probability 0.0738) causes Rupiah appreciation. This phenomenon may occur if the acceleration of imports is driven by the influx of capital goods that support long-term economic growth or are financed by temporary capital inflows. Conversely, an increase in export changes with a coefficient of -0.000681 (probability 0.0641) significantly causes Rupiah appreciation, which is consistent with economic theory where a rapid increase in foreign exchange earnings will strengthen the domestic currency.

BI interest rate changes (D(BI)), show a significant positive coefficient of 338.4762 with a probability of 0.0004. An interesting finding is the interest rate effect (D(BI)) which remains positively and significantly associated with Rupiah depreciation in the short run. This contrasts with classical theory predictions where rate hikes typically strengthen the currency by attracting investment. In Indonesia and many developing countries, interest rate increases often respond defensively to existing depreciation and inflation pressures, thus their effect is more of a mitigation effort rather than an appreciation driver.

The ECT (-1) coefficient is -0.252609 with a probability of 0.0198. This negative and significant value confirms the existence of a short-term imbalance correction mechanism towards long-term equilibrium. The number 0.252609 means that around 25.26% indicates that approximately 25% of the previous period's exchange rate imbalance is corrected toward long-term equilibrium in the next period. In the context of the Indonesian foreign exchange market, this adjustment speed is moderate — not so fast as to eliminate short-term fluctuations, but significant enough to ensure deviations are gradually restored to long-term balance. Overall, this model has good explanatory power with an R-squared of 0.614861 and a very significant F-statistic (Prob(F-statistic)

0.000000), indicating that these variables collectively explain most of the variation in the Rupiah/USD exchange rate changes in the short term.

4. Classical Assumption Test

Before the model is used to determine the effect of the independent variables on the dependent variable and to ensure the model's validity, a classical assumption test is conducted on the data.

Classical Assumption Test	Method / Main Statistic	Main Value	p-value	Result Interpretation
Normality	Jarque–Bera	JB = 2.1273	0.3452	p-value > 0.05 → residuals are normally distributed, normality assumption is met.
Multicollinearity	Variance Inflation Factor	Highest VIF = 3.68 (JUB), lowest = 1.08 (INFLASI)	—	All VIF values < 10 → no serious multicollinearity among independent variables.
Autocorrelation	Breusch–Godfrey LM Test	F-stat = 0.5307; Obs*R ² = 1.2285	0.5920; 0.5411	p-value > 0.05 → no autocorrelation in the residuals.
Heteroskedasticity	Breusch–Pagan–Godfrey	F-stat = 0.6782; Obs*R ² = 3.5736	0.6422; 0.6123	p-value > 0.05 → residual variance is constant, no heteroskedasticity detected.

Source: Processed Data, 2025

Conclusion

Based on the analysis of data from 2012Q1–2024Q4, the findings show that imports and exports have a significant negative effect on the Rupiah/USD exchange rate in both the long and short term, meaning that increases in both are associated with Rupiah appreciation; meanwhile, money supply (M2), inflation, and benchmark interest rates have significant positive effects in both the long and short term, indicating that their increases tend to cause Rupiah depreciation. To anticipate the impact of United States political uncertainty on the Rupiah, strategies may include strengthening export performance and optimizing imports of capital goods and raw materials to enhance domestic production capacity; controlling money supply growth to align with real economic growth; maintaining inflation stability through coordinated monetary–fiscal measures; and adjusting benchmark interest rates in a measured manner, ensuring they are not solely reactive but also proactive in maintaining the attractiveness of Rupiah-denominated assets. These measures should be supported by optimal foreign exchange reserve management, diversification of foreign exchange sources through the development of non-commodity export sectors, and enhanced policy communication transparency to sustain market confidence. Future research is suggested to incorporate

global political uncertainty variables quantitatively, such as the Political Uncertainty Index, and to examine the interaction between domestic macroeconomic variables and external factors such as global commodity prices and foreign capital flows. Future research is recommended to extend the observation period and include additional external variables such as global commodity prices, foreign capital flows, or the global uncertainty index. Furthermore, employing different analytical methods, such as VAR or GARCH models, could provide a more comprehensive understanding of the short- and long-term relationships between United States political uncertainty and Indonesia's macroeconomic variables.

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