Effect of Exchange Rate on Economic Growth in Nigeria

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Abstract

This study examines the effect of exchange rate on economic growth in Nigeria using descriptive statistics and the Ordinary Least Squares (OLS) regression technique. Regression findings reveal that exchange rate and effective interest rate have positive and statistically significant effects on economic growth, while interest rate exerts a significant negative influence on GDP. Inflation shows a negative but statistically insignificant relationship with economic growth. The model demonstrates strong explanatory power with an R^2 value of 0.8158, indicating that approximately 81.6% of the variation in economic growth is explained by the included variables. The study concludes that exchange rate movements and interest rate conditions are important determinants of economic growth in Nigeria. It recommends policies aimed at stabilizing the exchange rate, maintaining moderate interest rates to encourage investment, strengthening inflation control measures, and promoting diversification into sectors such as agriculture, manufacturing, and technology to support sustainable economic growth.

Keywords: Exchange rate, Economic growth, Purchasing power parity, Interest rate parity, Supply and demand forces

1.0 Introduction

1.1 Background to the Study

Across the globe, governments formulate and implement macroeconomic policies with the objective of ensuring stable and sustained economic growth by controlling major economic indicators such as inflation, interest rates, fiscal measures, and exchange rate arrangements (Ana et al., 2021; Markaj & Krasniqi, 2024). In developed nations, economic performance is largely strengthened by sound institutions, diversified productive sectors, and efficient financial markets. The use of flexible exchange rate systems enables currencies to respond to external economic shocks and shifts in global market conditions, thereby helping to correct trade imbalances and support international capital movements. When effectively regulated, exchange rate adjustments can boost export competitiveness, attract foreign investments, and foster economic growth. On the other hand, persistent exchange rate instability may create uncertainty in global trade, discourage investors, and weaken economic performance, making exchange rate stability an essential component of macroeconomic management in advanced economies (Rapetti, 2020).

In emerging and developing economies, the connection between exchange rates and economic growth is often more intricate. Most developing countries depend heavily on imported goods for manufacturing activities and domestic consumption, while foreign exchange earnings are

typically derived from a narrow range of export commodities. As a result, exchange rate fluctuations can significantly affect production costs, inflation rates, and investment decisions. Although currency depreciation may enhance export performance and stimulate economic activities, excessive depreciation can increase the cost of imports, worsen inflationary pressures, and reduce consumers' real purchasing power, thereby limiting economic growth (Alasha, 2020; Gafurov et al., 2025; Ozata, 2020).

1.2 Statement of the Problem

Several economic theories explain the behaviour of exchange rates and their effects on economic performance. The Purchasing Power Parity (PPP) theory suggests that exchange rates adjust according to relative price levels, with higher domestic inflation leading to currency depreciation to maintain purchasing power parity (Parulian & Mahendra, 2021). The Interest Rate Parity (IRP) theory emphasizes those differences in interest rates across countries drive capital flows, influencing foreign exchange demand and supply, and ultimately affecting exchange rate levels (Njie & Badjie, 2021; Saiti & Trenovski, 2022). Additionally, the forces of supply and demand in the foreign exchange market play a key role in determining exchange rate levels. Supply is generated from export earnings, foreign direct investment, remittances, and external borrowing, while demand stems from imports, debt servicing, and capital outflows (Sheykhi et al., 2025; Yensu et al., 2022).

In West African economies, managing exchange rate stability remain challenging due to structural weaknesses such as overreliance on primary commodity exports, limited industrial diversification, and vulnerability to external shocks. Volatile commodity prices often affect foreign exchange earnings, causing instability in exchange rates and constraining economic growth (Morina et al., 2020). Despite policy reforms aimed at improving exchange rate management and competitiveness, exchange rate volatility continues to hinder sustainable development in the region.

Nigeria, as the largest economy in West Africa and a major oil exporter, the country's economic performance is closely tied to foreign exchange developments. Before 1986, Nigeria maintained a fixed exchange rate regime, but the collapse of global oil prices in the early 1980s led to severe balance of payments deficits, declining foreign reserves, and rising external debt. In response, the government implemented the Structural Adjustment Programme (SAP) in 1986, introducing market-oriented reforms, including liberalization of the foreign exchange market through the Second-Tier Foreign Exchange Market (SFEM). This reform aimed to correct naira overvaluation, promote export diversification, and improve resource allocation, but it also resulted in significant depreciation and higher exchange rate volatility (Alasha, 2020; Yensu et al., 2022).

Since SAP, Nigeria has experienced persistent exchange rate fluctuations driven by oil price shocks, inflation, capital flows, and monetary policy changes. Such volatility affects economic activities, particularly in an import-dependent economy, by increasing uncertainty, discouraging investment, and disrupting production, which can constrain growth in Real Gross Domestic Product (RGDP) (Gafurov et al., 2025; Ozata, 2020). Empirical studies on exchange rate and growth in Nigeria provide mixed results: some suggest depreciation enhances growth through improved export competitiveness, while others argue volatility

hinders economic performance by raising inflation and reducing investment (Alasha, 2020; Sheykhi et al., 2025). To achieve the objectives of the study, the following hypotheses will be tested at 5% significance level. They are stated below in their null forms as follows: The Purchasing Power Parity (PPP) has no significant effect on economic growth in Nigeria; does Interest Rate Parity (IRP) has no significant effect on economic growth in Nigeria and nSupply and demand force has no significant effect on economic growth in Nigeria.

The remaining parts of this study cover conceptual review, theoretical review, empirical review, methodology, results and analysis, conclusion and recommendations.

2.1 Conceptual Review

2.1.1 Economic Growth in Nigeria

Economic growth reflects a nation's capacity to expand production and improve citizens' welfare (Alasha, 2020; Gafurov et al., 2025). The 1970s oil boom stimulated significant economic expansion, providing revenue for public investment in infrastructure, industry, and social programmes, which contributed to GDP growth (Iyoha & Oriakhi, 2002; Anak & Kok, 2021). However, the economy was heavily dependent on crude oil exports, leaving it vulnerable to global oil price shocks. Falling oil revenues in the early 1980s led to balance of payments deficits, rising external debt, and declining growth (Ajakaiye & Fakiyesi, 2009; Alasha, 2020). The fixed exchange rate system, initially stabilizing the naira, eventually caused overvaluation, reducing export competitiveness while encouraging imports, which weakened domestic production (Sanusi, 2010; Morina et al., 2020).

By the late 1990s and early 2000s, economic recovery was evident, supported by improved macroeconomic management and growth in non-oil sectors such as banking, telecommunications, agriculture, and services, resulting in increased GDP and broader economic diversification (Parulian & Mahendra, 2021). Despite these gains, Nigeria's growth remains vulnerable to oil price volatility, exchange rate instability, inflationary pressures, and structural constraints including inadequate infrastructure and low industrial productivity (Okoh et al., 2022; Sheykhi et al., 2025).

2.1.2 The Exchange Rate

The exchange rate represents the price of one country's currency in terms of another and plays a central role in determining trade competitiveness, investment flows, and overall economic growth (Alasha, 2020; Rapetti, 2020). Changes in exchange rates affect the cost of imports, export competitiveness, and the value of foreign investment, making it a crucial macroeconomic variable for both developed and developing economies (Gafurov et al., 2025). In Nigeria, exchange rate dynamics have been particularly influential due to the country's dependence on crude oil exports and reliance on imported industrial and consumer goods (Ozata, 2020; Yensu et al., 2022).

2.1.2.1 Purchasing Power Parity (PPP) Theory

The Purchasing Power Parity (PPP) was originally developed by Cassel in the early twentieth century and has since become one of the most widely used frameworks for explaining exchange rate movements. The theory posits that the exchange rate between two currencies is determined by the relative price levels of the two countries ((Yoon et al., 2020). In essence, PPP

suggests that identical goods should have the same price in different countries when expressed in a common currency, assuming there are no transportation costs or trade barriers (Krugman et al., 2018). According to the PPP theory, inflation differentials between countries lead to adjustments in exchange rates; when a country experiences higher inflation relative to its trading partners, the purchasing power of its currency declines, leading to depreciation of that currency. Conversely, lower inflation tends to strengthen the domestic currency. In the context of economic growth, persistent inflation and currency depreciation can increase the cost of imported inputs, reduce investment confidence, and slow down economic expansion (Yoon et al., 2020).

2.1.2.2 Interest Rate Parity (IRP)

The Interest Rate Parity (IRP) explains exchange rate movements from the perspective of international capital flows and interest rate differentials between countries. The theory suggests that differences in interest rates across countries influence investors' decisions regarding where to allocate capital. Investors typically move funds to countries offering higher interest rates, thereby increasing the demand for that country's currency and causing it to appreciate (Altuntaş, 2021). According to IRP, equilibrium in the foreign exchange market occurs when the return on domestic financial assets equals the return on comparable foreign assets after adjusting for expected exchange rate changes. If domestic interest rates are higher than foreign interest rates, foreign investors may increase investment in domestic financial markets, leading to an inflow of foreign capital and strengthening the domestic currency (Yoon et al., 2020).

2.1.2.3 Supply and Demand Forces

The supply and demand theory of exchange rate determination explains exchange rate movements as the outcome of interactions between the demand for foreign currency and its supply in the foreign exchange market (Bresser-Pereira et al., 20. Under this framework, the exchange rate is determined by market forces rather than administrative controls. The demand for foreign exchange arises from activities such as importation of goods and services, foreign investments, and debt servicing, while the supply comes from exports, foreign investments, remittances, and external borrowing (Salvatore, 2019).

2.2 Theoretical Review

The theoretical framework for this study is grounded in established economic theories that explain the relationship between exchange rate dynamics and economic growth. Among these are the Balance of Payments (BOP) Theory of Exchange Rate, the Elasticity Approach to Exchange Rate and Trade, and the Endogenous Growth Theory. These theories provide a conceptual basis for understanding the interaction between exchange rate fluctuations and economic growth, particularly in developing economies such as Nigeria.

2.2.1 Balance of Payments (BOP) Theory of Exchange Rate

The Balance of Payments (BOP) theory of exchange rate determination emerged in the early twentieth century and is widely associated with the works of economists such as Haberler (1936) and later contributions by Meade (1907). The theory was developed as an improvement on earlier exchange rate theories that focused mainly on monetary factors. The BOP theory posits that the exchange rate of a country's currency is determined by the overall balance

between its international receipts and payments. In other words, the exchange rate adjusts to equilibrate the demand for and supply of foreign currency arising from international trade in goods and services as well as capital movements. According to the theory, when a country experiences a deficit in its balance of payments, meaning that its payments to other countries exceed its receipts, the demand for foreign currency becomes greater than the supply.

Therefore, the BOP framework highlights the importance of external sector performance in determining exchange rate movements and their implications for economic growth in Nigeria. Given Nigeria's heavy reliance on external trade and oil exports, fluctuations in the balance of payments have significant implications for exchange rate stability and economic performance.

2.2.2. Elasticity Approach to Exchange Rate and Trade

The Elasticity Approach to exchange rate determination was developed in the 1930s by economists such as Marshall (1923) and Lerner (1944) and later expanded in international trade theory. The approach became widely recognized through the Marshall–Lerner condition, which explains how exchange rate changes influence a country's trade balance through their effect on the demand for exports and imports. The central proposition of the elasticity approach is that the effect of exchange rate depreciation on a country's trade balance depends on the price elasticity of demand for exports and imports. According to the Marshall–Lerner condition, a depreciation of the domestic currency will improve the trade balance if the sum of the price elasticities of demand for exports and imports is greater than one. Under such circumstances, a weaker domestic currency makes exports cheaper in international markets while making imports more expensive domestically, thereby increasing export demand and reducing import consumption (Krugman et al., 2018). The elasticity approach therefore emphasizes the role of exchange rate adjustments in improving a country's trade competitiveness and stimulating domestic production. When exports increase and imports decline, domestic industries expand, employment opportunities increase, and economic growth improves.

Despite these challenges, the elasticity approach remains relevant for understanding how exchange rate movements influence trade performance and economic growth. It also highlights the importance of export diversification and domestic industrial development in ensuring that exchange rate adjustments translate into positive economic outcomes.

2.2.3 Endogenous Growth Theory

The Endogenous Growth Theory represents a modern theoretical framework for understanding long-term economic growth (Aghion et al., 1998). The theory was developed in the late 1980s and early 1990s through the pioneering works of Romer (1990) and Lucas (1988). Unlike traditional neoclassical growth models which attribute economic growth primarily to external technological progress, the endogenous growth theory argues that economic growth is generated within the economic system through internal factors such as human capital development, technological innovation, research and development, and institutional efficiency. According to Romer (1990), investment in knowledge, innovation, and technology leads to productivity improvements that sustain long-term economic growth. Similarly, Lucas (1988) emphasized the role of human capital accumulation in enhancing

labour productivity and promoting economic expansion. The theory therefore suggests that government policies and institutional frameworks can significantly influence the rate of economic growth.

2.2.4 Implication of the Theories for the Study

The theories discussed above collectively provide a strong conceptual basis for examining the relationship between exchange rate movements and economic growth in Nigeria. The Balance of Payments theory explains how external sector performance influences exchange rate movements; the Elasticity approach highlights the role of exchange rate adjustments in shaping trade performance, while the Endogenous Growth theory emphasizes the importance of macroeconomic stability for sustaining long-term economic growth. Together, these theoretical perspectives help explain how exchange rate fluctuations can influence production activities, trade flows, investment decisions, and ultimately economic growth as measured by Real Gross Domestic Product (RGDP). Consequently, they provide a relevant theoretical foundation for investigating the relationship between exchange rate dynamics and economic growth in Nigeria.

2. 3 Empirical Review

Exchange rate volatility is widely recognized as a critical determinant of economic growth, particularly in developing economies where dependence on imports, exports, and foreign capital is high. Several empirical studies indicate that fluctuations in the exchange rate can have negative implications for output, investment, and trade performance. Sheykhi et al.(2025), using a meta-analysis approach that incorporated methods such as Ordinary Least Squares (OLS), Generalized Least Squares (GLS), Vector Error Correction Model (VECM), Random Effects, and Generalized Method of Moments (GMM), found that exchange rate volatility exerts a significant negative effect (−0.2432) on economic growth.

Similarly, Yensu et al. (2022) analyzed data from 2000 to 2020 in Ghana using descriptive statistics, regression, and correlation analyses. Their results revealed that higher exchange rate volatility was negatively associated with trade openness, government expenditure, money supply, foreign direct investment, domestic credit to the private sector, and overall economic output. This demonstrates that instability in currency values can reduce investor confidence, constrain trade, and slow economic expansion. Morina et al. (2020) examined the real effective exchange rate volatility in fourteen Central and Eastern European countries between 2002 and 2018. Their panel data analysis using fixed effects estimation indicated that volatility significantly dampens real economic growth, both directly and indirectly through channels such as investment and trade performance. Ozata (2020), employing an Autoregressive Distributed Lag (ARDL) model in Turkey, found that real effective exchange rate fluctuations negatively affect growth, while stable exports and investment contributed positively to RGDP. Rapetti (2020) highlighted that while a well-valued real exchange rate can promote economic growth, volatility itself generally undermines it. Overvaluation tends to suppress growth, whereas undervaluation can stimulate it; however, unpredictable exchange rate swings consistently exert adverse effects. Gafurov et al. (2025) also emphasize that nominal exchange rate fluctuations can influence economic output directly by affecting production costs and indirectly by altering trade competitiveness and capital flows, particularly in the context of a digitalizing economy. Alasha (2020) examined secondary data from the Central Bank of

Nigeria (CBN) and the National Bureau of Statistics (NBS) and demonstrated that exchange rate fluctuations significantly influence economic growth. Variations in exchange rate, along with other macroeconomic variables such as interest rates, inflation, and trade, have a direct impact on RGDP.

In addition to exchange rate volatility, real interest rates play an important role in shaping economic growth. Njie and Badjie (2021) investigated the Gambian economy between 1993 and 2017 using VECM and found no short-run association between interest rates and RGDP; however, a significant long-run relationship exists, showing that real interest rates, alongside real exchange rates, influence economic growth over time. Anak and Kok (2021) applied the ARDL model to examine Malaysia from 2010 to 2018 and found that while inflation positively affected economic growth in the long run, higher interest rates had a negative impact, consistent with the crowding-out effect on private investment.

Markaj and Krasniqi (2024) explored macroeconomic variables in Western Balkan countries from 2008 to 2022 and concluded that while inflation and government consumption significantly influence economic growth, real interest rates were statistically insignificant. In contrast, Saiti and Trenovski (2022), using VECM and impulse response analyses in North Macedonia, found that lending to the private sector positively affects GDP, whereas higher real interest rates exert negative effects both in the short and long term. Parulian and Mahendra (2021) further confirmed that in Indonesia, exchange rate movements and economic growth significantly influence stock market performance, while the Fed Rate (interest rate) had no significant direct effect but could be moderated by inflation. Collectively, these studies underscore that both exchange rate volatility and real interest rates are crucial factors in shaping macroeconomic performance, with higher instability in either tending to constrain growth.

3. Research Methodology

This study adopted an expo facto research design to establish the impact of exchange rate on economic growth in Nigeria. This study investigates the relationship between exchange rate and economic growth using GDP as a proxy. Covering the period from 1986 to 2023, the study provides insights into the impact of exchange rate movements' post-SAP, aiming to inform policies for macroeconomic stability and sustainable economic growth.

3.1 Model Specification

This study adapts the model proposed by Morina et al. (2020), which examined the effect of exchange rate volatility on economic growth: Case of the CEE countries.

$RGDP_t = \beta_0 + \beta_1 EINTRt + \beta_2 INTR_t + \beta_3 INFL_t + \beta_4 EXRATE_t + \varepsilon_t$ …. (3.1)

t = Year; ε = Stochastic Error Term ; β_0 = Intercept of the regression line, regarded as constant

β_1 …… β_4 = Coefficient or slope of the regression line or independent variables

The aforementioned variables and their measurements are in Table 3.2:

Variable(s)	Symbol	Operationalisation	Source
Dependent Variable			
Economic Growth	GDP	Measured using Gross Domestic Product at year-end.	Ozata (2020)
Independent Variables			
Purchasing Power Parity	EINTR	Measured using Effective Interest Rate	Ozata (2020)
Interest Rate Parity	INTR	Measured using Interest Rate	Morina et al. (2020)
Supply and Demand Force	INFL	Measured using Inflation Rate	Morina et al. (2020)
Exchange Rate	EXRATE	Measured using Exchange Rate	Morina et al. (2020)

Source: Prepared by the researcher, 2026, guided by prior studies.

4.0 Result and Discussion

4.1 Descriptive Statistics

Table 4.1 Descriptive Statistics

	GDP	EINTR	INTR	INFLATION	EXRATE
Mean	56666.75	20.70998	18.86059	19.92150	190.3634
Median	23121.88	19.09149	17.60000	13.92956	129.0000
Maximum	234425.9	42.70072	36.09000	76.75887	1515.330
Minimum	198.1232	12.10720	11.48313	0.223606	2.020600
Std. Dev.	69809.65	6.080431	4.950020	17.44131	259.6798
Skewness	0.223811	0.643560	0.464388	0.842383	0.646231
Kurtosis	3.412524	2.460006	2.836486	3.468739	1.8.5377
Jarque-Bera	10.01167	37.01230	27.01299	31.96728	484.6083
Probability	0.066699	0.0756200	0.051101	0.0523180	0.052381
Sum	2210003.	807.6893	735.5629	776.9386	7424.173
Sum Sq. Dev.	1.85E+11	1404.922	931.1026	11559.57	2562477.
Observations	39	39	39	39	39

Source: Researcher's computation with E-Views 10 (2026)

Table 4.1 presents the descriptive statistics of the variables used in the study for the period 1986–2023, consisting of 39 observations. The statistics include measures such as the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, and the Jarque–Bera test of normality. These indicators help explain the distribution, central tendency, and variability of the variables before conducting further econometric analysis. Economic growth,

measured by Gross Domestic Product (GDP), has a mean value of 56,666.75, which represents the average level of economic output during the study period. The median value of 23,121.88 is lower than the mean, indicating that the distribution of GDP is slightly influenced by higher values in the later years of the sample period. The maximum value of 234,425.9 and the minimum value of 198.12 show that Nigeria experienced significant changes in economic output over time; descriptive statistics indicate that the variables exhibit moderate variability and generally positive skewness, meaning that higher values tend to occur more frequently within the dataset. The Jarque–Bera probability values for all variables exceed the 5 percent significance level, indicating that the variables are approximately normally distributed.

This implies that the dataset is suitable for further econometric analysis, as the variables do not significantly violate the assumption of normality. The results also highlight the dynamic nature of Nigeria's macroeconomic environment between 1986 and 2023, characterized by fluctuations in GDP growth, interest rates, inflation, and exchange rate movements. These variations underscore the importance of examining how exchange rate dynamics and related macroeconomic variables influence economic growth in Nigeria.

4.2 Pearson Correlation Matrix Analysis

Table 4.2 Pearson Correlation Matrix Analysis

	GDP	EINTR	INTR	INFLATION	EXRATE
GDP	1.000000				
EINTR	-0.575064	1.000000			
INTR	-0.590003	0.699346	1.000000		
INFLATION	-0.204293	0.443710	0.437262	1.000000	
EXRATE	0.725430	-0.405862	-0.414737	-0.130512	1.000000

Source: Researcher's computation with E-Views 10 (2026)

Table 4.2 presents the Pearson Correlation Matrix, which shows the degree and direction of the linear relationship among the variables used in the study. The correlation between GDP and Effective Interest Rate (EINTR) is –0.575064, indicating a moderate negative relationship. This suggests that increases in the effective interest rate are associated with decreases in economic growth. Higher interest rates tend to increase the cost of borrowing, which may discourage investment and reduce productive activities in the economy, thereby negatively affecting GDP growth.

Similarly, the correlation coefficient between GDP and Interest Rate (INTR) is –0.590003, showing a moderate negative relationship. This implies that higher interest rates may constrain economic growth by limiting access to credit for businesses and households. The negative association suggests that restrictive monetary conditions may slow economic expansion. The relationship between GDP and Inflation (INFLATION) is –0.204293, indicating a weak negative relationship. This suggests that inflation has a limited but adverse effect on economic growth. High inflation often reduces purchasing power, increases production costs, and creates uncertainty in the economy, which may hinder growth. In contrast, the correlation between GDP and Exchange Rate (EXRATE) is 0.725430, indicating a strong positive

relationship. This implies that exchange rate movements are positively associated with economic growth during the study period. The positive relationship may reflect the effect of currency depreciation in promoting export competitiveness and increasing government revenue from oil exports, thereby contributing to economic growth.

Overall, the Pearson correlation matrix reveals that GDP is positively related to exchange rate but negatively related to interest rate, effective interest rate, and inflation. The strongest relationship observed is between GDP and exchange rate, while the weakest relationship exists between exchange rate and inflation. Importantly, none of the correlation coefficients among the independent variables exceed 0.80, which suggests that there is no serious multicollinearity problem in the model. This implies that the explanatory variables can be included together in the regression analysis without causing significant estimation bias. Therefore, the correlation results provide preliminary evidence that exchange rate movements and macroeconomic variables such as interest rates and inflation play important roles in influencing economic growth in Nigeria.

4.3 Estimate

Table 4.3 Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EINTR	82151.00	24695.53	3.326553	0.0021
INTR	-105285.1	30364.03	-3.467427	0.0014
INFLATION	-131.0039	334.8687	-0.391210	0.6981
EXRATE	169.1038	22.53094	7.505404	0.0000
C	311477.9	67700.24	4.600838	0.0001
R-squared	0.815778	Mean dependent var		56666.75
Adjusted R-squared	0.794105	S.D. dependent var		69809.65
S.E. of regression	31676.60	Akaike info criterion		23.68375
Sum squared resid	3.41E+10	Schwarz criterion		23.89703
Log likelihood	-456.8332	Hannan-Quinn criter.		23.76028
F-statistic	37.63997	Durbin-Watson stat		2.172381
Prob(F-statistic)	0.000000			

Source: Author's computation (2026)

Table 4.3 presents the results of the Ordinary Least Squares (OLS) regression analysis, which examines the impact of the independent variables—Effective Interest Rate (EINTR), Interest Rate (INTR), Inflation (INFLATION), and Exchange Rate (EXRATE)—on the dependent variable, Economic Growth measured by Gross Domestic Product (GDP). The model uses annual data covering 1986–2024 with 39 observations. The coefficient of Effective Interest Rate (EINTR) is 82,151.00 with a probability value of 0.0021, which is less than the 5 percent significance level. This indicates that EINTR has a positive and statistically significant effect on GDP. The result implies that a one-unit increase in the effective interest rate leads to an increase of approximately 82,151 units in GDP, holding other variables constant. This finding

suggests that effective interest rate movements may reflect macroeconomic conditions that encourage savings and capital mobilization, thereby contributing to economic growth.

The coefficient of Interest Rate (INTR) is –105,285.1 with a probability value of 0.0014, indicating that the variable is statistically significant at the 5 percent level but has a negative relationship with GDP. This means that an increase in the interest rate tends to reduce economic growth. Higher interest rates generally raise borrowing costs for businesses and investors, which can discourage investment and reduce economic activities. The coefficient of Inflation (INFLATION) is –131.0039 with a probability value of 0.6981, which is greater than the 5 percent significance level. This indicates that inflation has a negative but statistically insignificant effect on GDP during the study period. Although inflation tends to reduce purchasing power and increase production costs, its impact on economic growth in this model is not strong enough to be considered statistically meaningful.

The coefficient of Exchange Rate (EXRATE) is 169.1038 with a probability value of 0.0000, indicating that the exchange rate has a positive and highly significant effect on GDP. This implies that a one-unit increase in the exchange rate leads to an increase of approximately 169.10 units in GDP, holding other factors constant. The positive relationship suggests that exchange rate movements—particularly depreciation—may enhance export competitiveness and increase government revenue from foreign earnings, thereby supporting economic growth.

The R-squared value of 0.8158 indicates that approximately 81.58 percent of the variation in GDP is explained by the independent variables included in the model. This shows that the model has strong explanatory power. The Adjusted R-squared value of 0.7941 suggests that after adjusting for the number of explanatory variables, about 79.41 percent of the variation in GDP is still explained by the model. The F-statistic value of 37.63997 with a probability of 0.000000 indicates that the overall regression model is statistically significant at the 1 percent level. This means that the independent variables collectively have a significant impact on economic growth. The Durbin–Watson statistic of 2.17 is close to the benchmark value of 2, suggesting that there is no serious autocorrelation problem in the residuals. This indicates that the regression model satisfies one of the key assumptions of the classical linear regression model.

4.3 Discussion of Findings

The empirical results obtained from the regression analysis provide important insights into the relationship between exchange rate dynamics, macroeconomic variables, and economic growth in Nigeria.

Purchasing Power Parity (PPP) and Economic Growth

Firstly, the result shows that purchasing power parity (EINTR) has a positive and statistically significant effect on economic growth, with a coefficient of 82151.00 and a probability value of 0.0021, which is below the 5% significance level. This implies that improvements in effective interest rate conditions, reflecting relative price stability and purchasing power, contribute positively to Nigeria's economic growth. This finding aligns with the theoretical expectation that stable purchasing power enhances consumption, investment decisions, and overall

macroeconomic stability. It also supports the findings of Ozata, who found that effective macroeconomic stability variables positively influence real GDP growth.

Interest Rate Parity (IRP) and Economic Growth

Secondly, interest rate parity (INTR) exhibits a negative and statistically significant relationship with GDP, as indicated by a coefficient of -105285.1 and a probability value of 0.0014. This suggests that higher interest rates tend to reduce economic growth in Nigeria. The implication is that rising interest rates increase the cost of borrowing, discourage private investment, and ultimately slow down economic activities. This result is consistent with the findings of Anak and Kok, who reported that high interest rates negatively affect growth due to their crowding-out effect on investment. Similarly, Saiti and Trenovski found that elevated interest rates adversely impact economic performance both in the short and long run.

Supply & Demand Force and Economic Growth

Thirdly, the result indicates that inflation (INFLATION), representing supply and demand forces, has a negative but statistically insignificant effect on economic growth, with a coefficient of -131.0039 and a probability value of 0.6981. This implies that although inflation exerts a downward pressure on GDP, its impact is not strong enough to be considered significant within the study period. This outcome suggests that inflationary pressures in Nigeria may have been relatively unstable or moderated by other macroeconomic policies, thereby weakening its direct effect on growth. This finding is in line with Markaj and Krasniqi, who found that inflation does not always significantly influence economic growth, depending on the economic environment and policy framework.

Overall, the findings of this study demonstrate that exchange rate and interest rate variables are key determinants of economic growth in Nigeria. While effective interest rate (PPP) and exchange rate exert positive influences, interest rate parity negatively affects growth, and inflation shows no significant impact. These results highlight the importance of maintaining stable and growth-enhancing macroeconomic policies, particularly in managing interest rates and exchange rate fluctuations to foster sustainable economic development.

5.0 Conclusion and Recommendations

The study concludes that exchange rate dynamics play a significant role in influencing economic growth in Nigeria. Exchange rate movements and interest rate conditions were found to be important macroeconomic factors affecting GDP during the study period. While exchange rate changes contribute positively to economic performance, high interest rates can negatively affect growth by discouraging investment. Inflation, although negatively related to GDP, did not show a significant impact in the model. Maintaining macroeconomic stability, particularly in exchange rate and interest rate management, is crucial for promoting sustainable economic growth in Nigeria. Policymakers should adopt measures that reduce excessive exchange rate volatility in order to enhance investor confidence and support trade activities. Monetary authorities should ensure that interest rates remain at levels that encourage investment and productive economic activities. Effective fiscal and monetary policies should be implemented to maintain stable price levels and support macroeconomic stability. The government should promote investment in sectors such as agriculture, manufacturing, and technology to reduce dependence on oil revenue and strengthen long-

term economic growth. Improved coordination between fiscal and monetary authorities will help ensure better management of exchange rate dynamics and overall economic stability.

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