



The Effect of Inflation and Devaluation on Nigeria's Economic Expansion (1998–2023)

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ABSTRACT

The study analyzed the impact of currency devaluation and inflation on Nigeria's economic growth using data from 1998 to 2023 and conducting econometric and regression analyses in E-views 9.0. The results showed that the null hypothesis could not be rejected because the p-value was greater than the significance level of 0.05 (F-statistic = 2.879; p-value = 0.0788; Adjusted R² = 0.1304). The result also revealed a negative and significant effect of inflation on Nigeria's economic growth (coefficient = -0.1342; p-values = 0.0256); exchange rate fluctuation had a negative and insignificant effect on Nigeria's economic growth (-1.38774, p-value = 0.4682). It has been suggested that the government examine its monetary and fiscal policies in order to lessen the impact that inflation and currency devaluation have on the populace.

INTRODUCTION

When a nation's per capita production of economic products and services rises over a certain time period relative to a prior one, this is referred to as economic growth. The phrase gross domestic product (GDP) is used to describe economic growth. Growth is described by a positive trend in the economic growth calculation, and recession is indicated by a negative trend. An economic recession is a downward trend in the growth of a country's gross domestic product (GDP) caused by a slowdown in the economy. An efficient economic system promotes a good value chain system through procurement, production, quality control, distribution and marketing (Araoye, 2021). It can be seen that the contributions of citizens in the production of goods and services will determine the way of the economy.

The economy grows when the government provides a favorable environment for people's activities. It has been reported that some big manufacturing companies are leaving the country for other countries because of the difficult economic conditions that Nigeria has been experiencing. Basic infrastructure such as regular electricity supply, good roads, security and sustainable policies needed to encourage investment and production are not adequate and this makes the cost of doing business very difficult and expensive. There cannot be economic growth in a country where there is no sufficient production to cater to the population but the population relies more on imported goods and services. This trend puts more pressure on the country's insufficient foreign exchange earnings. The economy suffers at the expense of our affinity for consumption of foreign goods (Olayiwola, 2023). In the course of reviewing the Organization of Petroleum Exporting Countries' (OPEC) figures showed that, out of all the OPEC members, the oil and gas sector's contribution to GDP is the lowest in Africa, the continent's largest oil producer. The oil sector in Nigeria contributed 5.34% to the total real GDP in Q2 2023 (NBS). It was reported that Angola, Africa's second-largest oil producer, oil production, and other supporting activities contribute about 50% of the country's GDP and about 89% of exports. In Libya, the oil and gas sector accounts for about 60% of GDP while it accounts for about 40% of its exports. Saudi Arabia's oil and gas sector accounts for 40% of its GDP and about 75% of its export earnings.

The oil and gas sector in the United Arab Emirates (UAE) accounts for 30% of their GDP while Approximately 25% of Venezuela's GDP comes from the oil and gas industry (OPEC). As a result of volatility in world oil prices, the revenue generated by the government of Nigeria was affected and became unstable. This unstable oil price had attracted the Federal government to look into devaluing its currency to improve its revenue base. Nigeria officially had its first currency devaluation in 1973 when Naira was devalued by 10%. This had a massive effect as the country's foreign reserves grew by 773.5% in 1974 (Ani and Udeh, 2021). In 1986, Nigeria implemented a World Bank-induced currency devaluation due to falling oil prices and economic challenges, the Naira exchanged at N9 to \$1 by 1990. Devaluation is required to encourage local production and consumption but the case was not so for Nigeria because we

remain an import-dependent nation. Nigeria has had various stages of devaluation from fixed to floating exchange rate systems. Officially, the Naira was allowed to float fully when it was announced by the President of the Federal Republic of Nigeria, President Bola Ahmed Tinubu in June 2023. The Naira exchanged at N750 to \$1 on 14 June 2023 losing about 40% of its value at the same time, subsidy on petroleum products was removed to give room for transparency in the oil sector and also to reduce the wastages affecting the government's revenue. Devaluation worsens the economy of any import-dependent nation because they import at exorbitant prices and this fuels inflation in the economy.

The two items introduced by the country in June 2023 had fuelled inflation to an astronomical level from 22.79% in June 2023 to 28.92 in December 2023 the Naira suffered massive devaluation in the market from N416 at the end of May 2023 to an exchange rate of N1,482 in February 2024 representing a depreciation of 256.25% and rose to N1,650/\$ in November 2024. This currency depreciation has led to an appreciation in oil revenue generation for the government to meet its fiscal needs. In the same vein, devaluation has impoverished other sectors of the economy that depend on imported inputs for their sustainability. Some companies have shut down as a result of Naira depreciation and employees were laid off. This will also impact the cost and standard of living of the citizenry. The Nigerian Naira is now considered one of the most depreciated currencies in Africa. Udo et al. (2018) in their study on the implication of Naira devaluation to Nigeria's economic development opined that devaluation had a negative effect due to dependence on foreign consumption. The economy is facing a serious challenge resulting in a general increase in price levels called inflation. The twin policies (devaluation and subsidy removal) introduced in June 2023 led to galloping inflation from 22.79% in June 2023 to 28.92% in December 2023. This represents a 26.90% increase in the inflationary trend within seven months. This has stifled businesses across the country and consumption has also been curtailed because more Naira is chasing fewer goods.

Life is becoming unbearable and tougher for the citizenry. Ahmed (2018) found a negative correlation between inflation and economic growth in Nigeria in his study re-examining the relationship between inflation, exchange rate, and economic growth. He also believed that, in light of the effects of exchange rate and subsidy reduction, the government should take immediate action to resolve the indirect relationship between inflation and economic growth. Vector error correction revealed that inflation had a negative and negligible influence on Nigeria's economic growth, according to Eze and Nweke's (2017) study evaluating the effects of inflation on economic growth in that country. This research seeks to provide answers to research questions like: What is the effect of Naira devaluation on the economic growth in Nigeria? How does the inflation affect the economic growth in Nigeria? This study seeks to address the current economic situation in Nigeria which is a departure from past studies carried out. Not many studies treated the two independent variables together against the economic growth, it was either exchange rate or inflation against

economic growth (Miftahu and Isaac, 2023; Eyung et al, 2021; Onwubuariri et al. 2021; Adaramola and Dada, 2020). The study also aims to add to the body of literature by examining empirically how inflation and devaluation affect Nigeria's economic growth. In order to determine the importance of the independent factors in relation to the dependent variable, two hypotheses were developed from the studied literature: Nigeria's economic development is not significantly impacted by either inflation or the exchange rate.

Conceptual Clarification

Economic growth

The rise in the market value of products and services generated in a nation over time and in comparison, to a prior period is referred to as economic growth. The comparison of the current period against the previous period shows whether there is a growth or recession. Due to the unstable economic environment, Nigeria's GDP has not been stable, it has witnessed recession at some times. Nigeria had gone through some phases of life such agricultural era, the oil boom era, and the ICT era. During the agricultural era (1955-1970), Nigeria recorded 3.1 percent GDP growth annually. A total of 6.3 percent GDP growth was recorded annually during the oil boom period (1970-1980) in Nigeria. The growth slowed down in the 1980s until the period 1986 Structural Adjustment Program (SAP) was adopted to reform the economy. This was when currency devaluation and oil subsidy issues started. This was the period Nigeria started romancing IMF and World Bank for external debts. The GDP was on the average of 4 percent during this period. Nigeria recorded the highest GSP growth rate of 15.33 percent in 2002 followed by 9.25 percent in 2004 (NBS). The GDP growth rate of Nigeria has not gone above 10 percent since 2002. Though Nigeria entered recession twice in 2016 & 2020 and the GDP growth rate was 3.25 in 2023.

Devaluation

Devaluation is the downward adjustment of a country's currency value relative to another currency (especially the dollar) as expressed by Okaro (2017). Nigeria's Naira has been officially depreciated from N0.5926/\$ in 1980 to N1,482 in 2024. Currency devaluation is not helpful to an import-dependent nation because it fuels cost-push inflation. Devaluation aims to increase export value but makes importation difficult, fuelling cost-push inflation (Nweze and Ejim, 2021). Devaluation is required to create international competitiveness for local industries which should divert the consumption of foreign goods and services to local goods and services (Loto, 2018; Miftah and Isaac, 2023). The traders and companies engaged in imported inputs will pass the cost to the final consumers. Inflation tends to reduce people's consumption level because their income does not match the prices of goods and services in the market. We have experienced the shutting down of businesses as a result of Naira devaluation, companies can no longer cope with the cost of importation. This has led to the sacking of employees in some sectors of the economy. This will reduce the contribution to GDP at an aggregate level. Since June 2023, Nigeria's Naira has suffered a 256.25 percent depreciation officially and this has made the currency to be the worst in Africa at the moment. One can see that devaluation

has raked in more money for the government through oil exports but it has destroyed other sectors that depend on importation for their survival. This has brought smiles to the government but cries to the citizens who are complaining of the hardship they are going through. Prices of goods and services are no longer stable daily. Despite Nigeria's population might, the country is not found among the best five countries in Africa with economic growth rate according to World Finance report (Ethiopia – 8.5 percent, Cote d'Ivoire – 7.4 percent, Senegal – 7 percent, Tanzania – 6.4 percent, and Ghana – 6.3 percent).

Inflation

Inflation is the increase in the price of available goods and services as a result of increase in the volume of money in circulation. Doing business which is passed down to final consumers (Adaramola and Dada, 2020). The current inflation in Nigeria is a result of cost increases fueled by full fuel subsidy removal in June 2023. According to the National Bureau of Statistics, Nigeria's inflation has been increasing with 22.79% in June 2023, 24.08% in July, 25.8% in August, 26.72% in September, 27.33% in October, 28.2% in November, and 28.92 percent in December. It is currently at 32.7% as of September 2024. Inflation reduces consumption patterns and aggregate demand, leading to low sales, downsizing, and unemployment. The aggregate demand slows down because of the high price of goods and services without a commensurate increase in income. The palliative announced by the government could not meet up with the price level of goods and services in the market. Nigeria is ranked 7th position among the top ten countries with the worst inflation rates: Sudan 63.3 percent, Sierra Leone 52.16 percent, Congo 42.5 percent, Zimbabwe 34.8 percent, Malawi 34.5 percent, Egypt 33.7 percent, Nigeria 28.92 percent, Ethiopia 28.7 percent, Ghana 23.2 percent, and Angola 20.01 percent). Inflation stifles businesses and brings about low sales which leads to downsizing in companies and an increase in unemployment rates. The inflation rate also influences the rise in interest rates charged by the banks. In November 2023, the Nigeria Apex Bank increased its monetary policy rate to 18.55% in order to close the gap with the inflation rate. This suggests that it is expensive to raise capital for both new and existing businesses.

LITERATURE REVIEW

Purchasing Power Parity (PPP)

In the sixteenth century, the Salamanca School in Spain gave rise to this philosophy. In the modern period, Gustav Cassel (1918) expanded on it. After World War I, when nations decided to switch back to the gold standard system, Gustav suggested PPP as a way to restore exchange rate parity. Countries that abandoned the gold standard had varying rates of inflation during and after the war, therefore a differentiation was drawn. The suitable form of PPP is based on a very good international publication of the law of one price, which is used to set the exchange rate system. Absolute PPP is predicated on the idea that, via market forces fuelled by arbitrage, the exchange rate will fluctuate in order to bring the prices of a national basket of goods and services on par with one

another. According to the notion, the prices of a national basket of goods and services should be equalized across nations by modifying exchange rates.

Optima Currency Area (OCA) Theory

This theory was proposed by Mundell (1961) and McKinnon (1963). The hypothesis underlying the theory is the stabilization of the economic and trade cycle subject to the symmetry of shocks, the degree of openness, and the mobility of the labor market. The theory suggests that a fixed exchange rate system can increase trade and output growth by reducing exchange rate uncertainty. Growth in trade and production can be adjusted to meet the demand by delaying the necessary process of relative price adjustment.

Empirical Literature Review

Devaluation and Nigeria's Economic Development

Miftah and Isaac (2023) examined how Nigeria's economic growth is affected by exchange rate fluctuations. The study examined secondary data from the CBN Statistical Bulletin from 1986 to 2022 and using an ex-post facto research design. The study's findings showed that the exchange rate positively and marginally impacted Nigeria's economic expansion. Additionally, the results indicated that inflation and interest rates had a negligible negative impact on economic growth.

Using secondary data from 1986 to 2022, Olayiwola (2023) investigated how exchange rate fluctuations affected Nigeria's economic growth. Economic growth was found to be positively impacted by the exchange rate, however this effect was statistically negligible. The research' conclusions, however, varied about the impact of inflation and the asymmetrical impacts of Naira value fluctuations on economic growth.

In their 2021 study, Ani and Udeh investigated how the exchange rate affected unemployment, GDP, and GNP. The study was conducted using an ex-post facto design. For the ten-year period from 2009 to 2018, secondary data from the Central Bank of Nigeria Statistical Bulletin was used. To verify the accuracy of the data and their correlation over the short and long term, a number of diagnostic tests were conducted. The techniques of ordinary Least Square (OLS) were used to test the hypotheses. GDP and GNP were shown to be significantly impacted by the exchange rate, but unemployment was found to be negligible.

Nweze and Ejim (2021) investigated how the devaluation of the Nigerian currency affected the market share of South-East Nigerian manufacturing companies. Data was gathered using both quantitative and qualitative methods. The study used an explanatory mixed-method approach. All 845 workers from the manufacturing companies in South-East Nigeria made up the study's population. Three hundred and fifty-three (353) were chosen at random by the researcher for the study. Due to its population, the pilot study was carried out in South-East Nigeria. Respondents were given 20 copies of the questionnaire in order to pre-test the study plan and guarantee its validity. The SPSS was used to examine the study's data. According to the study, currency devaluation has an impact on the government, the economy, citizens, import and export of goods, and manufacturing.

Udo et al. (2018) investigated how Nigeria's economic development was affected by the devaluation of the Naira. Using the Classical Linear Regression Model (CLRM), secondary data from the National Bureau of Statistics was obtained between 2000 and 2015. To find the results, the data was analyzed using the Ordinary Least Square (OLS). According to the results, R² accounted for 92% of the GDP variation in the model analysis that the primary regressors could account for. While external debt and public investment had negative and non-significant effects on GDP, exchange and inflation rates had positive and substantial effects. The findings demonstrated that, in the Nigerian economy, devaluation has done more harm than good since the system lacks the necessary requirement to guarantee devaluation profits because of an over reliance on foreign exchange.

Currency depreciation and Nigeria's economic growth from 2000 to 2015 were studied by Okaro (2017). Time series data spanning 16 years, from 2000 to 2015, were employed in this study. The analysis was conducted using E-views 8.0 and the Ordinary Least Square (OLS) regression approach. Currency depreciation and Nigeria's real GDP were shown to be significantly correlated. There was no significant correlation between currency devaluation and private domestic investment in Nigeria, although there was a substantial correlation between currency depreciation and Nigeria's external debt. Therefore, devaluation of the currency raises interest rates while decreasing imports and promoting exports. Devaluation has short-term negative repercussions, such as unemployment and inflation.

Inflation and Economic Growth in Nigeria

Onwubuariri et al. (2021) examined the effect of inflation on economic growth in Nigeria with the use of an ARDL-bound testing approach. The research design used was ex-post facto with data sourced from the World Development Indicators (WDI) published by the World Bank for the period 1980-2019. Inflation rate, interest rate, exchange rate, and government expenditure constituted the independent variable while the GDP was used as a dependent variable. The Autoregressive Distributed Lag (ARDL) model and the Error Correction Model (ECM) were used to analyse the data collected. The results revealed that inflation had a negative effect on economic growth in Nigeria during the period covered. This was said to reduce competitiveness and the purchasing power of money.

Using data from Nigeria, Adaramola and Dada (2020) investigated how inflation affects economic growth. For the 1980–2018 period, the study used the autoregressive distributed lag (ARDL) on the chosen variables, which included the money supply, real gross domestic product (GDP), inflation rate, interest rate, exchange rate, degree of economic openness, and government consumption expenditures. The results of the analysis showed that while interest rates and the money supply had a large beneficial impact on economic growth, inflation and the real exchange rate had a significant negative impact. Nigeria's economic growth was unaffected by other model factors. The causality result demonstrated the unidirectional connections between the gross domestic product, government consumption spending, interest rates, and

currency rates. Nevertheless, there was no direct correlation between GDP and either inflation or the level of openness. Ahmed (2018) re-examined the connection between Nigeria's economic development, exchange rate, and inflation. The Central Bank of Nigeria (CBN) Statistical Bulletin provided the time series data used in the study, which covered the years 1981 to 2016. To check for both short-term and long-term associations between the variables, the study used the ARDL Model. The results demonstrated that the factors have a long-term association. The short-term outcome showed that the only factor negatively correlated with Nigeria's economic growth was inflation. The government must give immediate attention to the indirect relationship between inflation and economic growth because changes in the exchange rate that affect the import and export of goods and services will be linked to inflation since these changes cause price trends to move both upward and downward.

Loto (2018) examined the devaluation of the Naira and the state of the Nigerian economy from 1985-2015 (an econometric analysis). The study adopted the elasticity approach using the import and export demand equation. The study used secondary time series data. Ordinary Least Squares (OLS) regression was used for the analysis, with initial stationarity and stability tests. The result of the unit root test showed that the variables were of the same order of iteration being stationary at first difference. This led to the co-integration and error correction tests. The overall result revealed that devaluation could not address the problem of the Nigerian economy. Eze and Nweke (2017) assessed the effect of inflation on Nigeria's economic growth using the vector error correction model approach (VECM). Co-integration approach, vector error correction model (VECM), and Granger causality test were used for the analysis. Real gross domestic product (RGDP) was used as the dependent variable while inflation rate (INFR), government investment expenditure (GINVXP), private investment expenditure (PINVXP), and total export (TEXP) were used as the independent variable. The results of the cointegration test showed a long-term relationship between the selected variables. The VECM results showed that inflation had a negligible negative effect on Nigeria's economic growth. In addition, GINVXP and TEXP were found to have a negative significance on real GDP. The results also showed that PINVXP had a significant positive impact on real GDP. Similarly, the results of the Granger causality test revealed no causality between the inflation rate and real GDP.

METHODOLOGY

The study adopted an ex post facto research design. Data from secondary sources through the annual time series of the CBN Statistical Bulletin 1998-2023 were used. The study population covers Nigerian macroeconomic data from 1998 to 2023. Purposive sampling was adopted for the study. The study covers 25 years (1998-2023). The interest rate was initially considered, but excluded due to multicollinearity problems discovered during data analysis. The data used for the study was obtained from the Statistical Bulletin of the Central Bank of Nigeria and the National Bureau of Statistics (NBS) for the period of 25 years (1998-2023). Both agencies are considered reliable, so the data obtained from them is proven accurate. A combination of descriptive, correlational and

inferential statistics was used to analyse the data obtained. Auto-regressive distributed lag (ARDL) and regression analysis were also performed using E-views version 12.0. E-views version 12.0 was used for its robustness in managing the various analyses carried out for the study.

Model Specification

The model equation is:

$$Y = f(A)$$

$$Y = y_1$$

$$A = a_1, a_2$$

$$y_1 = \beta_0 + \beta_1 a_1 + \beta_2 a_2 + \varepsilon \dots\dots\dots 1$$

Where: Y = dependent variable, A = independent variable, β_0 = intercept term, β_1, β_2 = Regression coefficients to be determined, a_1, a_2 = set of explanatory variables, y_1 = GDP, a_1 - Foreign exchange rate, a_2 - Inflation rate.

$$RGDP = \beta_0 + \beta_1 \text{LogExch} + \beta_2 \text{Inft} + ut \dots\dots\dots 2$$

Where; RGDP is the real Gross Domestic Product, Exch is a Foreign Exchange rate, Inf = Inflation rate, β_0 = intercept of the regression equation, $\beta_1, \beta_2, \dots, \beta_n$ = Regression coefficients to be determined

t = Time Series.

RESULT AND DISCUSSION

Data Presentation and Analysis

Table 1. Descriptive Statistics

Parameters	GDP_GROWTH	INFL_RATE	LG_EXCG_RATE
Mean	4.427637	17.13673	2.211948
Median	4.325000	11.88000	2.163210
Maximum	15.22000	72.84000	2.843860
Minimum	-1.710000	6.700000	1.450047
Std. Dev.	3.766141	14.49780	0.418970
Skewness	0.638431	2.587415	-0.696868
Kurtosis	4.047481	10.03387	2.983448
Jarque-Bera	2.929670	98.36387	1.827629
Probability	0.344202	0.000000	0.433788
Sum	129.5400	511.0800	63.72929
Sum Sq. Dev.	392.1197	6079.618	5.123429
Observations	25	25	25

Source: Author’s computation (2024) E-views 9.0 version

Table 1 shows the statistical distribution of the different data used for the study. The study showed average values of 4.428, 17.137 and 2.212 for GDP growth, inflation rate and excg_Lg rate with standard deviation of 3.766, 14.501 and 0.419 respectively. The standard deviation shows the dispersion of the mean values from each other. The difference between minimum and maximum values also describes the difference between periods of data values. The table shows the minimum values -1.710, 6.700 and 1.450 and the maximum values respectively 15.220, 72.730 and 2.844 for GDP growth, inflation rate and

excg_Lg. There is a wide difference between GDP growth (-1,710 and 15,220) and the inf_s rate (6,700 and 72,840) while Lg_exxcg did not show much difference between the minimum and maximum values (1,450 and 2,844).

Table 2. Correlation Test

	INFL_RATE	INT_RATE	LG_EXCG_RATE	VIF
INFL_RATE	1.000000	0.891936	-0.381837	28.874
INT_RATE	0.891938	1.000000	-0.411796	29.873
LG_EXCG_RATE	-0.381947	-0.411796	1.000000	1.248

Source: Author’s computation (2024) E-views 9.0 version

Three independent variables- inflation rate, interest rate, and exchange rate- were examined for correlation in a study. High correlation between inflation rate and interest rate led to the exclusion of interest rate to address multicollinearity. VIF values exceeding 10 indicated multicollinearity, prompting the exclusion of interest rate for further analysis.

Table 3. Correlation

	INFL_RATE	LG_EXCG_RATE	VIF
INFL_RATE	1.000000	-0.381837	1.170647
LG_EXCG_RATE	-0.381837	1.000000	1.170547

Source: Author’s computation (2024) E-views 9.0 version

Table 3 above signifies an inverse relationship between the two variables. This means that as one variable increases, the other variable tends to decrease. There was a weak negative relationship of -0.381837, the variables have a slight tendency to move in opposite directions. The VIF of 1.170647 shows a very low multicollinearity. The two independent variables are independent of each other and there is no significant correlation. This implies that there are no issues with multicollinearity, regression coefficients are likely reliable, and model stability and interpretability are maintained.

Table 4. Unit root Test Augmented Dicky Fuller (ADF)

Variable	ADF Test at Level	Critical value 5%	Interpretation	Remark
GDP_Growth	-3.187460	-3.784344	I (0)	Stationary
INFL	-2.974308	-3.784344	I (0)	Stationary
Lg_rxcg_rate	-2.047781	-3.784344	I (0)	Stationary

Source: Author’s computation (2024) E-views 9.0 version

Table 4 presents a summary of the unit root test for the series at levels where all variables are stationary at levels 1 (0) since the ADF statistic values are less than the critical values of all variables. The null hypothesis is rejected when the ADF statistic is less than the critical value (the series is stationary) while we do not reject the null hypothesis when the ADF statistic is greater than the critical value (the series is probably not stationary). The result confirmed the adoption of the ARDL system. This result is consistent with the study of Loto (2018) which showed that the variables were of the same order of repetition being stationary in the first difference.

ARDL Bounds Test for Co-Integration

Table 5. ARDL Bounds Test

ARDL Bounds Test
Date: 13/10/2024
Time: 04:26pm

Sample: 5 25		
Included observations: 25		
Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	K
F-statistic	2.708614	2
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	3.18	4.13
5%	3.89	4.76
2.5%	4.31	5.63
1%	5.17	6.47

Table 5 shows the result of ARDL bounds test with GDP as the dependent variable while inflation rate and exchange rate serve as independent variables. In testing the ARDL limits for cointegration, the null hypothesis of no cointegration is rejected when the F statistic is greater than the upper critical bound / (UCB) 1 (1), implying that there is cointegration between the variables and that the variables cointegrate above a long-term relationship. If the f-statistic is less than the Lower Critical Bound (LCB) 1 (1), it does not indicate cointegration between the variables, so we do not reject the null hypothesis of no cointegration. This implies that there is no cointegration between the variables, which indicates long-run relationship absence. In a situation where the F statistic is between LCB and UCB 1(1), the result is said to be inconclusive. The F-statistic in Table 5 is 2.708614, which is below the upper bounds of 4.13, 4.67, 5.63, 6.47 at the 10%, 5%, 2.5% and 1% significance levels respectively. This suggests that there is a short-run relationship between the variables and there is no cointegration at all levels of existence, therefore there is no long-run relationship between the variables. The result of this study contradicts the study of Eze and Nweke (2017) who reported a long-run relationship between their selected variables.

Granger Causality Test

The Granger Causality Test is used to determine whether one variable in a series of points can be used to predict another. The null hypothesis is X does not cause Y, but is rejected if p-value is less than 0.05, indicating X causes Y in the Granger sense. X can be used to predict Y, that is, the past values of X can provide information to predict Y. The opposite is the case when the p-value is greater than 0.05, the null hypothesis cannot be rejected, ie X. cannot cause Y in the Granger sense. This suggests that X cannot be used to predict Y and that past values of X cannot provide information to predict Y. There are three directions of causation: unidirectional causation, bidirectional causation, and non-causation. One-way causality indicates that X Granger causes Y, but Y does not Granger cause X. Bidirectional causality indicates that X Granger causes Y and Y Granger causes X. Absence of causality indicates that neither X nor Y Granger causes the other.

Table 6. Granger Causality Test

Pairwise Granger Causality Tests		
Date: 13/10/2024		
Time: 05:42pm		
Sample: 1 25		
Lags: 2		

Null Hypothesis:	Obs	F-Statistic	Prob.
INFL_RATE does not Granger Cause GDP_GROWTH	25	1.83497	0.3009
GDP_GROWTH does not Granger Cause INFL_RATE		4.03433	0.0424
LG_EXCG_RATE does not Granger Cause GDP_GROWTH	25	0.47307	0.8437
GDP_GROWTH does not Granger Cause LG_EXCG_RATE		0.43448	0.8360
LG_EXCG_RATE does not Granger Cause INFL_RATE	25	2.42653	0.2322
INFL_RATE does not Granger Cause LG_EXCG_RATE		1.78672	0.1876

Source: Author’s computation (2024) E-views 9.0 version

Table 6 shows the Granger Causality test results among the variables used for the study. It was revealed that causality does not run between inflation and GDP growth. This is shown by the p-values of causalities that ran from inflation to GDP (0.3009) which is more than 0.05 significance level but it is not so with GDP Granger causing inflation with a p-value of 0.03424. This can be referred to as unidirectional causality which is in tandem with the results of the study carried out by Eze and Nweke (2017) on assessment of the effect of inflation on Nigeria’s economic growth.

Table 7. Regression Analysis

Dependent Variable: GDP_GROWTH				
Method: Least Squares				
Date: 13/10/2024				
Time: 06:07pm				
Sample: 1 25				
Included observations: 25				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.643215	3.844764	2.390233	0.0314
INFL_RATE	-0.134276	0.046824	-2.462657	0.0468
LG_EXCG_RATE	-1.387735	1.572674	-0.695474	0.4504
R-squared	0.163715	Mean dependent var	4.246568	
Adjusted R-squared	0.130442	S.D. dependent var	3.986231	
S.E. of regression	3.487629	Akaike info criterion	5.428765	
Sum squared resid	443.7404	Schwarz criterion	5.751013	
Log-likelihood	-78.18783	Hannan-Quinn criter.	5.384619	
F-statistic	2.879562	Durbin-Watson stat	0.944317	
Prob(F-statistic)	0.098723			

Source: Author’s computation (2024) E-views 9.0 version

The coefficient results presented in Table 7 revealed that real GDP will increase significantly by 7.6% if the inflation rate and exchange rate remain constant. The inflation coefficient showed a significant negative effect on economic growth (real GDP) over the study period. The exchange rate showed a negligible negative effect on economic growth (GDP) of Nigeria over the study period. The adjusted R-square is the coefficient of determination that shows the strength of the independent variables on the dependent variable, that is, the effect of the combined strength of the independent variables on the dependent variable. The above table showed that 11.02% of the independent variables accounted for the outcome of the dependent variables. This shows that inflation rate and depreciation (exchange rate) accounted for 13.03% of Nigeria’s economic growth output. Factors other than the independent variables accounted for 79.66% of the dependent variables. This has created a

vacuum for other researchers to work on. This study contrasts with the study by Udo et al. (2018) which has an adjusted R-squared of 90% with a significant positive effect of exchange rate and inflation on economic growth.

Table 7 showed F-statistics (2.688671) and a p-value of 0.89634. The p-value is more than 0.05 significance level. The statistics rule says that the null hypothesis is rejected when the computed value (p-value) is less than 0.05 but the null hypothesis cannot be rejected when the p-value is more than 0.05 significance level. In the table above, the p-value is more than 0.05 significance level hence the null hypothesis cannot be rejected which shows that the combined strength of inflation and exchange rate does not affect the economic growth of Nigeria. This suggests that other factors in the system impact the economic growth as depicted by the adjusted R squared. The inflation rate has a negative and significant effect on the economic growth of Nigeria. This shows that every unit of inflation introduced into the system leads to a 0.13% reduction in economic growth. This suggests that the current inflation rate needs to be watched carefully so as not to affect the standard of living of citizens. Common people at the moment are finding life difficult to cope with the cost of living, this will deteriorate the standard of living and affect economic growth downwards. Prices of goods and services are no longer stable in the market. Salary earners are the worst hit as their salary is fixed against increasing prices daily. The result also showed that the effect of inflation on the economy is very significant as all aspects of the economy are affected negatively. The inflation rate is currently at 32.7% as of September 2024. The result of this study is in tandem with the results of Onwubuariri et al. (2021) and Ahmed (2018) which reported a negative effect of the inflation rate on the economic growth of Nigeria. The result of this study does not agree with the report of Olu and Idih (2015) which reported a positive and insignificant effect of inflation on the economic growth of Nigeria. Miftahu & Isaac (2023) had a mixed result when it was reported that inflation had a negative but insignificant effect on economic growth. It revealed that every unit of exchange rate introduced resulted in a 1.379% reduction in economic growth. This result is in tandem with the study of Ishola (2016) which reported that exchange rate fluctuation did not affect economic growth in the long run relationship. The study was not in agreement with the studies of Miftahu & Isaac (2023), Olayiwola (2023), Eyung et al. (2021), Nweze & Ejim (2021), Ani & Udeh (2021), and Okaro (2017) which reported a positive and significant effect of exchange rate devaluation on the economic growth of Nigeria. Devaluation is also a contributory factor to inflation considering the level of importation embarked upon by various sectors of the economy. The naira currency was heavily devalued from June 2023 from N405/\$ to its present level of N1,654.69/\$ as of 15 October 2024 and N1,678/\$ in November 19 2024. Nigeria is a net importer of foreign goods as we seek to import virtually all that we consume. Nigeria is an oil-producing nation that imports fuel from other oil-producing countries despite the ownership of four local refineries that have become moribund for more than 35 years. The manufacturing sector relies heavily on imported raw materials, this has caused some of them to fold up or scale down their

operations while some have relocated from the country (Shoprite Ltd, Tiger Brands Ltd, Woolworths Holdings Ltd, Microsoft, Bayer AG, Bolt Food, Unilever Plc, Procter and Gamble Co., GSK Plc, Kimberley-Clark Corporation, and Sanofi SA).

The study has shown that the two independent variables are bitter pills difficult to swallow for the Nigerian economy to survive. Exchange rate devaluation was adopted on the advice of the World Bank as a conditionality to take a loan from it. Exchange devaluation does not augur well for any import-dependent nation because it makes imported materials, goods, and services more expensive and unaffordable by common citizens and it worsens their standard of living. Exchange rate devaluation makes our exported goods cheaper and imported goods more expensive. Nigeria being a net importer of foreign products suffers more from the exchange rate devaluation. Virtually all our manufacturing companies rely on imported materials to function. The cost of imported materials is passed down to final consumers. Inflation is an increase in the general prices of goods and services in the market. So many factors are responsible for inflation in the economy ranging from devaluation, subsidy removal, minimum wage increase, food shortage, and shutting down of companies. Businesses are affected by the results of this study because customers can no longer afford what they used to buy. A customer that used to buy 5 items could hardly afford to buy 2 items now. Businesses are shutting down; employees are retrenched from employment and these have a negative impact on economic growth. Small businesses are not faring any better.

CONCLUSIONS AND RECOMMENDATIONS

The study examined the impact of inflation and exchange rate fluctuations on Nigeria's economic growth. Inflation was found to have a negative effect on economic growth, reducing purchasing power and contracting economic activities. The removal of fuel subsidies triggered inflation in various sectors, affecting all economic activities. However, increasing the minimum wage was not seen as a solution to inflation, as it only benefited civil servants and could lead to layoffs in other sectors. Exchange rate devaluation also had a negative impact on economic growth, causing a reduction in economic activities. The Naira's devaluation benefited exporting countries but made imports more expensive for Nigeria. Some manufacturing companies struggled with higher import costs, leading to closures and job losses. Debt repayment was also affected, as more Naira was needed to settle debts acquired at a lower exchange rate. The two independent variables are important factors that affect the economy of the country. They need to be seriously reviewed to bring the economy to the right course and restore normalcy to the living standard of Nigerians. Inflation is currently at 32.7% as of September 2024. Prices of materials are no longer stable in the market. One cannot predict the prices of goods any longer. The country's currency has been floated hence it is no longer stable, and it keeps depreciating regularly. These two items (inflation and exchange rate devaluation) need to be revisited by the government to provide temporary relief to the citizens and put some sustainable measures in place to cushion their effects. The stationary tests revealed that the variables were

stationary at levels 1(0) because the ADF statistical values were less than the critical values. In the ARDL Bounds test carried out, it was shown that there was no co-integration among the variables which suggests a short-run relationship at all levels. This means that the situation runs for just a short period and can be corrected in the long run. The Granger causality test was carried out to show the prediction of variables against each other. The result showed a unidirectional status between inflation and GDP in which inflation could not Granger cause GDP (0.2117) but GDP Granger caused inflation (0.0421).

Based on the study's objectives and findings, the following recommendations are made:

The government should review its fiscal and monetary policies to address the challenges of inflation and exchange rate depreciation. This can be achieved through income redistribution, cost-effective governance and aggressive crackdown on corrupt practices in all aspects of the Nigerian economy.

The government should review its debt profile to ensure that any debt contracted is linked to a specific project.

The government should be committed to a domestic consumption orientation that will reduce dependence on the import of goods and services from foreign countries. All states in the country should have the duty to look inward and develop the agricultural and mineral resources of their regions within a certain period of time.

Government agencies involved in oil refineries and steel production should be given a timeline to operate these industries. Maintenance work has been carried out at four oil refineries in Nigeria without results. Steel enterprises have become dead and ineffective since their inception in the 1980s. The government needs to develop a monitoring and evaluation framework to assess the effectiveness of policies.

FURTHER RESEARCH

This research still has limitations so further research is still needed on this topic.

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