High Inflation in Nigeria: A Demand-Pull or Cost-Push Phenomenon?

Felix Onoriode Ashakah*, Chukunalu Mgbomene, Felix Chukwuka Metieh, Festus Ndidi Opara

Department of Economics, Faculty of Social Sciences, Delta State University, Abraka, Delta State, Nigeria.
*Email: Ashakah.felix@delsu.edu.ng

ABSTRACT

This study investigated whether demand-pull or cost-push factors drive inflation in Nigeria. The study applied the Fully Modified Ordinary Least Squares (FMOLS) on annual time-series data from 1990 to 2023. The empirical results showed that lending interest rate had a strong and significant positive effect on inflation, implying that inflation in Nigeria is a cost-push phenomenon. GDP per capita growth rate (GDPPCGR) heavily reduced inflation, implying that economic growth improves productivity and stabilizes prices. Broad money supply had a negative and insignificant effect on inflation, opposing the traditional belief that increased liquidity triggers inflation. Total consumption expenditure and real exchange rate had insignificant impact on inflation, implying that demand-side pressures and exchange rate fluctuations had insignificant impact on inflation in Nigeria during the period of the study. Based on the findings, policymakers should focus on monetary policy using interest rate strategy in managing inflation.

Keywords: Inflation, Demand-Pull, Cost-Push, Monetary Policy, Nigeria, FMOLS
JEL Classifications: E3, E4, E5, E6

1. INTRODUCTION

Globally, inflation is one of the most debated macroeconomic challenges, and it has been identified as a monetary phenomenon in different societies at different times in history (Iyoha and Oriaki, 2021). Garba (2023) refers to inflation as the sustained increase in the general price level of goods and services in an economy over a specific period. It is commonly measured as the percentage change in the consumer price index (CPI) (Aberu, 2023) or the wholesale price index (WPI) over time (Sek et al., 2023). Inflation erodes the purchasing power of money, by reducing the value of each currency unit. Demand-pull inflation occurs when aggregate demand in an economy is more than aggregate supply, meaning that inflation rises as real gross domestic product rises and unemployment falls. Cost-push inflation on the other hand is defined as an overall price increase attributed to the cost of wages and raw materials used in producing goods and services.

Nigeria is a country known as the "Giant of Africa" for many reasons, it is the world's seventh most populous country, with around 206 million inhabitants; one in every four people in West Africa is a Nigerian (Neszmélyi, 2020). Yet, it is an undeveloped economy with high unemployment, inflation, poverty, and low capacity utilization, among other reasons. The first experience of inflation in the country occurred in the 1970s due to the rise in oil revenue and increased public expenditure. Despite tight fiscal and monetary measures since then, inflation continues to rise at unprecedented rates (Iyoha and Oriaki, 2021). In May 2023, the inflation rate in Nigeria jumped for the 4th month in a row to a near 18-year high of 22.41%, up from 22.22% the previous month and matching market expectations (National Bureau of Statistics [NBS], 2023). In addition, Food prices, which is the most important component of the Consumer Price Index (CPI), increased by 24.82% in May after increasing by 24.61% in April, owing mostly to increases in vegetables, oils, bread, fruits, meat,

and tubers. Transportation costs have also risen dramatically as a result of gasoline shortages caused by the withdrawal of a government fuel subsidy by Nigeria's President, Bola Tinubu. The annual core inflation rate, which excludes farm products, was 20.06%, down from a record high of 20.14% the previous month. Consumer prices grew by 1.94% monthly in the second quarter, the greatest in 7 years, following a 1.91% increase in April (NBS, 2023).

A good number of empirical studies (Jackson et al., 2025; Durguti et al., 2021; Iyoha and Oriakhi, 2021; Inim et al., 2020; Balogun and Yusuf, 2020; Čaklovica and Efendic, 2020; Bello and Adeyemi, 2019) have analysed the determinants of inflation in Nigeria, but there remains a gap, a question as to whether inflation is predominantly demand-pull or cost-push phenomenon. Many studies investigated inflationary trends in isolation, failing to include empirical assessments that compare the relative significance of demand-side and supply-side factors and creating.

The gaps in the existing literature called for a reason to investigate whether inflation in Nigeria is a demand pull or cost push phenomenon. The importance of this study lies in its potential to inform policymakers, economists, and researchers about the underlying drivers of inflation in Nigeria. It aims to provide insights into the root causes of inflation and inform effective policy interventions. The findings will contribute to the broader discussion on inflation management and macroeconomic stability in Nigeria.

This paper is structured as follows: Section 2 presents some stylized facts on inflationary trends in Nigeria, Section 3 reviews relevant literature, Section 4 outlines the methodology adopted in data analysis, Section 5 discusses the results, and Section 6 provides a summary, conclusion, and policy recommendations.

2. SOME STYLIZED FACTS

Inflation is a key macroeconomic variable that plays a significant role in shaping Nigeria's economic landscape. This section presents an overview of the historical trends of inflation, interest rate, and aggregate demand expenditures in Nigeria.

2.1. Inflationary Trend in Nigeria
Nigeria has experienced fluctuating inflation rates over the past few decades, influenced by various economic shocks, policy changes, and global trends. From the 1980s to early 2000s, inflation in Nigeria was highly volatile, often exceeding 30% due to fiscal mismanagement, currency depreciation, and external shocks (CBN, 2023). Following economic reforms and monetary policy tightening, inflation was reduced to single digits in the late 2000s, but persistent structural issues have led to recurring inflationary pressures in recent years. In 2023, Nigeria recorded an inflation rate of 27.33%, primarily driven by fuel subsidy removal, exchange rate volatility, and supply chain disruptions (NBS, 2023).

Figure 1 shows the trend of Nigeria's inflation rate. It was 7.4% in 1990 and rose to 72.8% in 1995. It dropped to 8.5% in 1997 and 6.9% in 2000. The Nigerian inflation rate rose to 18.9% in 2001

from 6.9% in 2000. It dropped again to 5.4% in 2007 and started to rise again up to 24.7% in 2023 (NBS, 2024). Over the years, the Nigerian inflation rate has not been stable and its fluctuations have been attributed to several factors by researchers, economists and policymakers. A recent broader trend showed that inflation has climbed up sharply as a result of fuel subsidies moves by President Bola Ahmed Tinubu.

2.2. Final Consumption Expenditure
Final consumption expenditure represents the total spending on goods and services by households, government, and businesses. It is often used as a proxy in determining demand-pull inflation; as increased consumption demand can drive prices upward when aggregate supply is constrained (Blanchard, 2019). In Nigeria, final consumption expenditure has witnessed steady growth, particularly due to population expansion, increased government spending, and rising household incomes in certain periods. However, periods of rapid consumption growth have often coincided with inflationary spikes, suggesting that demand-side pressures contribute to Nigeria's inflationary trends.
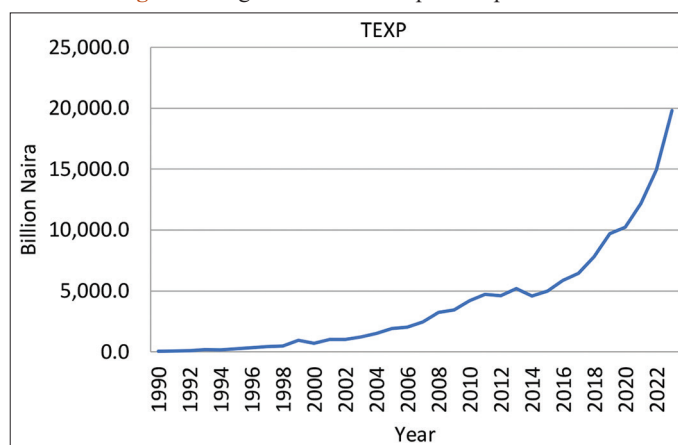
Figure 2 shows the trend of Nigerian final consumption expenditure (current US$), and it was reported at 296526418168 USD (WB, 2021). The trend shows an upward movement from

Figure 1: Nigeria inflation rate
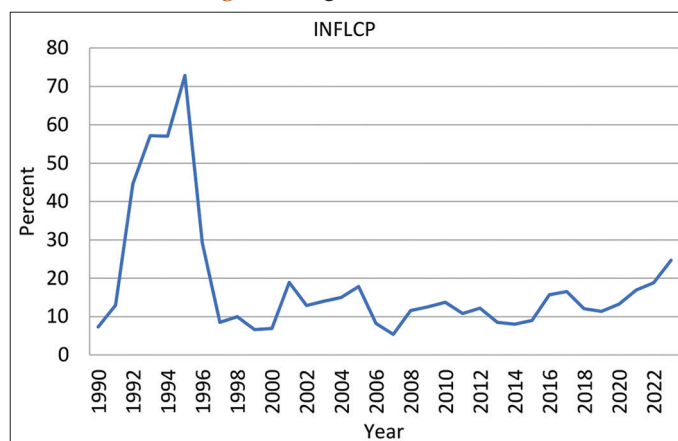
Source: Author's computation, 2025

Figure 2: Nigeria final consumption expenditure

Source: Author's computation, 2025

1990 to 2023. Several factors have been associated with the upward trend of the Nigerian final consumption expenditure (Ashakah, 2019; Ashakah, 2023). Final consumption expenditure (formerly total consumption) is the sum of household final consumption expenditure (private consumption) and general government final consumption expenditure (general government consumption). Data are in current U.S. dollars. During the oil boom of the early 2010s, increased government spending and rising disposable incomes led to heightened consumption demand, fueling inflationary pressures. Conversely, during economic recessions, such as the 2016 downturn caused by the oil price crash, reduced consumption demand contributed to temporary disinflation (WB, 2023). The relationship between final consumption expenditure and inflation highlights the role of demand-pull forces in shaping Nigeria's price dynamics.

2.3. Interest Rate

Interest rates are a crucial monetary policy tool used to control inflation and influence economic activity. High interest rates typically increase borrowing costs, reducing investment and consumption, while low interest rates stimulate economic activity. High interest rates have the potential of fuelling inflation, as higher borrowing costs can translate into increased production cost for firms, which may then be passed on to consumers through higher prices (Dornbusch and Fischer, 1993).

Figure 3 shows the trend of Nigerian interest rate from 1990 to 2023. Interest Rate in Nigeria averaged 18.60 during the period of the study; the highest rate was 31.65% in 1993 and the lowest rate 11.48% in 2021 (WB, 2021).

In Nigeria, interest rate policies have fluctuated over time in response to inflationary pressures and economic situations. The Monetary Policy Rate (MPR) has varied tremendously, with recent hikes directed at curbing inflation. For example, in 2023, the CBN raised the MPR to 18.75% to fight rising inflation, reflecting concerns about cost-push inflationary pressures caused by high production costs and currency depreciation (CBN, 2023). This suggests that Nigeria's inflation dynamics are influenced not only by demand-side factors but also by cost-push factors, such as exchange rate volatility, high import dependency, and structural bottlenecks (Ashakah, 2023).

Figure 3: Nigeria interest rate
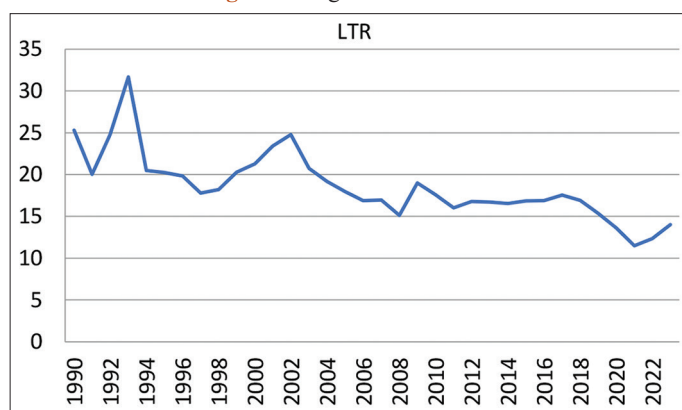
Source: Author's computation, 2025

3. REVIEW OF EMPIRICAL LITERATURE

Inflation is one of the most critical macroeconomic issues facing Nigeria, with policymakers and researchers debating whether it is caused by demand-pull or cost-push factors. Empirical studies on inflation in Nigeria have resulted in mixed results, with some scholars arguing that inflation stems mainly from excessive aggregate demand, while others emphasize structural and supply-side constraints. Jackson et al. (2025) examined both supply-side and demand-side determinants of inflation in Sierra Leone using the ARDL model. The empirical results show that in the long-run, the main determinants of inflation in Sierra Leone were the exchange rate, Real Gross Domestic Product (RGDP), Fiscal Balance, Currency in Circulation, and Lending Rate. In the short run, all the variables except RGDP and Exchange Rate manifested significant effects on inflation dynamics.

Ahmad et al. (2024) examined the determinants of inflation in South Asia using the panel ARDL model to analyse data covering 1995-2022. The findings revealed that oil prices contributed to inflation in South Asian economies. Technological advancements could lower inflationary pressures. It was recommended that oil prices be controlled to curb inflation in South Asia countries.

Mbagwu (2023) examined Nigerian inflationary trends and drivers from 1985 to 2021 using an Autoregressive distributed lag model. This result revealed that money supply was a strong predictor of INFLR in the long run but not in the short run. Exchange rate had a positive but insignificant effect on INFLR in both the short and long runs. It was recommended that the central bank stop printing cheap currency to reduce the money supply.

Kerorsa (2023) examined the major macroeconomic factors affecting inflation in Ethiopia for the year 1981-2020. The study employed a vector error correction regression model in data analysis. The result of the vector error correction model confirmed that there was a significant relationship between the devaluation of the exchange rate and inflation. Therefore, to control inflationary pressure, appropriate polices must be designed which compromise unemployment, economic growth, and exchange rate regimes.

Adeniran et al. (2022) used a structural equation modeling (SEM) approach to view the role of supply-side constraints in Nigeria's inflation. Their results obtained showed that inflation was strongly affected by rising energy costs, weak infrastructure, and exchange rate volatility. The study posits that because Nigeria is strongly dependent on imported goods and raw materials, exchange rate depreciation has a direct hit on domestic price levels, leading to persistent cost-push inflation.

Iyoha and Oriakhi (2021) used an autoregressive distributed lag (ARDL) model to investigate the determinants of inflation in Nigeria from 1980 to 2020. The findings noted that an increase in money supply, public expenditure, and total consumption expenditure adversely contributed to rising inflation levels. The study maintained that expansionary government policies, particularly deficit financing, inject excess liquidity into the economy, leading to increasing consumer demand and,

consequently, inflationary pressures. It was recommended that Fiscal and monetary tightening be used to curb inflation in Nigeria.

Durguti et al. (2021) analyzed the impact of macroeconomic variables such as GDP growth, remittances, level of exports, level of imports, and foreign direct investments on inflation using dynamic panel data estimation technique such as fixed effects, and Arellano–Bover/Blundell– Bond estimation from 2003 to 2019 for the Western Balkan. The findings revealed that in the short run, all variables influenced the inflation rate, except for foreign direct investment, which had insignificant influence. Effective economic policies were recommended to curb inflation.

Hemmati et al. (2021) examined the key determinants of chronically high inflation in Iran by Relying on annual data from 1978 to 2019, the study employed an Auto Regressive Distributed Lag Model (ARDL) and Error Correction Model (ECM) to study the inflationary effects of monetary and fiscal policies as well as exchange rate swings and sanctions intensification. The findings showed that an increase in money supply, depreciation of nominal exchange rate, an increase in fiscal deficit, and intensification of sanctions were among the key drivers of inflation in Iran. Their impact was profound in the long run, but in the short run only money supply and currency depreciation were significant.

Salma (2021) investigated the key determinants of inflation in Bangladesh using the data for the period 2009-2010 to 2019-2020. The variables used in the study were broad money supply, foreign direct investments, GDP growth, foreign exchange rates and trade balance. Ordinary least squares method was used to conduct the empirical analysis. The results found that broad money supply, foreign direct investments, and trade balance had a positive and significant association with the inflation. GDP growth has a negative and insignificant relation with the inflation. Foreign exchange had a positive but insignificant association with the inflation. The unexpected event of Covid-19 was also found to have some contribution in affecting the inflation rate.

Balogun and Yusuf (2020) adopted a structural vector autoregression (SVAR) model to investigate the inputs of demand-pull and cost-push factors to inflation in Nigeria. The results showed that while money supply and government expenditure drive short-term inflation, exchange rate fluctuations and increasing production costs exerted stronger long-term effects.

Inim et al. (2020) examined other determinants of inflation in Nigeria using the autoregressive distributed lag (ARDL) method on quarterly data from January 1999 to December 2018. The findings showed that poor infrastructural development, exchange rate, political instability, corruption, and double taxation significantly stimulated inflation rather than just money supply. The study recommended that non-monetary factors should be controlled and security expenditure should be reviewed along with related mechanisms to achieve low inflation in Nigeria.

Caklovica and Efendic (2020) offered an empirical analysis of the determinants of inflation in 28 European economies that belonged to the transition group of countries in the end of the last

century using a dynamic panel methodology from 2005 to 2015. The findings revealed that economic and structural variables, including economic openness, unemployment, real wages, institutional effects, as well as external factors, such as prices of food and oil, determined the short-run inflationary dynamics in the studied countries. The obtained results also indicated that the inflation rate was autoregressive during the period of the study, confirming that the contemporaneous inflation rate was determined by the entire history of these determinants. The results further revealed long-term effects of the majority of the variables on price dynamics.

Bello and Adeyemi (2019) carried out a study on the impact of exchange rate volatility on inflation in Nigeria using an error correction model (ECM). The results posit that exchange rate depreciation directly affects domestic price levels, as Nigeria remains dependent on imports. It was discovered that imported inflation was a major cause of inflation in Nigeria, particularly during periods of currency depreciation.

Olokoyo et al. (2019) examined the major determinants of inflation in Nigeria using the autoregressive distributed lag (ARDL) estimation method. The findings showed empirical support for significant impact of external debt, exchange rate, fiscal deficits, money supply and economic growth on inflation. It further showed the previous period or lagged inflation rate as a significant determinant of the current inflation rate. The study produced no evidence of significant long run impact of interest rate on the rate of inflation in Nigeria. The study recommended economic reforms that target foreign exchange inflow through increased export trade, as well as a paradigm shift away from deficit budgeting. It also recommended infrastructural and institutional reforms to curb inflation in Nigeria.

4. METHODS AND MODEL SPECIFICATION

4.1. Model Specification

The theoretical model for this study is based on the Phillips Curve framework, which connects inflation to economic activity and cost-push factors. The actual Phillips Curve equation is:

$$\pi_t = \pi_{t-1} + \lambda(Y_t - Y^*) + \gamma C_t + \theta S_t + \varepsilon_t$$

Where; π_t = Inflation rate, Y_t-Y^* = Output gap (excess demand pressure), C_t = Cost-push factors (e.g., wages, input prices), S_t = Supply-side shocks (e.g., oil price shocks, exchange rate fluctuations), ε_t = Error term

This study modifies the above model by specifying total consumption expenditure as the demand-pull factor and lending interest rate as the cost-push factor while including relevant control variables.

Based on the theoretical framework, the functional relationship for the model is specified as:

$$INFCP = f(TEXP, LRT, REXCR, BMS, GDPPCGR)$$

The econometric specification of the model is given as:

$$INFCP_t = \beta + \beta_1 TEXP_t + \beta_2 LRT_t + \beta_3 REXCR_t + \beta_4 BMS_t + \beta_5 GDPPCGR_t + \varepsilon_t$$

Where:
- INFCP = Inflation (Consumer price index-based)
- TEXP = Total consumption expenditure (proxy for demand-pull inflation)
- LRT = Lending interest rate (proxy for cost-push inflation)
- REXCR = Real exchange rate
- BMS = Broad money supply (M2)
- GDPPCGR = GDP per capita growth rate
- α = Intercept
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Coefficients of the explanatory variables
- ε_t = Error term

4.2 Method of Data Analysis
This study adopted a quantitative research approach to examine whether inflation in Nigeria is a demand-pull or cost-push phenomenon. Given the time-series nature of the data, the Fully Modified Ordinary Least Squares (FMOLS) regression model was employed to estimate the impact of total consumption expenditure (as a proxy for demand-pull inflation), lending interest rate (as a proxy for cost-push inflation), and selected control variables on inflation in Nigeria.

4.3. The Data
This study utilized time-series data covering Nigeria from 1990 to 2023. The data was sourced from reputable institution; the data for inflation rate (INFCP), total consumption expenditure (TEXP), Lending Interest Rate (LRT), Real Exchange Rate (REXCR), Broad Money Supply (BMS), and GDP per capita growth rate (GDPPCGR) were sourced from the World Bank Development Indicators (WDI).

5. RESULTS AND DISCUSSION

5.1. Descriptive Statistics
Table 1 shows the descriptive statistics of the variables for the study. Inflation (INFLCP) had a mean of 18.28%, indicating that Nigeria had experienced relatively high inflation over the sample period. The high standard deviation (15.90) suggested significant volatility. The skewness (2.18) and kurtosis (6.85) indicated that inflation was highly right-skewed and leptokurtic, meaning there were periods of extreme inflationary spikes. The Jarque-Bera probability (0.0000) confirmed that inflation was not normally distributed. Lending Interest Rate (LRT) had an average value of 18.60%, with a maximum of 31.65% and a minimum of 11.48%. The positive skewness (1.03) and kurtosis (4.79) suggested a right-skewed distribution with a few extreme observations. Total Consumption Expenditure (TEXP) had a mean of 4025.19 billion naira, showing a significant increase in spending over time. However, the high standard deviation (4693.49) suggested large fluctuations. The skewness (1.67) and kurtosis (5.52) indicate a non-normal distribution with outliers in expenditure patterns.

Real exchange rate (REXCR) had a mean of 109.50, with a wide range from 49.78 to 273.01, highlighting substantial fluctuations in Nigeria's currency valuation. The skewness (1.83) and kurtosis (6.48) confirmed that exchange rates had experienced extreme variations, possibly due to currency devaluations or macroeconomic shocks. Broad Money Supply (BMS) had a mean of 17.65% of GDP, with a minimum value of 0%, indicating possible data issues in some years. Unlike other variables, BMS had a negative skewness (−0.33), meaning the distribution was slightly left-skewed. However, its kurtosis (2.32) suggested it was closer to a normal distribution. The Jarque-Bera probability (0.5313) indicated that money supply followed a normal distribution. GDP Per Capita Growth Rate (GDPPCGR) had a mean of 1.58%, suggesting slow economic growth over the years. The skewness (0.50) and kurtosis (3.64) suggested that GDP growth was fairly symmetric but had occasional outliers. The Jarque-Bera test (0.3697) confirmed that GDP growth was normally distributed (Ashakah and Wanogho 2021).

5.2. Correlation Matrix Analysis
The correlation matrix in Table 2, measured the degree of association between inflation (INFLCP) and the independent variables: Lending interest rate (LRT), total consumption expenditure (TEXP), real exchange rate (REXCR), broad money supply (BMS), and GDP per capita growth rate (GDPPCGR). The positive correlation between Inflation (INFLCP) and Lending Interest Rate (LRT) (0.415) suggested that as interest rates increase, inflation also rises. This relationship may be explained by cost-push inflation, where higher borrowing costs lead to increased

Table 1: Descriptive statistics

	INFCP	LRT	TEXP	REXCR	BMS	GDPPCGR
Mean	18.27805	18.60433	4025.191	109.5047	17.64901	1.578845
Median	12.94178	17.69000	2244.448	100.5679	15.84434	1.502196
Maximum	72.83550	31.65000	19808.44	273.0126	27.37879	12.21039
Minimum	5.388008	11.48313	60.26820	49.77684	0.000000	−4.597233
Standard deviation	15.90202	4.018825	4693.497	48.08900	6.805548	3.701237
Skewness	2.180389	1.033655	1.666142	1.833096	−0.327227	0.499591
Kurtosis	6.855094	4.794682	5.523883	6.486194	2.318379	3.637495
Jarque-Bera	47.99403	10.61742	24.75497	36.25889	1.264969	1.990081
Probability	0.000000	0.004948	0.000000	0.000000	0.531270	0.369709
Sum	621.4536	632.5471	136856.5	3723.159	600.0664	53.68074
Sum Sq. Dev	8344.851	532.9815	7.27E+08	76314.21	1528.411	452.0722
Observations	34	34	34	34	34	34

Table 2: Correlation matrix

Variable	INFCP	LRT	TEXP	REXCR	BMS	GDPPCGR
INFCP	1	0.415	−0.164	−0.021	−0.275	−0.432
LRT	0.415	1	−0.695	−0.354	−0.401	0.115
TEXP	−0.164	−0.695	1	0.077	0.295	−0.152
REXCR	−0.021	−0.354	0.077	1	−0.117	−0.199
BMS	−0.275	−0.401	0.295	−0.117	1	−0.115
GDPPCGR	−0.432	0.115	−0.152	−0.199	−0.115	1

Table 3: Unit root test results (ADF test)

Variable	Level form (t-Statistic, Prob.)	First difference (t-Statistic, Prob.)	Stationarity conclusion
INFLCP (Inflation)	−2.1783 (0.2175)	−4.6451 (0.0008)	I (1) – Stationary at First Difference
LRT (lending interest rate)	−2.5068 (0.1230)	−7.0768 (0.0000)	I (1) – Stationary at First Difference
TEXP (Total Consumption Expenditure)	8.1770 (1.0000)	−6.0848 (0.0000)	I (1) – Stationary at First Difference
REXCR (real exchange rate)	−0.8144 (0.3555)	−5.5209 (0.0000)	I (1) – Stationary at First Difference
BMS (Broad money supply)	−0.8825 (0.3262)	−2.3454 (0.0205)	I (1) – Stationary at First Difference
GDPPCGR (GDP per capita growth rate)	−3.7042 (0.0005)	-	I (0) – Stationary at Level

Table 4: Johansen cointegration test results

Trace test results					
Hypothesized No. of Cointegrating Equations	**Eigenvalue**	**Trace Statistic**	**Critical Value (5%)**	**P-value**	**Conclusion**
None *(r=0)*	0.797870	141.5575	95.75366	0.0000	Cointegrated
At most 1 *(r≤1)*	0.704416	90.39458	69.81889	0.0005	Cointegrated
At most 2 *(r≤2)*	0.565732	51.39296	47.85613	0.0224	Cointegrated
At most 3 *(r≤3)*	0.483947	24.70193	29.79707	0.1724	No Cointegration
At most 4 *(r≤4)*	0.103009	3.532435	15.49471	0.9376	No Cointegration
At most 5 *(r≤5)*	0.001678	0.053750	3.841465	0.8166	No Cointegration
Maximum eigenvalue test results					
Hypothesized No. of Cointegrating Equations	**Eigenvalue**	**Max-Eigen Statistic**	**Critical value (5%)**	**P-value**	**Conclusion**
None *(r=0)*	0.797870	51.16297	40.07757	0.0019	Cointegrated
At most 1 *(r≤1)*	0.704416	39.00162	33.87687	0.0112	Cointegrated
At most 2 *(r≤2)*	0.565732	26.69103	27.58434	0.0647	No Cointegration
At most 3 *(r≤3)*	0.483947	21.16950	21.13162	0.0494	Cointegrated
At most 4 *(r≤4)*	0.103009	3.478686	14.26460	0.9098	No Cointegration
At most 5 *(r≤5)*	0.001678	0.053750	3.841465	0.8166	No Cointegration

Table 5: Results of model estimation (FMOLS)

Variable	Coefficient	Standard error	t-Statistic	P-value	Significance
TEXP	0.000662	0.000504	1.313037	0.2002	Not Significant
LRT	2.299506	0.693275	3.316876	0.0026	Significant at 1%
REXCR	0.008551	0.040021	0.213652	0.8324	Not Significant
BMS	−0.515609	0.273955	−1.882096	0.0706	Not significant
GDPPCGR	−1.766275	0.482214	−3.662842	0.0011	Significant at 1%
C	−15.99914	19.53840	−0.818856	0.4200	Not Significant
Goodness of fit (model performance)					
Statistic				**Value**	
R-Squared (R²)				0.450194	
Adjusted R-Squared				0.348378	

Source: Author's Computation 2025

production expenses, which businesses pass on to consumers in the form of higher prices.

The correlation between Inflation (INFLCP) and total consumption expenditure (TEXP) (−0.164) was negative, indicating that higher consumption expenditure was associated with lower inflation. This could suggest that increased spending may be met with an adequate supply of goods and services, preventing excessive inflationary pressures in the economy. The relationship between Inflation (INFLCP) and real exchange rate (REXCR) (−0.021) was weakly negative, implying that exchange rate fluctuations had little direct influence on inflation within the dataset. However, exchange rate

movements had indirect effects on inflation through the cost of imported goods and overall production costs.

A moderate negative correlation exists between Inflation (INFLCP) and broad money supply (BMS) (−0.275), suggesting that increases in money supply do not necessarily lead to inflation. This could indicate that the expansion of liquidity in the economy was absorbed by economic growth or offset by other macroeconomic factors, reducing its inflationary impact. The strong negative correlation between Inflation (INFLCP) and GDP per capita growth rate (GDPPCGR) (−0.432) suggested that higher economic growth was associated with lower inflation. This relationship supported the idea that economic expansion improves productivity and efficiency, stabilizing prices and reducing inflationary pressures over time.

5.3. Unit Root Test Results
The ADF unit root test results in Table 3 showed that INFLCP (Inflation Rate) at level was not stationary; the probability (0.2175) of the t-statistic (−2.1783) was >5% significance level. However, after the first difference, the t-statistic (−4.6451), with a probability (0.0008) was <5%, confirming that inflation became stationary at first difference. LRT (Lending Interest Rate) at level, the t-statistic (−2.5068) and P-value (0.1230) indicated non-stationarity. After the first difference, the P-value became 0.0000, confirming stationarity at first difference.

Total Consumption Expenditure (TEXP) at the level form, the test showed a positive t-statistic value (8.1770) and a P = 1.0000, suggesting extreme non-stationarity. After first difference, the t-statistic (−6.0848) was highly significant (P = 0.0001), making it stationary at first difference. REXCR (Real Exchange Rate), the level test showed non-stationarity with a t-statistic of −0.8144 and a P = 0.3555. At first difference, the t-statistic (−5.5209) was significant, confirming stationarity at first difference.

BMS (Broad Money Supply) was non-stationary at level (P = 0.3262). At first difference, the t-statistic (−2.3454) was significant at 5%, confirming stationarity. However, for GDPPCGR (GDP Per Capita Growth Rate), unlike other variables, GDPPCGR was stationary at level (t-statistic = −3.7042, P = 0.0005), meaning no differencing was needed.

Since the variables are integrated at different orders, cointegration tests will be necessary to determine if there is a long-run relationship among them.

5.4. Cointegration Test Results
The Trace test in Table 4 indicated 3 cointegrating equations at the 5% level, meaning the variables share a long-run equilibrium relationship. The Max-Eigen test indicated 3 cointegrating equations at the 5% level, confirming the existence of long-run relationships among the variables.

Both the Trace Test and Maximum Eigenvalue Test indicated that long-run relationships existed among the variables. The cointegration test implies that inflation (INFLCP), total consumption expenditure (TEXP), lending interest rate (LRT), real

exchange rate (REXCR), broad money supply (BMS), and GDP per capita growth rate (GDPPCGR) move together in the long run.

5.5. Results of Model Estimation (FMOLS)
Table 5 shows the estimation results obtained from the Fully Modified Ordinary Least Squares (FMOLS) techniques. The estimated model had inflation as the dependent variable and total expenditure on consumption, lending interest rate, real exchange rate, broad money supply and gross domestic product per capita growth rate as the independent variables.

5.6. Discussion of Results
Table 5 shows that consumption expenditure (TEXP) suggests that higher consumption expenditure led to increased inflation. However, since the P-value (0.2002) was >0.05, the effect was statistically insignificant. This implies that changes in total consumption expenditure do not significantly impact inflation in the long run. This result disagrees with the findings of Iyoha and Oriaki (2021). This difference in results could be attributed to differences in policy implementation. Lending Interest Rate (LRT), the coefficient of 2.299506 was positive and statistically significant at the 1% level (P = 0.0026). It indicated that a 1% point increase in interest rate raises the inflation rate by approximately 2.30% points. The significance of the relationship suggested that higher interest rates contributed to inflationary pressures, possibly due to increased borrowing costs being passed on to consumers, leading to cost-push inflation. The finding is in agreement with the finding of Balogun and Yusuf (2020) who also found that an increase in the production cost exerted pressure on inflation in Nigeria.

The coefficient for Real Exchange Rate (REXCR) was 0.008551, suggesting that exchange rate fluctuations had a very weak effect on inflation. However, the high P-value (0.8324) indicates that the result was statistically insignificant. It suggested that, in the long run, exchange rate changes do not have a significant impact on inflation in Nigeria. Mbagwu (2023) found that exchange rate fluctuation did not affect inflation in Nigeria. Broad Money Supply (BMS), with a coefficient value of −0.515609, suggested that an increase in money supply led to a reduction in inflation. The result contradicted quantity theories of money that typically associate higher money supply with inflation. The P-value (0.0706) was insignificant at the 5% level, indicating that money supply was not inflationary during the period of the study. This finding disagrees with the finding of Mbagwu (2023) who found that money supply was the main driver of inflation in Nigeria. The difference in results could be attributed to differences in the policies' applications.

The coefficient for GDP per Capita Growth Rate (GDPPCGR) was estimated at −1.766275, meaning that higher economic growth led to lower inflation during the period of the study. This relationship was statistically significant at the 1% level (P = 0.0011), confirming that GDP growth plays a crucial role in reducing inflation. The finding supports the productivity-driven inflation theory, which suggests that as an economy grows, efficiency improves, stabilizing prices and reducing inflationary pressures. This finding is also in agreement with the finding of Ahmad et al. (2024) who found that technological advancement, which resulted in high growth rate had negative effect on inflation in the South Asian countries.

The constant term (C) in the model has a coefficient of −15.99914. This negative intercept suggests that, in the absence of other variables, inflation would tend to be negative. Since the P-value (0.4200) is insignificant, the constant term does not hold much explanatory power in the model.

The R^2 was estimated at 0.45, indicating that 45% of the variations in inflation was explained by the independent variables included in the model. While this suggests a moderate explanatory power, it implies that other unobserved factors also influence inflation.

6. CONCLUSION

This study examined the determinants of inflation in Nigeria, assessing whether it is predominantly a demand-pull or cost-push phenomenon. Using time-series data from 1990 to 2022. The study employed Fully Modified Ordinary Least Squares (FMOLS) estimation technique. The findings revealed that lending interest rate (LRT) had a strong and significant positive effect on inflation, suggesting that cost-push factors play a dominant role in driving inflation in Nigeria. This indicated that higher borrowing costs led to increased production cost, which businesses pass on to consumers, resulting in higher inflation. Conversely, GDP per capita growth rate (GDPPCGR) showed a significant negative impact on inflation, confirming that higher economic growth enhances productivity and stabilizes prices.

The study also found that broad money supply (BMS) had an insignificant negative effect on inflation, suggesting that increased liquidity does not necessarily lead to inflationary pressures. Total consumption expenditure (TEXP) and real exchange rate (REXCR) were found to be statistically insignificant, implying that demand-side factors and exchange rate fluctuations do not have a strong long-run impact on inflation in Nigeria.

Overall, the results suggest that inflation in Nigeria is largely influenced by cost-push factors rather than demand-pull forces. Policymakers should focus on strategies that enhance economic growth, improve production efficiency, and manage interest rates effectively to control inflation.

7. RECOMMENDATIONS

1. The study recommends a low interest rate to help reduce the cost of production, to reduce inflation rates in Nigeria
2. Future studies could explore additional factors such as external shocks, global commodity prices, and structural economic constraints to develop a more comprehensive understanding of inflationary trends in Nigeria.

REFERENCES

Aberu, F. (2023), Headline inflation and consumers' confidence in Nigeria. Journal Ekonomi dan Bisnis Airlangga, 33(1), 30-39.

Adeniran, R.A., Okoro, C., Yusuf, T.A. (2022), Supply-side constraints and cost-push inflation in Nigeria: Evidence from structural equation modeling. International Journal of Macroeconomic Research, 11(2), 145-162.

Ahmad, M., Kuldasheva, Z., Akramova, N., Ain, N., Ismailova, N., Balba, M. (2024), Effect of the supply-side factors on inflation in South Asia: An analysis of oil price, technology, and labor market dynamics. Research in Globalization, 8, 1-7.

Ashakah, F.O. (2023), Government expenditure, tax revenue, and economic growth: Empirical evidence from Nigeria. Jalingo Journal of Social and Management Sciences, 5(1), 263-276.

Ashakah, O.F. (2019), The determinants of aggregate consumption expenditure: Empirical evidence from Nigeria. International Journal of Research in Social Sciences, 9(4), 1-16.

Ashakah, O.F., Wanogho, O.A. (2021), ECOWAS economic integration and economic growth: Empirical evidence from Nigeria. Journal of Economics and Allied Research, 6(2), 1-11.

Balogun, I.A., Yusuf, K.O. (2020), Demand-pull versus cost-push inflation in Nigeria: A structural vector autoregression approach. West African Journal of Monetary Studies, 35(1), 78-96.

Bello, S., Adeyemi, O.A. (2019), Exchange rate volatility and inflation in Nigeria: An error correction model approach. Economic Bulletin of Nigeria, 24(3), 201-219.

Blanchard, O. (2019), Public Debt and Low Interest Rates. American Economic Review, 109(4), 1197-1229.

Čaklovica, L., Efendic, A. (2020), Determinants of Inflation in Europe – A Dynamic Panel Analysis. Financial Internet Quarterly, 16(3), 51-79.

CBN. (2023), Central Bank of Nigeria Inflation Report. Available from: https://www.cbn.gov.ng/Out/2025/STD/April%202025%20 Inflation%20Expectation%20Survey%20Report.pdf

Dornbusch, R., and Fischer, S. (1993), Moderate Inflation. The World Bank Economic Review, 7(1), 1-44.

Durguti, E., Tmava, Q., Demiri-Kunoviku, F., Krasniqi, E. (2021), Panel estimating effects of macroeconomic determinants on inflation: Evidence from the Western Balkan. Cogent Economics and Finance, 9, 1942601.

Garba, A.M. (2023), The asymmetry effect of budget deficit and inflation in Nigeria. Journal of Global Economics and Business, 4(13), 97-110.

Hemmati, M., Tabrizy, S.S., Tarverdi, Y. (2023), Inflation in Iran: An empirical assessment of the key determinants. Journal of Economic Studies, 50, 1710-1729.

Inim, V., Samuel, U.E., Prince, A.I. (2020), Other determinants of inflation in Nigeria. European Journal of Sustainable Development, 9(2), 338-348.

Iyoha, M., Oriakhi, D. (2021), Fiscal policy, money supply, and inflation dynamics in Nigeria. African Economic Review, 15(2), 78-95.

Jackson, E., Kamara A., Kamara, P. (2023), Determinants of Inflation in Sierra Leone. Bank of Sierra Leone Working Paper Series 02, 1-26.

Kerorsa, G.M. (2023), Macroeconomic determinants of inflation in Ethiopia: A time series analysis. Research and Development, 4(1), 13-19.

Mbagwu, O.N. (2023), Inflationary trends and its determinants in Nigeria. Accounting and Management Journal, 3(1), 1-14.

NBS. (2023), National Bureau of Statistics Annual Data Report. Available from: https://www.nigerianstat.gov.ng/

NBS. (2024), National Bureau of Statistics Bulletin. Available from: https://www.nigerianstat.gov.ng/

Neszmélyi, G.I. (2020), Nigeria at the crossroads-can the "Giant of Africa" overcome her social, political and economic challenges? Regionalnaya Ekonomika. Yug Rossii, 2(1), 4-15.

Olokoyo, F.O., Ezeji, F.N., Okoh, J.I., Evbuomwan, G.O. (2019), Determinants of behavior of inflation rate in Nigeria. Investment Management and Financial Innovations, 16(2), 25-36.

Salma, U. (2021), Macroeconomic determinants of inflation in Bangladesh. European Journal of Business and Management

Research, 6(5), 264-267.

Sek, S.K., Sim, K.Y., Har, W.M., Aric, K.H. (2023), Examination on the asymmetric effects of commodity price changes on sectoral CPI inflation of Malaysia. AIP Conference Proceedings, 2500(1), 020023.

WB. (2021), A Global Database of Inflation. Available from: https://www.worldbank.org/en/research/brief/inflation-database

WB. (2023), A Global Database of Inflation. Available from: https://www.worldbank.org/en/research/brief/inflation-database