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EXPLORING THE LINK BETWEEN INFLATION, INTEREST RATES, AND ECONOMIC DEVELOPMENT IN NIGERIA

ABSTRACT

This study explores the complex relationship between inflation, interest rates, and economic growth in Nigeria, shedding light on how these factors influence the country's economic trajectory and offering valuable insights for effective policymaking. Using annual time-series data from the Central Bank of Nigeria (CBN) Statistical Bulletin and the World Bank Development Indicators, covering the period from 1990 to 2023, the analysis employs techniques such as the Augmented Dickey-Fuller (ADF) test, unit root tests, co-integration analysis, and ordinary least squares (OLS). The variables considered include the economic growth rate (GRT), inflation rate (INF), interest rate (INT), foreign direct investment (FDI), and exchange rate (EXR). The findings reveal a negative relationship between inflation and economic growth, highlighting the critical need for effective inflation control. In contrast, the study finds that higher interest rates are positively correlated with economic growth, suggesting that interest rate increases may foster productive investments. Additionally, it identifies an inverse relationship between FDI and economic growth, as well as a negative effect of currency depreciation on economic performance. These insights underscore the complexity of Nigeria's economic dynamics, calling for a nuanced policy approach. To foster sustainable growth, the study recommends a dual strategy: stringent monetary policies to curb inflation and targeted fiscal measures to stimulate growth. Moreover, establishing a stable exchange rate policy and enhancing the business climate for local industries are vital to strengthening domestic competitiveness and ensuring long-term economic resilience.

Keywords: *Inflation rate, interest rate, currency depreciation, fdi, economic performance*

Background of the Study

Any nation's economic development is significantly impacted by the stability and management of key macroeconomic indicators, particularly inflation and interest rates. Bello and Adebayo (2023) assert that these indicators are interconnected and significantly influence the development of economic policies and outcomes. These two factors are crucial in determining a nation's economic trajectory because they affect investment,

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growth, and general economic well-being. The economic environment in Nigeria, a country rich in natural resources and home to a sizable population, is frequently unstable, with interest rates and inflation regularly changing to reflect both internal inefficiencies and external shocks. Because of the significant impact that inflation and interest rates have on investment, consumption, employment, and ultimately economic development, managing these variables has become a top policy priority for both the Central Bank of Nigeria (CBN) and succeeding governments (Inuwa, Adamu & Sani, 2022).

The steady rise in the average price of goods and services over time is referred to as inflation, which is a crucial economic concept. Numerous indices are used to measure it, and one of the most widely used ones is the Consumer Price Index (CPI). To understand how inflation affects businesses, consumers, and the economy as a whole, one must have a solid understanding of it. Macroeconomic stability is threatened by persistent inflationary pressure, which also causes uncertainty for policymakers and investors. However, the amount of investment and capital flows within an economy are greatly influenced by interest rates, which are the cost of borrowing and the reward for saving. They impact productivity and long-term economic development by influencing financial market activity and resource allocation (Mankiw, 2021). Finding a balance between inflation and interest rates is especially important in developing countries like Nigeria, where structural inefficiencies and undeveloped financial markets make the economy more vulnerable to inflationary shocks and fluctuating interest rates.

The intricate relationship between inflation, interest rates, and economic development necessitates cautious policy interventions. Because supply-side issues like poor infrastructure, ineffective agriculture, and reliance on imports have often been the root cause of inflation in the nation, Nigeria is susceptible to both internal and external shocks (Ogunleye & Olofin, 2019). In addition, Nigeria has a history of high interest rates, which reflect both the risk premium associated with lending and the structural problems in the economy. These macroeconomic concerns significantly affect Nigeria's economic growth since they directly affect employment, income distribution, and investment choices.

With an emphasis on their interactions and the broader ramifications for the country's long-term economic prospects, this study examines the effects of interest rates and inflation on Nigeria's economic development. It specifically looks at how interest rates affect the dynamics of investment costs and capital accumulation, as well as how inflation jeopardizes economic stability. The study intends to shed light on these relationships in order to help Nigeria manage its macroeconomic environment more effectively and promote inclusive and sustainable development.

The Statement of the Problem

Nigeria's economy faces significant macroeconomic challenges, particularly inflation and volatile interest rates, despite its wealth of natural resources and potential for growth. These issues are intertwined with the country's economic structure and resource management. Over the years, Nigeria has experienced high interest rates and continuously high inflation rates, often reaching double digits. This persistent inflation lowers consumer purchasing power, creates uncertainty in the investment climate, and disproportionately affects the poor. On the other hand, high interest rates deter investment, particularly in crucial non-oil sectors like manufacturing, services, and agriculture, which limits sustainable development and economic diversification (Ajayi & Okeowo, 2020; Ogunsonatitillola, 2024).

In order to stabilize inflation and manage interest rates, the Central Bank of Nigeria (CBN) and several Nigerian governments have put in place a number of fiscal and monetary measures. But the intended results of long-term economic growth and poverty alleviation have mostly eluded these initiatives. Nigeria faces numerous obstacles in accomplishing these objectives, many of which stem from structural problems in the country's economy (Olanrewaju & Afolabi, 2021). Nigeria's policy frameworks have not yet adequately addressed the complex issue of the interdependence of inflation, interest rates, and economic development. Furthermore, efforts to attain macroeconomic stability are made more difficult by Nigeria's over-reliance on oil exports and its underdeveloped financial markets, which leave the nation vulnerable to outside shocks (Maduka & Onwuka, 2013; Uche, 2013). As a result, the detrimental effects of high interest rates and inflation have persisted in impeding economic growth, especially with regard to lowering unemployment, raising living standards, and attaining fair income distribution. The relationship between interest rates and inflation and Nigeria's economic growth has been the main focus of recent studies, including those by Bakare *et al.* (2015), Olu and Idih (2015), Ajayi, Oladipo, Ajayi, and Nwanji (2017), Idris and Bakar (2017), Fatoumata (2017), Utile, Okwori, and Ikpambese (2018), Ogege (2019), Ezeibekwe (2020), Adaramola and Dada (2020), Cole and Akintola (2021), and Onwubuariri, Oladeji, and Bank-Ola (2021). These studies deepen our understanding of the economic factors at work; however, their conclusions often vary considerably, primarily due to differences in the variables investigated and the methodologies adopted. A few other studies have tried to investigate the connections between inflation, interest rates, and economic growth in Nigeria, including those by Amata, Muturi, and Mbewa (2016), Amaefula (2016), and Inam and Isaac (2022). However, beyond yielding inconsistent results, these studies are now outdated and do not comprehensively capture the current trends in inflation, interest rates, and economic development over time. In light of these gaps, this study aims to address the specific mechanisms

through which inflation and interest rates interact and influence economic development in Nigeria. It seeks to provide a clearer understanding of how inflation erodes purchasing power, discourages savings, and hampers investment, while also examining the extent to which high interest rates act as a deterrent to productive investment across key economic sectors. By investigating the intricate relationships between these variables, the study aims to offer insights that will help inform more effective policy strategies, contributing to Nigeria's sustainable economic development. The central problem is how to manage inflation and interest rates in a manner that fosters inclusive growth, reduces poverty, and ensures long-term economic stability. This study, therefore, seeks to provide fresh evidence and policy recommendations that will aid in addressing these critical economic challenges. The remainder of the paper is organised as follows: Section two reviews the theoretical framework, empirical studies, and trends associated with inflation, interest rates, and their impact on economic development in Nigeria. Section three details the data description and methodology, while Section four presents the results, discussion, and recommendations. Finally, the concluding remarks are provided in the last section.

Literature Review

Theoretical Review

The study's theoretical framework examines how interest rates and inflation affect Nigeria's economic development by combining monetary theory and endogenous growth theory. Key economic variables like investment, savings, and consumption—all of which are critical for growth—are impacted by inflation and interest rates, as demonstrated by monetary theory. The Endogenous Growth Theory emphasizes how internal variables, such as capital accumulation and technological advancement, shape long-term economic development and are impacted by interest rates and inflation. Furthermore, the way that interest rates influence profitable investments and general economic activity is clarified by the Keynesian Theory of Interest and Investment, (Babalola, *et al.* 2015; Ojugbo, 2019, Aladejana, & Akanbi, 2021; Olurin, 2024). When combined, these theories offer a strong foundation for comprehending the economic dynamics of Nigeria and the relationship between development and monetary policy tools.

Empirical Review

Regarding how inflation and interest rates impact Nigeria's economic growth, there are still contradictions in economic theory and literature. Recent studies offer conflicting perspectives; some emphasize negative effects, some are ambivalent, and some point to positive impacts.

Ajayi, Oladipo, Ajayi and Nwanji (2017) valued the effect of interest rate on economic growth of Nigeria. The study adopted an Error-Correction Mechanism to test for the short - and long – run relationships

among the saving deposit, real interest rate and inflation, ECM is negative and further test of Granger causality indicates that there is a causal relationship between SD and GDP and a unidirectional relationship exists between SD and GDP. Therefore, Savings deposit causes Gross domestic product. The study recommends that policies which would boost the saving accumulation in Nigeria that will increase Capital Formation are necessary for economic growth. Likewise, Nwaru and Eke (2017) studied the effect of exchange rate on inflation in Nigeria using annual data from 1970 to 2014. They adopted the Granger Causality Test and OLS regression. Their findings indicate that inflation was responsive to lagged inflation, exchange rate, money supply and import prices at 5% significance level with the conclusions that exchange rate is a viable tool to manage inflation in the country. Ogege (2019) analyze the influence of inflation, interest and exchange rate on economic development from the period of 1981-2017. The empirical analysis revealed the existent relative effect of macroeconomic variables on Nigeria economic development indicators. The impacts of the economic attributes mechanisms on performance indicators are distinct. The work infers that the diverse economic characteristics' components influence diverse indicators of performance in various ways.

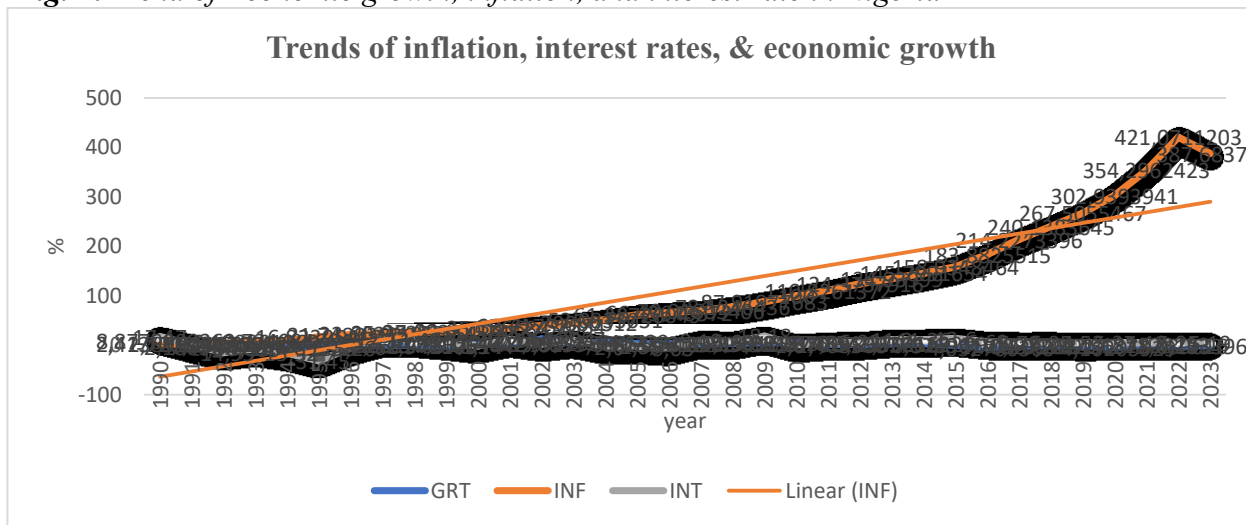
Utile, Okwori & Ikpambese (2018) investigated the effect of interest rate on the economic growth of the Nigerian economy for the period of 1980 to 2016. The findings show that INF and EXR have negative and insignificant effect on GDP. Also, it was found that DIR has positive and significant relationship with GDP. The study generally concludes that interest rate has a negative and insignificant relationship with GDP. Okafor (2018) examined the impact of inflation on interest rate in Nigeria from 1995 to 2016. The findings revealed headline inflation has a long run negative influence on interest rate while food and core inflation had significant positive long run influence on interest rate in Nigeria. Furthermore, Onwubuariri, Oladeji and Bank-Ola (2021) evaluate the impact of inflation on Nigeria's economic growth for the past four decades, beginning from 1980 to 2019. Data were analysed using the ARDL and the ECM Model, and results indicated that inflation has negatively affected economic growth over the years as it reduces competitiveness as well as lowering the purchasing power of money. The study concludes that while inflation and exchange rate negatively impact the Nigerian economy's growth, interest rate maintains a positive relationship. Ezeibekwe (2020) used the vector error correction model to determine how the inflation rate changes affect monetary policy tools' ability to stabilise the Nigerian economy and stimulate investment. The study's result suggested that the impact of the interest rates on investment depends on the inflation rate level. Inim *et al.* (2020) examined aside money supply, other determinants of inflation in Nigeria using the ARDL method on quarterly data from January 1999-December 2018. Their findings

showed that poor infrastructural development, exchange rate, political instability, corruption, and double taxation significantly stimulate inflation. The results showed a causal relationship between these other determining factors and inflation. The ARDL result showed a significant long-short run relationship.

Mogaji, Falade and Ogundipe (2020) examined the inter relationship between inflation, interest rate, and domestic investment in Nigeria for the period of 1986 to 2018, using ARDL and discovered that both previous performance of domestic investment and inflation rate increased domestic investment by 82.9% and 13.7%; while interest rate and public expenditure reduced it by 61.1% and 28.6% respectively. Also, Adaramola & Dada (2020) examined the influence of inflation on the Nigerian economy's growth prospects. The study findings indicated that inflation and real exchange rate significantly negatively impact economic growth, while the interest rate and money supply indicate a positive and significant impact on economic growth. The causality result also shows the unidirectional relationships between interest rate, exchange rate, government consumption expenditures and gross domestic product, while inflation and the degree of openness show no causal relationship with gross domestic product.

Park, *et al.*, (2023) examined the causes of inflation, the impact of the money supply, the relationship between the money supply and inflation, and it makes recommendations for both passive variables that will stabilise the money supply and some of the causes of inflation. The government should endeavour to enhance stabilisation programmes, especially open market operations, to regulate surplus money in circulation and so reduce inflation, according to some of the researchers' recommendations. Inflation is caused by deficit financing because it promotes money circulation that is out of step with productivity. Inam and Isaac (2022) examined the linkages among inflation, interest rate and exchange rate along with money supply and GDP with the aim of showing how the interactions among variables should influence monetary policy decisions in Nigeria using quarterly data from 2010 to 2018. The VEC model was applied and findings show that exchange rate is indicated as the most important monetary policy variable because it has a significant link with all variables in the model. Result also indicate that price stability and economic growth could be achieve through effective exchange rate and interest rate policies. In conclusion, even though the reviewed studies offer insightful information, the contradictory findings are probably caused by their different approaches, time periods, and data sets. For example, different studies may draw different conclusions depending on whether they use Granger causality tests or OLS, or ARDL, or ECM models. The time periods examined also vary greatly, ranging from short-term studies (1990–2016) to long-term analyses spanning multiple decades, indicating that the influence of inflation and interest rates on Nigeria's economic growth may change based on the time frame taken into consideration.

Fig. 1: Trend of Economic growth, inflation, and interest rate in Nigeria



Source: Author’s computation, 2024

The trends in Fig. 1 provide an analysis of inflation (INF), interest rates (INT), and economic growth (GRT), offering key insights into Nigeria's economic dynamics. Inflation has surged significantly, particularly since the late 1990s, reaching a peak of 421.07% in recent years. This highlights severe economic instability and persistent inflationary pressures that erode purchasing power and dampen consumer confidence. Interest rates, however, have remained stable, suggesting an ineffective monetary response to rising inflation, which may lead to negative real interest rates that discourage savings and investment. While economic growth shows a modest upward trend, it lags behind inflation, indicating structural inefficiencies and emphasizing the need for more effective fiscal and monetary policies to address these challenges and foster long-term economic stability.

Methodology

Data and Sources

This study uses annual reports and statistics from reputable sources, including the World Bank, the Nigerian National Bureau of Statistics, and the Central Bank of Nigeria's Statistical Bulletin. The data covers the period from 1990 to 2023, with 2023 selected as the endpoint due to the availability of data. To assess the impact of inflation and interest rates on Nigeria's economic development, the study employs Ordinary Least Squares (OLS) techniques.

Model Specification

This study adopted the Onwubuariri *et al.* (2021) model in Nigeria with minor modifications based on the theoretical review and empirical considerations. In accordance with their models, the model for this study is mathematically expressed as;

$$GDP_t = f(INF, INT, EXR, FDI) \text{-----(i)}$$

Where:

GDP_t = Economic development (Proxy for GDP growth rate) at time t

INF= Inflation rate

INT= Interest rate

EXR= Exchange rate

FDI= Foreign direct investment

While the general form of the econometric model can be expressed as:

$$GDP_t = \beta_0 + \beta_1 INF_t + \beta_2 INT_t + \beta_3 EXR_t + \beta_4 FDI_t + \epsilon_t \text{-----(ii)}$$

Where ϵ_t = Error term, capturing the effects of omitted variables and randomness. Other variables remained as earlier defined. β_0 is the intercept and $\beta_1, \beta_2, \beta_3, \beta_4$ are coefficients to be estimated.

A-Prior Expectations: $\beta_1 < 0; \beta_2 < 0; \beta_3 < 0; \beta_4 > 0$.

Data Analyses and Discussion of Findings

Descriptive Statistics

Table 1: Descriptive Statistics

	GRT	INF	INT	FDI	EXR
Mean	1.492	113.329	3.375	0.261	109.778
Median	1.499	68.226	5.530	0.240	100.567
Maximum	12.276	421.071	18.180	0.939	273.009
Minimum	-4.507	2.414	-31.450	-0.192	49.776
Std. Dev.	3.779	117.797	9.989	0.228	48.151
Skewness	0.544	1.230	-1.479	1.006	1.809
Kurtosis	3.497	3.478	5.881	4.427	6.411
Jarque-Bera	2.027	8.901	24.160	8.619	35.035
Prob	0.363	0.012	0.000	0.013	0.000
Sum	50.712	3853.218	114.760	8.862	3732.42
Sum Sq. Dev.	471.362	457911.1	3292.682	1.709	76511.20
Obs	34	34	34	34	34

Source: Researcher's Compilation, 2024 from E-view-9.

Table 1. presents descriptive statistics for the variables: Growth Rate (GRT), Inflation Rate (INF), Interest Rate (INT), Foreign Direct Investment (FDI), and Exchange Rate (EXR). The mean and median values show the central tendency of each variable. GRT has a mean of 1.492, close to its median of 1.499, indicating symmetry. INF's mean of 113.329, higher than its median of 68.226, suggests inflation spikes. INT's mean of 3.375 is lower than its median of 5.530, pointing to periods of low or negative rates. FDI's

mean (0.261) and median (0.240) align, while EXR’s mean of 109.778 exceeds its median of 100.567, indicating slight skewness. The range of each variable shows significant variability. GRT fluctuates between -4.507 and 12.276, reflecting both negative and strong growth. INF ranges from 2.414 to 421.071, indicating inflation volatility. INT spans -31.450 to 18.180, suggesting instability. FDI ranges from -0.192 to 0.939, showing shifts in capital flows, and EXR fluctuates between 49.776 and 273.009, highlighting currency volatility. Skewness and kurtosis values reveal that GRT is moderately skewed (0.544), while INF, FDI, and EXR show positive skewness. INT is negatively skewed (-1.479), reflecting more frequent low rates. Kurtosis values for INT (5.881), FDI (4.427), and EXR (6.411) indicate outliers, with GRT and INF closer to normal distribution. The Jarque-Bera test confirms significant deviations from normality for INF, INT, FDI, and EXR, particularly in INT and EXR, which may require special handling in further analysis. GRT, with a JB probability of 0.363, does not significantly deviate from normality.

Correlation Analysis

Table 2: Results of correlation Test

	GRT	INF	INT	FDI	EXR
GRT	1	-0.275	0.317	-0.087	-0.210
INF	-0.275	1	0.248	-0.274	0.114
INT	0.317	0.248	1	-0.019	0.082
FDI	-0.087	-0.274	-0.019	1	-0.359
EXR	-0.210	0.114	0.082	-0.359	1

Source: Researcher’s Compilation, 2024 from E-view-9.

The Table 2 shows weak relationships between growth rate (GRT), inflation (INF), interest rate (INT), foreign direct investment (FDI), and exchange rate (EXR). GRT has a weak negative correlation with INF (-0.275) and EXR (-0.210), but a modest positive correlation with INT (0.317). INF is positively correlated with INT (0.248) and EXR (0.114), and negatively with FDI (-0.274). INT shows very weak correlations with FDI (-0.019) and EXR (0.082). FDI is negatively correlated with EXR (-0.359), indicating reduced investment as exchange rates rise. Overall, the weak correlations suggest the need for more detailed econometric analysis.

Table 3: Results of Unit Root Test

Variable	t-Statistic	5% critical Value	Remark	S/N	t-Statistic	5% critical value	Remark	S/N
GRT	-3.807	-2.954	I(0)	S	-9.837	-2.957	I(1)	S
INF	4.194	-2.960	I(0)	NS	-3.189	-2.957	I(1)	S
INT	-2.276	-2.964	I(0)	NS	-4.444	-2.964	I(1)	S
FDI	-3.642	-2.954	I(0)	S	-7.711	-2.957	I(0)	S
EXR	-2.637	-2.954	I(0)	NS	-5.441	-2.957	I(0)	S

Where; S indicates Stationary; NS non-Stationary

Source: Research’s Compilation, 2024 from E-view-9

Table 3 shows the Augmented Dickey-Fuller (ADF) test results for both level and first differences. The growth rate (GRT) and foreign direct investment (FDI) are stationary at the level, while inflation (INF), interest rate (INT), and exchange rate (EXR) are non-stationary at this level, indicating they are integrated of order I(1). This is confirmed by t-statistics for INF, INT, and EXR exceeding the critical values at the 5% significance level. At the first difference, INF, INT, and EXR become stationary, indicating no unit root problem, as their t-statistics exceed the 5% critical values.

Johansen Co-Integration Test

Table 4: Johansen Co-Integration Test

Variables	Trace Statistic	0.05 Critical Value	Hypothesized No of CE(S)	Prob**
GRT	97.903	69.819	None *	0.000**
INF	57.192	47.856	At most 1 *	0.005**
INT	32.583	29.797	At most 2 *	0.023**
FDI	15.863	15.495	At most 3 *	0.044**
EXR	3.830	3.842	At most 4	0.0503

** indicates statistically significant at 0.05 level of significance

Source: Research’s Compilation, 2024 from E-view-9

*(**) the results indicate rejection of the null hypothesis at the 5% significance level for the long-run (LR) test, which reveals four co-integrating equations at this significance level. Table 4 demonstrates that the growth rate (GRT), inflation rate (INF), interest rate (INT), foreign direct investment (FDI), and exchange rate (EXR) in Nigeria are co-integrated within the model, as determined by the unrestricted co-integration rank test (trace). The values obtained from the unrestricted co-integration trace test exceed the critical values at the 5% significance level, leading to the rejection of the hypothesis of no co-integration among

the variables. Consequently, this analysis confirms that the variables are co-integrated for the study period in Nigeria.

Inflation and interest rates on Nigeria's economic development.

Table 5: Inflation and interest rates on Nigeria's economic development

Dependent Variable: GRT (Economic Growth Rate)				
The Empirical result of Ordinary Least Square				
Variable	Coefficient	Std. Error	t-statistic	Prob.**
INF	-0.014	0.005	-2.708	0.001**
INT	0.168	0.059	2.864	0.008**
FDI	-5.127	2.756	-1.860	0.073
EXR	-0.024	0.013	-1.917	0.065
C	6.497	1.979	3.283	0.003
R-squared: 0.263				
Durbin-Watson stat: 1.895				

Source: Research's Compilation, 2024 from E-view-9

Table 5 displays the findings of the Ordinary Least Squares (OLS) regression analysis, which uses the economic growth rate (GRT) as the dependent variable. The coefficients of the independent variables provide information about their respective contributions to economic growth in addition to their statistical significance. The inflation rate's (INF) coefficient of -0.014 indicates a statistically significant inverse relationship with economic growth, with a probability value of 0.001. This suggests that higher inflation rates are linked to slower economic growth, emphasizing the negative impact of inflationary pressures on investment decisions and purchasing power. This study aligns with the empirical works of Idris and Bakar (2017), Okafor (2018), Adaramola and Dada (2020), Onwubuariri, Oladeji, and Bank-Ola (2021), and Idolor and Omehe (2022). It is also supported by the Quantity Theory of Money, which explains that higher inflation, resulting from an unmatched increase in the money supply, erodes purchasing power, reduces investment, and creates economic uncertainty, all of which hinder economic growth (Teles *et al.*, 2016). The economic implication is that policymakers need to take action to control inflation since it can endanger economic growth and stability. Additionally, there is a statistically significant positive correlation between the interest rate (INT) and economic growth, as indicated by the coefficient of 0.168 and probability value of 0.008 for INT. This research suggests that raising interest rates may stimulate economic growth by increasing the availability of capital for investment and encouraging savings. This finding corresponds to the study by Onwubuariri, Oladeji, and Bank-Ola (2021) and Hirano, & Stiglitz, (2024) conducted in Nigeria and the Loanable Funds Theory of Interest Rates. It is implied that while proper interest rate policies can boost economic activity, too large of an increase could result in lower consumer borrowing and

spending, so a balanced approach is required. Moreover, the foreign direct investment (FDI) coefficient is -5.127 with a p-value of 0.073, indicating a statistically marginally negative effect on economic growth that is significant at the 10% level. This surprising discovery suggests that increased foreign direct investment may not always translate into better economic growth, possibly as a result of capital flight or the crowding out of domestic investments. The economic implication is that, in the absence of supportive domestic policies, merely luring foreign investment may not be enough to improve economic performance, making the type and management of FDI essential. The exchange rate (EXR) has a significant negative correlation with economic growth at the 10% level, as indicated by its coefficient of -0.024 and probability value of 0.065. According to this research, exchange rate swings may have a negative impact on economic expansion by affecting investor confidence and trade balances. Given that volatility may discourage investment and trade, it follows that stable and predictable exchange rate policies are crucial for creating an atmosphere that supports economic growth. Lastly, the model's independent variables explain 26.27% of the variation in economic growth, with an R-squared (R^2) value of 0.263, suggesting that other factors may also have an impact on growth. The Durbin-Watson statistic of 1.895, which is close to 2 and shows no appreciable autocorrelation, supports the results' reliability. According to the analysis, there are significant relationships between inflation, interest rates, and economic growth; however, further study is required to completely comprehend how foreign direct investment and exchange rate volatility interact. These findings demonstrate that for long-term growth, monetary policies, cautious FDI management, exchange rate stability, and effective inflation control are essential.

Post-Diagnostic Test

Table 6: Wald Test

Test-Statistic	Value	df	Prob.
F-statistic	4.588	(5, 29)	0.003
Chi-square	22.940	5	0.000

Source: Researcher’s computation (2024)

The results of the Wald test show a significant relationship between the variables, and the null hypothesis is rejected with an F-statistic of 4.588 and a p-value of 0.003. The chi-square statistic of 22.940 and the p-value of 0.000 further support the statistical significance of at least one coefficient. These findings demonstrate how the independent factors influence the dependent variable in concert.

Fig. 2: Normality Test

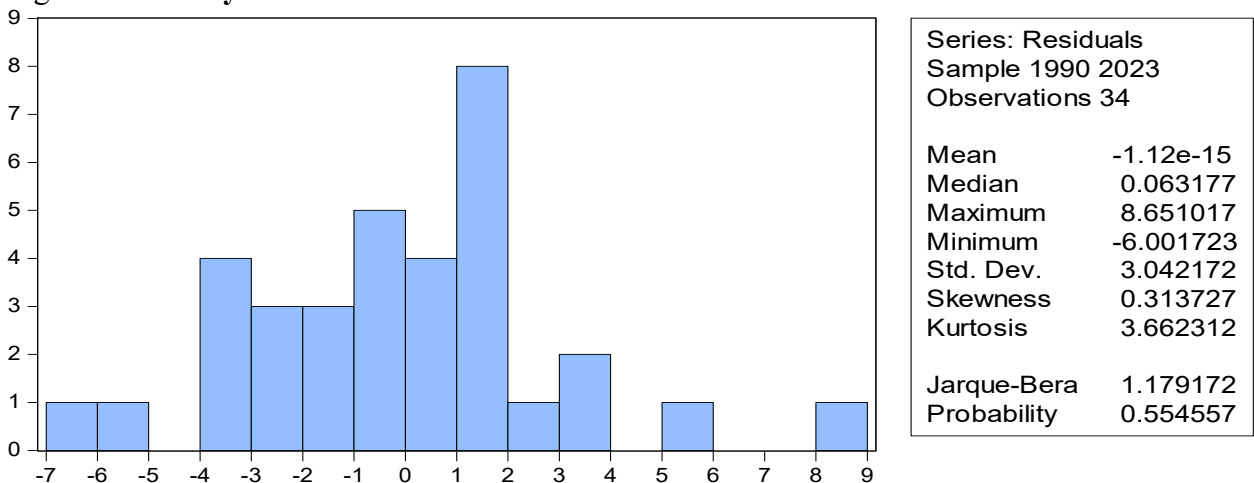


Fig. 2: Normality test Source: E-view-9 (2024)

Figure 2 displays the results of the model's normality test. Based on skewness and kurtosis, the Jarque-Bera statistic of 1.179 establishes whether or not the residuals have a normal distribution. The p-value of 0.555 indicates that there is no appreciable deviation from normalcy because it is higher than the 0.05 significance level. This shows that the residuals are normally distributed, which validates the assumptions of many statistical models.

Conclusion and Recommendations

This study looks at the intricate relationships between inflation, interest rates, foreign direct investment (FDI), and exchange rates that influenced Nigeria's economic growth between 1990 and 2023. The strong inverse relationship between inflation and growth indicates the urgent need for effective inflation control measures. The negative effects of increased foreign direct investment and currency depreciation highlight the urgent need for policies that support domestic companies and stabilize the economy in order to achieve sustainable growth. Oddly, higher interest rates may encourage profitable investments. To encourage sustainable economic growth in Nigeria, policymakers should adopt a balanced strategy that combines stringent monetary policies to control inflation with targeted fiscal measures to boost growth. A gradual increase in interest rates should be pursued in tandem with careful monitoring of key economic indicators in order to encourage investment while maintaining consumer spending. Establishing a favorable business environment through consistent regulations and strategic investments in high-impact industries will also increase the positive effects of foreign direct investment (FDI) on economic growth.

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