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Exchange Rate Volatility And Foreign Direct Investment In Nigeria

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ABSTRACT

This study examines the impact of exchange rate volatility on foreign direct investment (FDI) in Nigeria over the period 1999–2024. Employing an ex-post facto research design, the analysis utilizes secondary data obtained from the Central Bank of Nigeria and applies multiple regression and Generalized Autoregressive Conditional Heteroskedasticity (GARCH) models to evaluate the influence of real exchange rate fluctuations, gross domestic product (GDP), and treasury bill rates on FDI inflows. The findings reveal that while exchange rate volatility exhibits a positive but statistically insignificant relationship with FDI, both GDP and treasury bill rates demonstrate significant negative effects. These results suggest that macroeconomic instability and interest rate dynamics may deter foreign investment, despite potential gains from currency depreciation. The study contributes to the literature by integrating recent data and offering policy recommendations aimed at stabilizing exchange rates and enhancing Nigeria's investment climate.

Keywords: Exchange Rate Volatility, Foreign Direct Investment, Foreign Exchange Rate, GDP, interest rate,

1. INTRODUCTION

Exchange rate volatility—defined as fluctuations in the value of one currency relative to another—is a critical macroeconomic issue, especially for developing economies like Nigeria. These fluctuations are driven by factors such as inflation, interest rates, political instability, and global market sentiment (Ramoni-Perazzi & Romero, 2022). At the micro level, exchange rate instability affects pricing, sourcing, and profitability for firms; at the macro level, it influences inflation, foreign reserves, and economic growth. Policymakers often intervene to stabilize exchange rates through monetary policy or direct market actions (Ramoni-Perazzi & Romero, 2022).

Recent global events, including the COVID-19 pandemic and geopolitical tensions, have intensified exchange rate volatility, with rapid transmission across borders due to financial market integration (Rehman et al., 2024). In Nigeria, the adoption of a floating exchange rate regime has led to sharp depreciation of the naira, raising import costs and contributing to inflation (Adewale et al., 2024; Ayangbemi & Chukwujekwu, 2024). While currency depreciation can enhance export competitiveness (Stiglitz et al., 2025), Nigeria's heavy reliance on imports has exposed the economy to inflationary pressures, slowed industrial activity, and increased unemployment (Udoinyang & Udoinyang, 2024).

Foreign Direct Investment (FDI) is a vital driver of economic growth, capital formation, and technological advancement. However, FDI inflows are highly sensitive to macroeconomic stability, particularly exchange rate dynamics. Volatile exchange rates can deter investors by increasing transaction costs and complicating profit repatriation (Kalu, 2024). Although some studies suggest that depreciation may attract FDI by making assets cheaper (Stiglitz et al., 2025), others argue that excessive volatility undermines investor confidence (Ogadi et al., 2023; Onuoha, 2024).

Nigeria's struggle to attract consistent FDI inflows, despite its market potential and resource endowment, is compounded by exchange rate instability and weak institutional frameworks (Alesinloye et al., 2024).

The pandemic further disrupted investment flows, though recent recovery efforts have improved investor sentiment. Institutional quality has also been identified as a key determinant of FDI, with stronger governance linked to higher inflows (Adegbite & Ayadi, 2021).

Empirical findings on the relationship between exchange rate volatility and FDI in Nigeria remain inconclusive. While some researchers find a significant inverse relationship (Adokwe et al., 2019; Obayagbona & Eguavoen, 2023), others report no meaningful correlation or even a positive association under certain conditions (Benedicta, 2024). These mixed results highlight the need for updated, context-specific analysis using robust methodologies.

This study addresses that gap by examining the impact of exchange rate volatility on FDI in Nigeria from 1999 to 2024. It employs multiple regression and GARCH models to assess how real exchange rate, gross domestic product, and treasury bill rate influence FDI inflows. By incorporating recent data and a broader set of macroeconomic variables, the research aims to provide actionable insights for policymakers and investors.

Objectives of the study

The primary objective of this study is to examine the impact of exchange rate volatility on foreign direct investment in Nigeria. To achieve this, the following specific objectives will be met which are to:

i. Determine the impact of real exchange rate on foreign direct investment in Nigeria.
ii. Assess the impact of gross domestic product on foreign direct investment in Nigeria.
iii. Examine the impact of treasury bill rate on foreign direct investment in Nigeria.

Research Hypotheses

The hypotheses to be tested in this study are stated below in their null form:

Hypothesis One

$H_0$1: Real exchange rate does not have a significant effect on foreign direct investment in Nigeria.

Hypothesis Two

$H_0$2: Gross domestic product does not have a significant effect on foreign direct investment in Nigeria.

Hypothesis Three

$H_0$3: Treasury bill rate does not have a significant effect on foreign direct investment in Nigeria.

2. Literature Review

Conceptual Review

Exchange Rate Volatility

Exchange rate volatility refers to the degree of fluctuation in the value of a currency relative to another over a given period. It is a central concept in international finance and macroeconomic policy, as it affects trade, investment decisions, and overall economic stability. Volatility in exchange rates introduces uncertainty and risk, particularly in cross-border transactions, which can discourage long-term investment and complicate financial planning. According to Adokwe et al. (2019), exchange rate volatility is influenced by a range of macroeconomic factors including monetary policy shifts, trade imbalances, political instability, and external shocks such as oil price fluctuations and global financial crises. In Nigeria, the depreciation of the naira against major currencies has heightened concerns about the impact of exchange rate instability on foreign direct investment (FDI), especially in an economy heavily reliant on imports.

The measurement of exchange rate volatility is typically conducted using statistical models such as standard deviation, moving averages, and more advanced techniques like ARCH and GARCH models, which capture time-varying volatility patterns (Engle, 1982; Bollerslev, 1986). These models help quantify the uncertainty associated with currency movements and are widely used in empirical studies to assess the impact of volatility on economic variables. Nwosu and Orekoya (2020) highlight that sharp depreciation of the naira can deter foreign investors due to difficulties in repatriating profits and forecasting production costs. This is particularly relevant in Nigeria, where the adoption of a floating

exchange rate regime in 2023 led to significant currency depreciation and inflationary pressures (Adewale et al., 2024).

Exchange rate regimes play a crucial role in determining the level of volatility. Fixed exchange rate systems, where the central bank pegs the currency to another, tend to reduce short-term volatility but may lead to long-term misalignments. In contrast, floating exchange rate regimes allow market forces to determine currency values, often resulting in higher volatility (Levy-Yeyati & Sturzenegger, 2005). Nigeria's shift to a floating regime has exposed the economy to greater exchange rate fluctuations, which have had ripple effects on import costs, inflation, and investor sentiment (Ayangbemi & Chukwujekwu, 2024). While some argue that currency depreciation can make exports more competitive (Stiglitz et al., 2025), Nigeria's import dependency means that the adverse effects of volatility—such as rising prices and reduced purchasing power—are more pronounced (Udoinyang & Udoinyang, 2024).

Real Exchange Rate

The real exchange rate (RER) is a critical macroeconomic indicator that reflects the relative price of domestic goods compared to foreign goods, adjusted for inflation. It serves as a key measure of a country's international competitiveness and purchasing power. Unlike the nominal exchange rate, which simply compares the face value of currencies, the real exchange rate incorporates price level differences between countries, offering a more accurate representation of the true cost of goods and services across borders (Obayagbona & Eguavoen, 2023). The RER is particularly important in evaluating trade performance, investment attractiveness, and macroeconomic stability. A higher real exchange rate implies that domestic goods are cheaper relative to foreign goods, potentially boosting exports and attracting foreign direct investment (FDI). Conversely, a lower RER suggests that domestic goods are more expensive, which may discourage exports and reduce competitiveness.

Edward (1989) posits that an increase in the real exchange rate leads to a decline in the value of home-produced goods relative to foreign goods, thereby enhancing export attractiveness. Rodrik (2008) further argues that the real exchange rate is a superior measure of external competitiveness because it captures both exchange rate movements and relative price changes. The real exchange rate is influenced by several macroeconomic variables, including inflation, terms of trade, capital flows, and productivity levels (Agenor & Montiel, 2008). It can be calculated bilaterally—comparing two countries—or as a weighted average across multiple trading partners, known as the real effective exchange rate (REER). The International Monetary Fund (IMF, 2023) frequently uses REER to assess a country's global competitiveness over time.

In the Nigerian context, the real exchange rate plays a pivotal role in shaping economic outcomes. The country's reliance on imports and vulnerability to inflation make RER fluctuations particularly impactful. For instance, a depreciated real exchange rate may make Nigerian exports more attractive, but it also raises the cost of imported goods, contributing to inflationary pressures and reduced consumer purchasing power (Nwosu & Orekoya, 2020). The adoption of a floating exchange rate regime in 2023 has further exposed the naira to market-driven volatility, amplifying the effects of RER misalignments on trade and investment flows (Ayangbemi & Chukwujekwu, 2024). Real exchange rate misalignment occurs when the RER deviates from its equilibrium level, often due to structural imbalances or policy distortions. Persistent misalignments can lead to macroeconomic instability, including trade deficits, reduced capital inflows, and depletion of foreign reserves (Edwards, 1989). Correcting such misalignments is essential for restoring balance and fostering sustainable growth. Moreover, the RER can be used as a policy tool to address inflation and stabilize the current account. For example, increasing the RER can curb inflation by making imports more expensive, thereby encouraging domestic production and reducing reliance on foreign goods.

Gross Domestic Product

Gross Domestic Product (GDP) is a fundamental macroeconomic indicator that measures the total monetary value of all goods and services produced within a country's borders over a specific period. It serves as a primary gauge of economic performance, national productivity, and the overall health of an

economy (Arize et al., 2017). GDP is widely used by policymakers, investors, and international institutions to assess growth trends, compare economies, and formulate fiscal and monetary policies. Despite its popularity, GDP has limitations in capturing income distribution, informal sector activities, and environmental sustainability (Stiglitz et al., 2009). In Nigeria, GDP is a critical metric for evaluating the country's economic trajectory, especially in relation to foreign direct investment (FDI), as higher GDP levels often signal a more attractive and stable investment environment (Adokwe et al., 2019).

In the context of FDI, GDP plays a dual role. On one hand, a growing GDP reflects expanding market opportunities, improved infrastructure, and rising consumer demand—all of which are attractive to foreign investors. On the other hand, GDP volatility or contraction may signal economic instability, deterring investment inflows. Mankiw (2021) emphasizes that GDP serves as a benchmark for monetary and fiscal policy decisions, helping governments align interest rates, taxation, and spending with macroeconomic objectives. Moreover, GDP influences investor sentiment by providing a snapshot of economic resilience and potential returns on investment.

However, critics argue that GDP does not fully capture the quality of life or social well-being. It overlooks factors such as income inequality, environmental degradation, and mental health, which are increasingly relevant in assessing sustainable development. In response, alternative indicators like the Human Development Index (HDI), Gross National Happiness (GNH), and the Genuine Progress Indicator (GPI) have been proposed to complement GDP and provide a more holistic view of development (UNDP, 2022). These measures incorporate education, life expectancy, environmental costs, and social equity, offering a broader framework for evaluating national progress. In Nigeria, GDP has shown significant fluctuations due to oil price volatility, exchange rate instability, and structural economic challenges. While periods of high GDP growth have attracted foreign investment, downturns have exposed vulnerabilities in the economy's reliance on oil exports and limited diversification. Nwosu and Orekoya (2020) note that GDP growth alone may not guarantee increased FDI unless accompanied by institutional reforms, infrastructure development, and policy consistency. Therefore, while GDP remains a vital indicator, its interpretation must be contextualized within broader economic and social dynamics.

Treasury Bills Rate

The treasury bill rate refers to the yield on short-term government securities issued to finance public expenditure and manage liquidity in the economy. These instruments are typically issued at a discount and redeemed at face value, with the difference representing the investor's return. As a monetary policy tool, treasury bills help the government regulate money supply and control inflation. In Nigeria, the Central Bank and the Debt Management Office oversee the issuance and pricing of treasury bills, making the rate a reflection of prevailing macroeconomic conditions, including inflation expectations, fiscal pressure, and investor sentiment (Ayangbemi & Chukwujekwu, 2024). The treasury bill rate is often considered a benchmark for risk-free returns and influences the pricing of other financial instruments in the market.

From an investment perspective, the treasury bill rate plays a critical role in shaping capital allocation decisions. When rates are high, investors may prefer government securities over riskier ventures, leading to a crowding-out effect where private sector investment—including foreign direct investment (FDI)—declines. Conversely, lower treasury bill rates may encourage investment in productive sectors by reducing the opportunity cost of capital. In the Nigerian context, fluctuations in treasury bill rates have been linked to shifts in investor confidence and macroeconomic stability. Adeniji and Lasaki (2024) argue that elevated rates may signal tight monetary conditions or fiscal stress, which can deter foreign investors seeking predictable returns and stable policy environments.

Yakub et al. (2019) note that in developing economies, treasury bill rates are not entirely risk-free due to potential default risks or currency depreciation. For foreign investors, the rate is a key variable in assessing the attractiveness of an economy, especially when evaluating returns relative to risk. Thus, understanding the behavior and implications of treasury bill rates is essential for analyzing FDI flows and designing policies that foster a stable investment climate.

Theoretical Review

Risk Aversion Theory

Risk aversion theory is developed by John von Neumann and Oskar Morgenstern in the year 1944. The theory explains that investors prefer certainty over uncertainty in making investment decisions. The theory attempts to prove that investors are risk averse and uncertainty poses a risk.

The theory is built on the assumption that the average investor is rational and aims at maximizing their expected utility. Therefore, preferences are consistent. It is assumed that as the level of wealth increases, the extra increase comes with a reduced level of satisfaction. It is also assumed that a certain outcome is preferred over an uncertain outcome with similar expected value (Pratt, 1964).

The theory is criticized by Kahneman and Tversky (1979) who argue that the theory does not accurately describe how people behave under risk. Their Prospect Theory suggests that people value gains and losses differently and exhibit loss aversion, not just risk aversion. They also show empirical evidence that individuals prefer risk investment when it reasonably measure up with the level of risk attached to the decision. Critiques also posit that risk attitudes of investors vary and finally, investors learn and can predict the outcome of risky investments.

Regardless of the criticisms, the theory is supported as supporters posit that the theory provides the framework on which portfolio theory is formed. Furthermore, the theory also gives the basis for insurance such that individuals can take care of risk.

The theory forms the basis for both macro-economic models and micro economic utility models (Pratt, 1964). This theory is considered in this study as it explains clearly the dependent variable in this study and provides a reasonable explanation on the workings of investment.

Irreversibility and Real Options Theory

The origin of the theory is traced to the 1980's and can be traced to various contributors such as Robert Pindyck (1988, 1991), Avinash Dixit and Robert Pindyck (1994) and Stephen A. Ross and Stewart C. Myers (1977). The theory explains that investment decisions are usually covered with uncertainty and that there is a possibility of delaying decisions until more information is gotten (Dixit & Pindyck, 1994).

The theory is built on the assumption that once investment decisions are made; they cannot reverse such decisions without consequences. It is assumed that the future value of projects is uncertain and that individuals have the right to choose when to invest or divest. Also, it is assumed that waiting or delaying in taking investment decisions doesn't have a negative consequence (Copeland & Antikarov, 2001).

The theory is also criticized like other theories, critiques point out that decision making is usually laced with uncertainty and requires a lot of data which makes it complex, and uncertainty cannot be eliminated (Luehrman, 1998). Furthermore, not every investment takes the format of an option, this limits the applicability of the theory. Critiques also state the theory is complex as it requires specialized knowledge such as stochastic calculus for investment decisions that can be arrived at with simpler investment tools such as net present value. Finally, the theory is critique as it suggests the existence of a perfect market where information can easily be gotten. However, this does not exist (Luehrman, 1998).

Despite the criticisms, proponent support the validity of the theory as being useful especially in large investments where all available information is gotten before taken such significant investment. The theory is also considered useful in corporate finance where the valuation of options and various investments decisions are needed to either invest, maintain or divest (Copeland & Antikarov, 2001).

This theory is considered for review in this study as it also attempts to provide an understanding on the workings of investment which is the dependent variable in this study. It provides an insight into understanding how investment decisions are made.

Currency Area Theory

Currency area theory is developed by Robert A. Mundell in 1961 tries to explain how countries will benefit from operating a single currency. The theory can also be referred to as optimum currency area theory (Mundell, 1961).

The theory is built on the assumption that labor can easily be transferred across geographical locations. In addition, it is assumed that capital can be easily moved across economies and that the determination of prices and wages are flexibly determined. It is also assumed that there is no restriction to trading activities across economies. In addition, the different countries have different specializations therefore, offering different products such that the region is guarded against region-specific shocks. The theory is also premised on the existence of a regional bloc authority and the similarity of economic characteristics of the various economies within the bloc.

The theory is however criticized for focusing the formation of regional currency without sorting internal economy challenges. Frankel and Rose (1998) posit that once internal challenges are sorted, then the benefits of such alliances can be visible. The theory is criticized for focusing on symmetric shocks, but the shocks are asymmetric as witnessed during the Eurozone crisis. The theory is also criticized for ignoring the role of political influence on the formation of such blocs. Finally, the theory assumption on the flexibility of prices and wages is critiqued as they are not totally free but have interventions from government and other relevant bodies to ensure stability.

Despite the criticisms, currency area theory has been widely applied for instance, among European countries where Euro is operated. Furthermore, the theory influences government policy of participating economies to harness the benefit from such cooperation (De Grauwe, 2016).

This theory is considered in this study as important as it explains the independent variable by giving insight on how regional blocs can edge against exchange rate volatility and indirectly influence investment level.

Empirical Review

Numerous empirical studies have explored the relationship between exchange rate volatility and foreign direct investment (FDI), yielding mixed results across different contexts and methodologies. In Nigeria, this relationship has attracted significant scholarly attention due to the country's macroeconomic instability and heavy reliance on foreign capital. For instance, Udoinyang and Udoinyang (2024) employed ARDL and GARCH models to analyze data from 1986 to 2021, concluding that exchange rate volatility exerts both short- and long-run negative effects on FDI inflows. Similarly, Onuoha (2024) used variance decomposition and VECM techniques to assess data spanning 1970–2023, finding that volatility significantly reduces FDI inflows and emphasizing the need for stabilization policies.

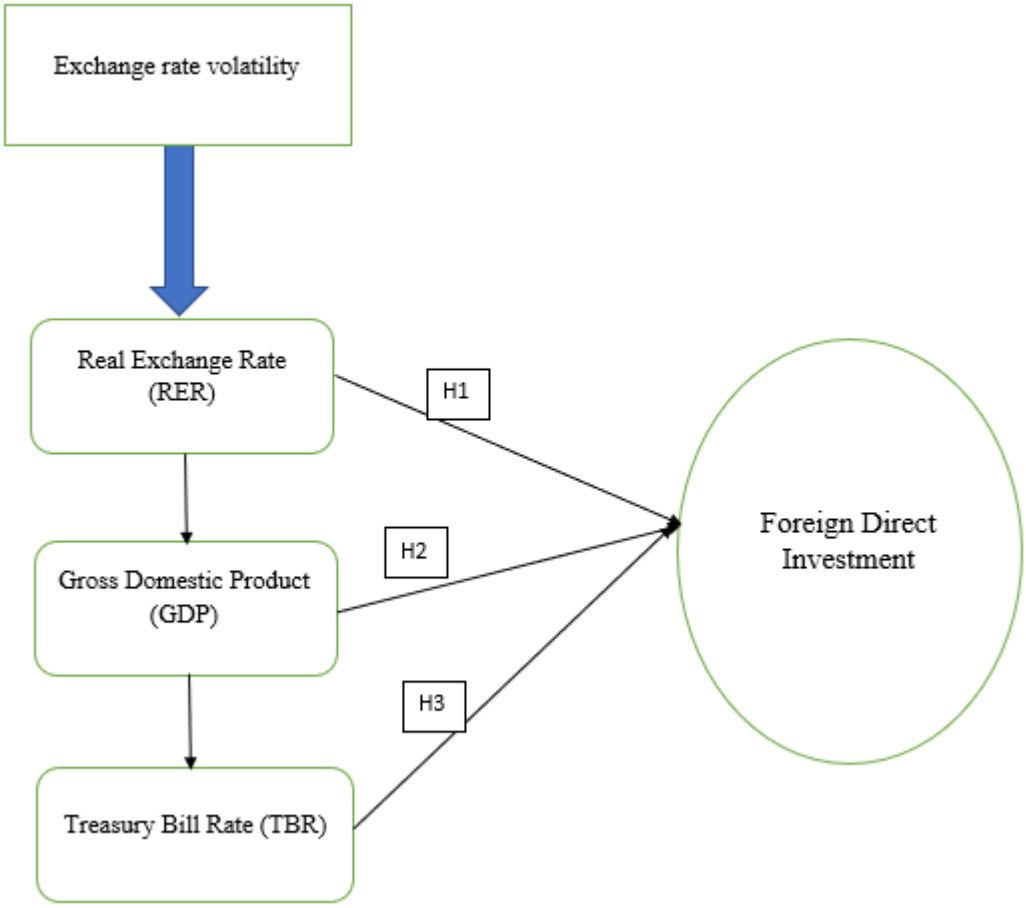
Contrasting findings were reported by Adewale et al. (2024), who applied FMOLS to data from 1981–2021 and discovered a significant positive correlation between nominal exchange rate and FDI. However, they cautioned that excessive depreciation could deter investment. Kalu (2024), in a study covering 1986–2018, found a slightly negative but statistically insignificant effect of exchange rate volatility on FDI, suggesting that interest rate adjustments might help stabilize the naira. Meanwhile, Ayangbemi and Chukwujekwu (2024) revealed a nuanced pattern using ARDL: a negative short-term impact of volatility on FDI, but a surprising positive long-term relationship, indicating that investors may adapt to volatility over time.

Other scholars have examined broader macroeconomic interactions. Adeniji and Lasaki (2024), using a VECM framework, found that appreciating exchange rates and strong domestic investment environments attract FDI, while macroeconomic instability deters it. Their study highlighted long-run dynamics but did not isolate volatility through multiple measures. Obayagbona and Eguavoen (2023) combined GARCH and GMM techniques to assess volatility and FDI, concluding that while volatility exists, its direct effect on FDI becomes insignificant when other macroeconomic factors are considered. This underscores the importance of model specification and the inclusion of control variables.

Trend-based studies such as Benedicta (2024) reported a positive link between exchange rate volatility and FDI from 2003–2023, though they emphasized that long-term stability remains crucial for sustained investment. Ogadi et al. (2023), using VAR analysis, found that real exchange rate volatility significantly affects Nigeria's productive sectors, calling for unified forex markets to reduce uncertainty. Additionally, Elumalue, Obi, and Ezi (2025) examined Sub-Saharan Africa using pooled regressions and ECM,

reporting a negative relationship between real exchange rate volatility and FDI, while noting that depreciation may boost inflows under certain conditions.

Beyond Nigeria, regional and sectoral studies provide further insight. Alesinloye et al. (2024) focused on manufacturing exports and found that exchange rate volatility had a positive short-term effect, though FDI's impact on exports was negligible. Kassim et al. (2022) linked exchange rate volatility to earnings management in Nigerian manufacturing firms, suggesting that volatility may influence corporate financial behavior. Fapetu et al. (2022) identified long-term causality between exchange rate, inflation, capital market performance, and FDI, reinforcing the interconnectedness of macroeconomic variables.



3. RESEARCH METHODS

This study adopts an *ex-post facto* research design, which is appropriate for analyzing historical data without manipulating variables. The design enables the researcher to examine the relationship between exchange rate volatility and foreign direct investment (FDI) in Nigeria over the period 1999 to 2024. The study focuses on the Nigerian economy as the population of interest, and employs a total enumeration sampling technique, meaning the entire population is used as the sample due to the national scope and availability of comprehensive macroeconomic data.

The variables selected for analysis include foreign direct investment inflows (FDI), real exchange rate (RER), gross domestic product (GDP), and treasury bill rate (TBR). These indicators were chosen based on their relevance to exchange rate volatility and investment

behavior. The dependent variable is FDI, while the independent variables are RER, GDP, and TBR. The functional relationship is expressed as FDI = f(RER, GDP, TBR), and the econometric model is specified as: $FDI_t = \alpha + \beta_1 RER_t + \beta_2 GDP_t + \beta_3 TBR_t + \varepsilon_t$,

To analyze the data, the study employs both descriptive and inferential statistical techniques. Descriptive analysis includes measures of central tendency and dispersion to summarize the data. Inferential analysis involves multiple regression to assess the impact of the independent variables on FDI, correlation analysis to evaluate the strength and direction of relationships, and t-tests to determine statistical significance. Additionally, the Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model is used to measure and interpret exchange rate volatility over time.

4. DATA PRESENTATION AND ANALYSES

The data analysis in this study was conducted using both descriptive and inferential statistical techniques to examine the relationship between exchange rate volatility and foreign direct investment (FDI) in Nigeria over the period 1999 to 2024.

Table 4.1. Descriptive Analysis

	Exchange Rate	GDP	Treasury Bill Rate	FDI
Mean	212.58	77,351.25	12.95	1.37
Median	153.86	63,713.40	14.21	1.52
Std. Deviation	133.42	64,346.58	4.36	0.82
Minimum	92.34	5,482.40	4.50	- 0.04
Maximum	645.19	229,912.94	18.98	2.90
N	25.00	25.00	25.00	25.00

Source: Researcher's Analysis (2025)

Table 4.1 revealed that the average exchange rate during the study period was ₦212.58 to $1, with a standard deviation of ₦133.42, indicating substantial variability. Gross Domestic Product (GDP) averaged ₦77,351.25 billion, while the treasury bill rate had a mean of 12.95%. FDI inflows averaged ₦1.37 billion, with values ranging from –₦0.04 billion to ₦2.90 billion, reflecting fluctuations in investment activity.

Table 4.2 Regression Result

Estimation Techniques	**Regression Result**			
Dependent Variable: FDI	**Coeff.**	**Std. Err**	**T-Stat**	**Prob**
Constant	2.91	0.32	9.19	0.001
RER	0.28	0	0.86	0.399
GDP	-1.03	0	-3.12	0.005
TBR	-0.07	0.02	-3.49	0.002
Adjusted R^2	0.73			
F-Stat	$F_{(3, 25)}$ = 23.16 (0.001)			

Source: Researcher's Analysis (2025

The regression results showed that the real exchange rate had a positive but statistically insignificant effect on FDI (p = 0.399), suggesting that currency fluctuations may not strongly influence investment decisions in isolation. In contrast, GDP exhibited a significant negative effect on FDI (p = 0.005), implying that periods of economic expansion may not necessarily correspond with increased foreign investment, possibly due to structural or policy-related constraints. The treasury bill rate also showed a

significant inverse relationship with FDI (p = 0.002), indicating that higher interest rates may deter foreign investors by raising the cost of capital and signaling macroeconomic instability.
Furthermore, the model's adjusted R^2 value of 0.73 suggests that approximately 73% of the variation in FDI inflows can be explained by the combined influence of the independent variables.

DISCUSSION OF RESULTS

The findings of this study provide nuanced insights into the relationship between exchange rate volatility and foreign direct investment (FDI) in Nigeria.

- **Real Exchange Rate (RER):** The regression analysis revealed that the real exchange rate has a positive but statistically insignificant effect on FDI. This suggests that while fluctuations in the exchange rate may influence investment decisions, they are not the sole determinant of foreign capital inflows.
- **Gross Domestic Product (GDP):** The result also reveals that gross domestic product (measured by real GDP growth rate) does have an inverse significant effect on the level of foreign direct investment in Nigeria. This is in variance with the position of Benedicta (2024), who opined that exchange rate volatility has a positive influence on the level of foreign direct investment.
- **Treasury Bill Rate**: The treasury bill rate was found to have a significant negative effect on FDI. This implies that higher interest rates on government securities may crowd out foreign investment by offering safer, more attractive returns to investors.

5. CONCLUSION AND RECOMMENDATIONS

This study set out to examine the impact of exchange rate volatility on foreign direct investment (FDI) in Nigeria, using real exchange rate, gross domestic product (GDP), and treasury bill rate as proxies. Drawing on data from 1999 to 2024 and employing multiple regression and GARCH models, the analysis revealed a complex interplay between macroeconomic variables and FDI inflows. The real exchange rate showed a positive but statistically insignificant effect on FDI, suggesting that currency fluctuations alone may not deter foreign investment. However, GDP and treasury bill rate both exhibited significant inverse relationships with FDI, indicating that broader economic instability and high interest rates may discourage foreign capital inflows.

Recommendations

- The Central Bank of Nigeria (CBN) should continue efforts to stabilize the exchange rate through transparent and market-driven mechanisms, minimizing abrupt policy shifts that fuel uncertainty.
- The federal government should prioritize economic diversification and institutional reforms that enhance investor confidence, including improvements in regulatory efficiency, security, and infrastructure.
- The Debt Management Office should monitor treasury bill rates to ensure they remain competitive without discouraging productive investment.
- Policymakers should adopt a coordinated approach to macroeconomic management, recognizing that exchange rate stability, interest rate moderation, and sustained economic growth are interdependent drivers of FDI.

Contributions to Knowledge and Future Research

This study makes several important contributions to the existing body of knowledge on exchange rate volatility and foreign direct investment (FDI), particularly within the Nigerian context.

- It extends the empirical literature by incorporating recent data up to 2024, capturing the effects of contemporary macroeconomic developments such as the post-pandemic recovery, exchange rate liberalization, and shifts in monetary policy. By doing so, the study provides a more current and relevant analysis of the dynamics influencing FDI inflows in Nigeria, addressing gaps left by earlier research that relied on outdated or limited datasets.

- The study employs a combination of multiple regression and GARCH modeling techniques to assess both the linear relationships and the volatility patterns inherent in exchange rate movements.
- This study also contributes to theory by confirming the relevance of reversibility and real options theory in contemporary time.

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