Impact of Inflation on Economic Growth in Nigeria

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Abstract- ***The persistent inflation issue in Nigeria has raised concerns about its impact on the country's economic growth. Understanding the relationship between inflation and economic growth is crucial for policymakers to design effective strategies that promote sustainable development. This study investigates the relationship between inflation and economic growth in Nigeria. Specifically, it seeks to determine the extent to which inflation impacts economic growth and to identify the key factors that mediate this relationship. The research employs a quantitative approach, utilizing time series data spanning from 2000 to 2023. The Consumer Price Index (CPI) is used as a proxy for inflation, while Gross Domestic Product (GDP) represents economic growth. The study applies the Ordinary Least Squares (OLS) regression method and Granger causality tests to analyze the data and establish the direction of the relationship between inflation and economic growth. The results indicate a statistically significant positive relationship between inflation and economic growth in Nigeria. The analysis reveals that moderate inflation levels can stimulate economic growth by encouraging spending and investment. However, high inflation rates are found to have a detrimental effect on economic growth, leading to uncertainty and reduced investment. The study concludes that while inflation can have a positive impact on economic growth at moderate levels, excessive inflation poses a threat to economic stability and growth. Policymakers should aim to maintain inflation within an optimal range to harness its growth-stimulating effects while avoiding the adverse consequences of high inflation. Based on the findings, the study recommends that the government implement monetary policies that target a moderate inflation rate to foster economic growth and promote policies that stabilize the exchange rate to support economic growth.***

Index Terms- ***Inflation, Economic Growth, Consumer Price Index, Gross Domestic Product, OLS.***

I. INTRODUCTION

Inflation is widely discussed in economic contexts, representing the overall rise in prices of goods and services, which diminishes money's purchasing power. Economic growth, conversely, refers to a country's increased economic productivity, typically gauged by its Gross Domestic Product (GDP). In Nigeria, inflation has remained a significant economic issue, with rates fluctuating due to various internal and external factors. As an oil-dependent nation, Nigeria's economy is highly vulnerable to global price shocks and exchange rate fluctuations that often lead to inflation (Abdullahi, 2023). Moreover, challenges such as inadequate infrastructure, reliance on imports, and inefficiencies in the agricultural sector further amplify inflationary pressures (Nwaonuma & Ebubechima, 2023).

Nigeria’s economic growth has shown potential during oil boom periods; however, inflation has consistently posed obstacles. High inflation diminishes consumer purchasing power, discourages investment, and affects savings, critical elements for sustained economic growth. Understanding the complex relationship between inflation and economic growth in Nigeria necessitates a detailed exploration (Ezeanyagu et al., 2023). The persistent inflation in Nigeria threatens economic stability by devaluing the naira and increasing living costs, which exacerbates poverty levels. Businesses struggle with rising costs that often result in reduced profitability and constrained growth. These issues ripple through the economy, affecting employment rates and productivity (National Bureau of Statistics, 2023). Additionally, inflation interferes with the monetary policy objectives of the Central Bank of Nigeria, making it challenging to balance inflation control with economic growth initiatives.

Inflation in Nigeria stems from various sources, including government fiscal policies, exchange rate

instability, and imported inflation, contributing to its volatility. Policymakers face the critical challenge of addressing these drivers while ensuring economic growth remains sustainable (Nnachi & Ugochukwu, 2023). This study aims to analyze the relationship between inflation and economic growth in Nigeria, focusing on the effects of inflation rate fluctuations on GDP and overall economic performance. Furthermore, it seeks to pinpoint key inflationary factors—such as fiscal dynamics, exchange rate shifts, and systemic inefficiencies—and evaluate their impact on economic growth. For Nigeria, this research is vital, as it provides insights to help policymakers tackle inflation while promoting robust economic development. By identifying and mitigating inflationary challenges without hindering growth, decision-makers can enhance the economic resilience and inclusivity of the nation, ensuring better living standards for its over 200 million citizens and boosting its global standing.

II. LITERATURE REVIEW

Inflation, a complex and multifaceted economic phenomenon, has been the subject of extensive theoretical exploration. Two widely recognized theories—Cost-push and Demand-pull inflation—provide valuable insights into its causes and implications. Cost-push inflation occurs when production costs, such as wages, raw materials, and energy prices, increase, leading to higher prices for goods and services. This type of inflation is often associated with supply-side constraints, including disruptions in production, import price fluctuations, and exchange rate volatility (Okon et al., 2023). For instance, Nigeria's dependence on imported goods makes it particularly vulnerable to cost-push inflation, as global price shocks and currency depreciation directly impact domestic production costs (Asekunowo, 2023).

Demand-pull inflation, on the other hand, arises when aggregate demand in an economy exceeds aggregate supply, driving prices upward. This phenomenon is typically linked to periods of economic expansion, where increased consumer spending, investment, and government expenditure create upward pressure on prices (Garba, 2023). In Nigeria, demand-pull inflation is often fueled by fiscal policies that prioritize large-scale government spending, as well as monetary policies that expand the money supply (Okeke et al., 2022). For example, during oil boom periods, heightened government expenditure has historically contributed to demand-pull inflation, exacerbating price instability (Morgan et al., 2023).

Both theories are highly relevant in the Nigerian context, where inflation is driven by a combination of supply-side and demand-side factors. Cost-push inflation is frequently linked to structural inefficiencies, such as inadequate infrastructure and reliance on imported goods, which increase production costs and limit domestic supply capacity (Garba, 2023). Meanwhile, demand-pull inflation is often amplified by excessive government spending and monetary expansion, which stimulate aggregate demand beyond the economy's productive capacity (Okon et al., 2023).

III. EMPIRICAL EVIDENCE

Numerous studies have investigated the impact of inflation on Nigeria's economic growth. Abdullahi (2023) employed time-series data spanning from 1990 to 2022 to examine this relationship. The study revealed a negative long-run relationship between inflation and economic growth, indicating that persistent inflation undermines economic performance. The findings also highlighted that inflation adversely affects investment and productivity, which are critical drivers of growth.

Similarly, Ezeanyagu et al. (2023) utilized econometric models to analyze the short-term and long-term effects of inflation on GDP. Their results corroborated Abdullahi's findings, showing that inflation negatively impacts economic growth by discouraging investment and reducing consumer purchasing power. The study emphasized the need for effective monetary policies to stabilize inflation and promote sustainable growth. In another study, Nnachi and Ugochukwu (2023) identified fiscal policies and exchange rate instability as significant contributors to inflation in Nigeria. Their research highlighted the role of government spending and currency depreciation in driving inflationary pressures. The authors recommended targeted interventions to address these

issues, such as improving fiscal discipline and stabilizing the exchange rate. Further, Bello and Adebayo (2023) explored the sectoral impacts of inflation in Nigeria, focusing on agriculture and manufacturing. Their findings revealed that inflation disproportionately affects these sectors, leading to reduced productivity and higher production costs. The study called for sector-specific policies to mitigate the adverse effects of inflation and enhance economic resilience.

Globally, studies have highlighted the nonlinear relationship between inflation and economic growth. Kachanovich et al. (2023) found that moderate inflation can stimulate growth by encouraging spending and investment. However, high inflation disrupts economic stability, erodes consumer confidence, and hampers long-term growth. The study emphasized the importance of maintaining inflation within an optimal range to balance growth and stability. Akinsola and Odhiambo (2023) conducted a comprehensive review of international literature on inflation and economic growth. Their findings revealed that the impact of inflation varies across countries and depends on factors such as economic structure, policy frameworks, and institutional quality. The study also noted that developing economies are more vulnerable to the adverse effects of inflation due to structural inefficiencies and weak policy implementation. In a multicountry study, Chowdhury (2023) examined the relationship between inflation, output growth, and uncertainty. The research found that inflation uncertainty significantly impacts economic growth, particularly in developing countries. The study recommended adopting inflation-targeting frameworks to reduce uncertainty and enhance economic performance.

The empirical evidence highlights several key drivers of inflation in Nigeria and globally. In the Nigerian context, fiscal policies, exchange rate instability, and structural inefficiencies are prominent contributors. For instance, excessive government spending and currency depreciation have been identified as major drivers of inflation (Nnachi & Ugochukwu, 2023). Additionally, supply-side constraints, such as inadequate infrastructure and reliance on imports, exacerbate inflationary pressures (Bello & Adebayo, 2023). Globally, factors such as monetary expansion, commodity price shocks, and geopolitical tensions influence inflation dynamics. Studies have shown that these factors can create inflationary spirals, particularly in economies with weak institutional frameworks (Akinsola & Odhiambo, 2023).

IV. GAPS IN THE LITERATURE

The identified gaps in research on inflation and economic growth in Nigeria include several crucial areas. First, there is limited exploration of how inflation uniquely impacts specific sectors, such as agriculture and manufacturing, which are vital to Nigeria's economy. Second, studies on the relative effectiveness of fiscal and monetary policies in managing inflation are insufficient, leaving uncertainties about which approach works best for Nigeria. Third, while the nonlinear relationship between inflation and growth is acknowledged, the specific inflation threshold beyond which growth is adversely affected remains undefined. Finally, regional disparities in how inflation impacts various areas in Nigeria, considering its diverse economic landscape, are largely overlooked. Addressing these gaps is essential for formulating targeted and effective policies to mitigate inflationary pressures and foster sustainable growth across all regions and sectors.

V. METHODOLOGY

The research employs a quantitative approach, emphasizing the use of numerical data to analyze and interpret patterns, relationships, and trends. This method ensures objectivity and produces measurable outcomes. Key components of the research design include conducting hypothesis tests, performing statistical analyses, and developing econometric models. The process begins with data collection, followed by preparation and cleaning, and concludes with thorough analysis to generate evidence-based conclusions and recommendations. The model of the study is specified as:

$$GDPPCt = \beta0 + \beta1CPI1t + \beta2GSit + \beta3INTRit + \beta4UNEMPLit + \beta5TROPit + \mu t$$

Where:

GDPPCt: Economic growth (dependent variable), Infl: Inflation rate, GS: Government spending, Intr: Interest rate, Unempl: Unemployment rate, and Trop: Trade openness.

β0: Intercept, β1,β2,…,β5 Coefficients of the independent variables, μ Error term

This model assumes that the relationships between the independent variables and the dependent variable are linear and time-invariant.

To maintain accuracy and credibility, the study will draw from well-established and trustworthy sources, including: Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS). Regression analysis and other econometric models will be employed to uncover trends, explore correlations, and determine causal relationships. Advanced techniques such as time-series analysis, hypothesis testing, and model validation will enhance the precision and reliability of the results.

VI. PRESENTATION AND DISCUSSION OF RESULTS

6.1 Descriptive Statistics

Descriptive statistics provide a comprehensive quantitative summary, elucidating the behavior and distribution patterns of the variables within the model. Table 6.1 systematically presents these statistics for all the variables utilized in the study, offering insights into central tendencies, dispersion, and the overall data structure. This preliminary analysis is crucial as it highlights the disparity and variability among the variables, which can significantly impact the subsequent regression estimations. By meticulously analyzing these descriptive statistics, the researcher ensures a robust foundation for the model estimation, paving the way for more accurate and reliable analytical outcomes.

Table 6.1: Descriptive Statistics Results

	LNGDPPC	CPI	LNGS	INTR	UNEMPL	TROP
Mean	7.453931	160.4944	10.68505	12.14156	3.990625	0.427147
Median	7.646982	117.6000	10.81322	11.83253	3.765000	0.421154
Maximum	8.071204	524.9054	11.23828	19.62560	5.710000	0.536989
Minimum	6.333363	29.60007	9.727997	8.084343	3.070000	0.349164
Std. Dev.	0.507547	131.7155	0.467436	3.340637	0.623260	0.052633
Skewness	-1.105535	1.273705	-0.708448	0.785126	1.381386	0.293459
Kurtosis	2.975084	3.865589	2.202921	2.974187	4.160900	1.936843
Jarque-Bera	4.889453	7.238545	2.642928	2.466358	8.980595	1.474777
Probability	0.086750	0.026802	0.266744	0.291365	0.011217	0.478362
Sum	178.8943	3851.867	256.4413	291.3973	95.77500	10.25154
Sum Sq. Dev.	5.924883	399026.7	5.025424	256.6768	8.934416	0.063714
Observations	24	24	24	24	24	24

Source: Researcher's computation (2025) using E-views 10.0

The descriptive statistics in Table 6.1 outline key economic indicators, including GDP per capita, inflation, government spending, interest rates, unemployment, and trade openness. The mean and median values show overall economic stability, although inflation is highly volatile, indicating economic fluctuations. Interest rates vary moderately, affecting financial decisions, while unemployment generally remains steady but occasionally experiences spikes.

The data distribution reveals that GDP per capita and government spending are primarily high but sometimes decline, whereas inflation and unemployment tend to cluster at lower values with occasional surges. The statistical normality test confirms that inflation and unemployment are influenced by external factors, making them unpredictable. In summary, the dataset reflects an economy with moderate stability, occasional fluctuations in inflation and employment, and variations in interest rates that impact growth.

6.2 Correlation Matrix Analysis

In an attempt to explore the relationship between the dependent variable and the explanatory variables used in the study, a correlation analysis was conducted using Pearson Product-Moment Correlation (PPMC). The correlation analysis provides insights into the strength and direction of linear relationships between pairs of variables. Table 6.2 presents the correlation matrix, illustrating the pairwise correlation coefficients between LNGDPPC and the explanatory variables.

Table 6.2: Correlation Matrix Results

	LNGDPPC	CPI	LNGS	INTR	UNEMPL	TROP
LNGDPPC	1.000000	0.465794	0.933825	0.523722	0.216808	-0.006147
CPI	0.465794	1.000000	0.587457	0.426256	0.187185	0.372499
LNGS	0.933825	0.587457	1.000000	0.550493	0.137875	0.214334
INTR	0.523722	0.426256	0.550493	1.000000	-0.087005	0.145033
UNEMPL	0.216808	0.187185	0.137875	-0.087005	1.000000	0.090147
TROP	-0.006147	0.372499	0.214334	0.145033	0.090147	1.000000

Source: Researcher's computation (2025) using E-views 10.0

The correlation matrix in Table 6.2 shows the relationships between key economic variables. GDP per capita strongly correlates with government spending, indicating that increased public expenditure aligns with economic growth. Inflation and interest rates show moderate connections with spending, suggesting that fiscal policies influence price stability and borrowing costs. Trade openness has weak correlations, implying minimal impact on economic trends. Unemployment also exhibits weak relationships with other factors, indicating that external forces largely drive employment changes.

6.3 Unit Root Tests

The Augmented Dickey-Fuller (ADF) unit root test is a widely used statistical test for assessing the stationarity of a time series. The ADF test is an extension of the Dickey-Fuller test and accounts for higher-order autoregressive processes by including lagged differences of the series in the test equation. This helps to address potential autocorrelation issues in the residuals, enhancing the robustness of the test results.

Table 6.3: Stationarity Test Results

Variables	Levels		First Diff.		Order of Int.
	ADF Stat.	Prob.	ADF Stat.	Prob.	
GDPPC	-1.91	0.32	-3.34	0.02	I(1)
CPI	-1.11	0.15	-6.11	0.00	I(1)
GS	-1.55	0.49	-4.16	0.00	I(1)
INTR	-2.27	0.18	-3.08	0.04	I(1)
UNEMPL	-3.39	0.06	-6.01	0.00	I(1)
TROP	-2.53	0.12	-4.98	0.00	I(1)

Source: E-Views Output, 2025.

The Augmented Dickey-Fuller (ADF) test in Table 6.3 examines whether economic variables maintain consistent statistical properties over time. The results indicate that all six variables—GDP per capita (GDPPC), inflation (CPI), government spending (GS), interest rates (INTR), unemployment (UNEMPL), and trade openness (TROP)—are initially non-stationary, meaning they exhibit trends or fluctuations. However, after first differencing, all variables become stationary, as shown by their probability values dropping below 0.05. All variables are integrated at order I(1).

6.4 OLS Regression Results

Table 6.4: OLS Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.450503	0.936713	-3.683630	0.0017
CPI	-0.210302	0.050315	-0.959569	0.0500
LNGS	1.056740	0.091019	11.61006	0.0000
INTR	0.009378	0.011593	0.808973	0.4291
UNEMPL	0.098691	0.052233	1.889445	0.0751
TROP	-1.980808	0.638108	-3.104190	0.0061
R-squared	0.932164			
Adjusted R-squared	0.913321			
F-statistic	49.46934			
Prob(F-statistic)	0.000000			
Dubin-Watson	2.535388			

Source: Researcher's computation (2025) using E-views 10.0

The Ordinary Least Squares (OLS) regression results in Table 6.4 show how various economic factors impact the dependent variable. The coefficients indicate the direction and magnitude of influence, while the p-values determine statistical significance. Government spending (LNGS) shows the strongest positive effect, meaning increased public expenditure significantly contributes to economic performance. Trade openness (TROP) has a strong negative impact, suggesting that a more open economy might reduce domestic output. Inflation (CPI) has a weak negative effect, while interest rates (INTR) and unemployment (UNEMPL) show minimal influence, indicating that these factors may require additional variables for stronger predictability. The model is highly reliable, with an R-squared value of 0.93, meaning it explains 93% of the variations in the dependent variable. The F-statistic confirms overall significance, and the Durbin-Watson value suggests minimal autocorrelation, making the findings robust for forecasting and policy decisions.

6.5 Granger Causality Results

Null Hypothesis:	Obs	F-Statistic	Prob.
CPI does not Granger-cause LNGDPPC	22	1.43369	0.2658
LNGDPPC does not Granger-cause CPI		0.09652	0.9085
LNGS does not Granger-cause LNGDPPC	22	3.73225	0.0453
LNGDPPC does not Granger-cause LNGS		1.30658	0.2966
INTR does not Granger-cause LNGDPPC	22	0.33302	0.7213
LNGDPPC does not Granger-cause INTR		4.57760	0.0257
UNEMPL does not Granger-cause LNGDPPC	22	0.23422	0.7937
LNGDPPC does not Granger-cause UNEMPL		0.32443	0.7273
TROP does not Granger-cause LNGDPPC	22	0.19211	0.8270
LNGDPPC does not Granger-cause TROP		0.44983	0.6451

Source: Researcher's computation (2025) using E-views 10.0

The Granger causality test assesses whether past values of one economic variable can help predict another. The results show that government spending (LNGS) significantly predicts GDP per capita ($p = 0.0453$), supporting Keynesian theory, which emphasizes fiscal policy as a key driver of economic growth. Additionally, GDP per capita Granger causes interest rates ($p = 0.0257$), suggesting that monetary policy responds to economic performance. However, inflation (CPI), unemployment (UNEMPL), and trade openness (TROP) do not show significant predictive relationships with GDP per capita, implying that these variables may be influenced by external factors rather than directly linked to economic growth.

6.6 Discussion of Regression and Granger Causality Findings

The Ordinary Least Squares (OLS) regression results provide critical insights into economic relationships, particularly the role of government spending in driving

growth. The analysis confirms that LNGS (government spending) is the strongest positive factor, aligning with Keynesian economic theory, which highlights public expenditure as a tool for stimulating economic activity. This suggests that fiscal policies focusing on increased government investment can significantly boost GDP per capita.

On the other hand, trade openness (TROP) has a significant negative impact, meaning higher economic openness may reduce domestic output. This result aligns with the Stolper-Samuelson theorem, which explains how liberalized trade can disadvantage certain sectors of an economy, particularly those exposed to foreign competition. The findings suggest that while trade openness can encourage global integration, it may also require balanced policies to protect vulnerable industries.

Inflation (CPI) exhibits a weak negative influence, indicating that rising consumer prices slightly reduce economic output. This follows monetarist theory, which argues that inflation diminishes purchasing power and can create economic uncertainty. While the effect observed in the regression is small, it highlights the need for inflation control to ensure sustainable growth.

Interest rates (INTR) and unemployment (UNEMPL) show minimal effects, implying that their impact on economic output may depend on additional factors. Classical economic theory often suggests that interest rates influence investment and spending decisions, but the weak significance in this model indicates that GDP per capita does not heavily depend on borrowing costs.

The Granger causality test further explores predictive relationships between variables. The results indicate that government spending significantly predicts GDP per capita ($p = 0.0453$), reinforcing the Keynesian viewpoint that fiscal policy is a major economic driver. Additionally, GDP per capita Granger causes interest rates ($p = 0.0257$), showing that monetary policy decisions respond to economic performance. However, inflation, unemployment, and trade openness do not significantly predict GDP per capita, suggesting these variables are influenced by broader economic forces rather than directly impacting growth.

CONCLUSION AND RECOMMENDATIONS

The findings emphasize that government spending plays a crucial role in economic growth, while trade openness needs careful management to avoid negative impacts on domestic output. Inflation requires strategic control to prevent economic distortions, and interest rates and unemployment may rely on other factors for stronger predictability. Policymakers should leverage fiscal policies to enhance GDP growth, while monitoring trade policies and monetary interventions to ensure balanced economic stability.

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