Nexus between Inflation and Economic Growth in Nigeria (1990-2024): Implications for Economic Stability

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Abstract

The study examined the nexus between inflation and economic growth in Nigeria from 1990 to 2024.Implications for economic stability. An ex post facto research design was employed, and secondary data were sourced from the World Bank (WB, 2024). Multiple linear regression was conducted using the Statistical Package for the Social Sciences (SPSS) to assess the relationship between inflation and economic growth in Nigeria. The results revealed that both inflation and population growth significantly influence Nigeria's economic growth. A one-unit increase in inflation reduces economic growth by 0.049 (p = 0.025), while a one-unit rise in population growth boosts it by 17.003 (p = 0.001). The study recommends, among other measures, that the government should implement effective monetary policies to maintain inflation at a sustainable level to support economic growth. Additionally, collaboration between the Central Bank of Nigeria and fiscal authorities is essential to balancing inflation control with economic expansion.

Keywords Inflation, Population Growth and Economic Growth

Introduction

Inflation is a global economic issue with different causes and repercussions across economies. Both wealthy and emerging nations endure price increases, either as short-term fluctuations or long-term trends. Maintaining inflation within a single-digit range while encouraging economic growth is a significant policy goal (Bashir, 2022). The impact of inflation on economic growth remains debated due to its importance in economic stability and policy decisions (Bangura & Omojolaibi, 2024). Macroeconomic policy tries to balance growth with reasonable inflation (Vinayagathasan, 2013).

Moderate inflation promotes economic growth by incentivizing prompt expenditure and heightened investment, hence enhancing economic activity (Oner, 2024). Preventing deflation is vital, as it discourages spending, reduces corporate investment, slows economic growth, and increases debt loads (Clarke & Rubin, 2024). Inflation measures price rises over time, representing rising prices in total or specialized products and services, such as food or transportation, typically over a year (Oner, 2024).

The Keynesian point of view regards government spending as vital for stabilizing the economy, correcting short-term oscillations, and supporting sustained growth (Omodero, 2019). However, detractors claim that excessive government intervention diminishes efficiency, slows production, and distorts economic incentives through high taxation, ultimately leading to poor economic decisions (Barlas, 2020).

Monetary and fiscal policies are crucial for economic stabilization and growth (Onifade et al., 2020). In emerging economies, monetary policy controls inflation, borrowing costs, and the money supply to ensure balance of payments stability (Okimoto, 2018). Fiscal policy supports economic sustainability through taxation, public borrowing, and government expenditure (Adeyemi & Awogbade, 2022). Price uncertainty discourages savings and investment, boosts financial costs, affects the poor, diminishes export competitiveness, disturbs the balance of payments, and impedes long-term economic progress (Oteng-Abayie, 2010). However, it is against this background, the study aims to investigate the Nexus between Inflation and Economic Growth in Nigeria (1990-2024).

Inflation Dynamics

Inflation is a sustained rise in prices that reduces purchasing power (Chineme et al., 2024). While moderate inflation aids economic growth, rapid inflation disrupts economies due to supply-demand imbalances and external shocks like geopolitical conflicts (Floyd, 2024). It results from an excess money supply over goods and services, categorized as demand-pull, cost-push, or supply-side inflation (Toppr, 2024). Keynes linked inflation to excess demand, public spending, and supply constraints, with additional influences from hoarding, wage demands, and tax policies (Toppr, 2024). In Nigeria, inflation is driven by exchange rate volatility, insecurity, and infrastructure deficits, with naira depreciation raising manufacturing and commodity prices (Ashakah, 2022).

Perspectives on Economic Growth

Economic growth is a key indicator of an economy’s performance, reflecting an increase in a country’s capacity to produce goods and services over time (Munyeka, 2014). It is typically measured by the percentage change in real gross domestic product (RGDP), which accounts for inflation. Growth can be positive or negative, depending on changes in output levels. The size of an economy is determined by its total production, commonly measured as GDP, which can be assessed in nominal or real terms (Reserve Bank of Australia, 2019).

GDP Measurement

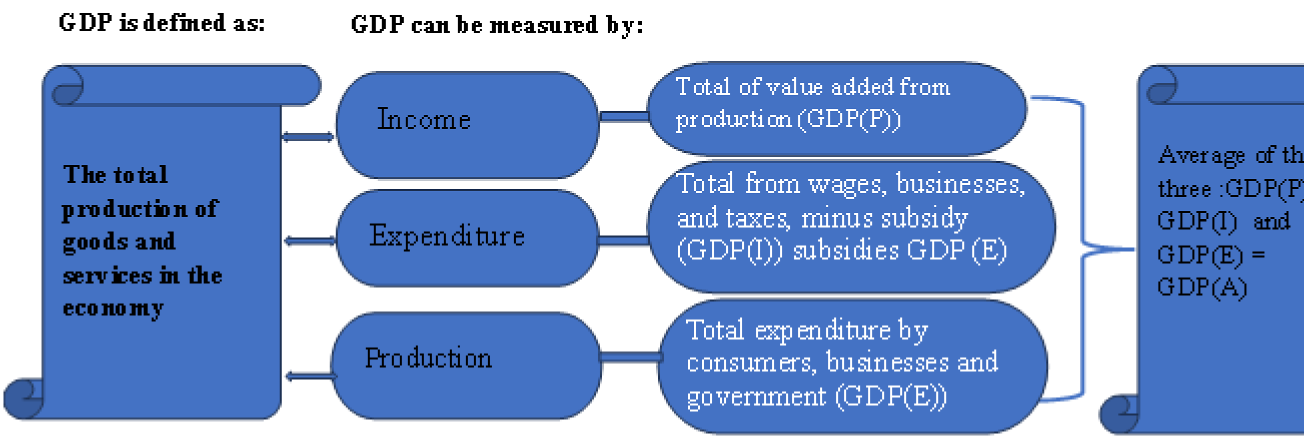

Figure 1: Approaches to GDP Measurement

GDP is measured using three approaches: GDP(P) (total of value added from production), GDP(I) (total income from wages, businesses, and taxes minus subsidies), and GDP(E) (total expenditure by consumers, businesses, and governments). Since data limitations and measurement errors cause variations among these estimates, economists typically use the average of the three, known as GDP(A) (Reserve Bank of Australia, 2019).

Measures for Curbing Inflation

Economic stability fosters equitable growth via fiscal and monetary policies. Fiscal policy governs revenue and expenditure to ensure stability, whereas monetary policy manages inflation (Ozurumba, 2012). Totonchi (2011) emphasizes that diminishing aggregate demand through decreased government expenditure, increased taxation, and interest rate modifications might mitigate inflation. Ashakah (2022) underscores the necessity for robust fiscal and monetary policies, exchange rate stability, infrastructure enhancement, and heightened security in the northern and Middle Belt regions.

Inflation and GDP Growth Trends Over Time.

Nigeria's inflation was low in the 1960s (5%), soared in the 1970s due to oil expansion, and peaked at 54.51% in 1988. The 1990s had volatility, rising 72.84% in 1995 before stabilizing around 10% by 1999. The 2000s experienced minimal inflation, but the 2010s ranged between 8%-18% due to economic shocks. In the 2020s, inflation climbed from 13.25% in 2020 to 28.4% in 2024, driven by subsidy withdrawals, currency depreciation, and supply chain difficulties (Macrotrends,2024).

Ohuocha (2024) notes Nigeria's GDP peaked at 25.01% in 1970 but fell in the 1980s and 1990s, with -13.13% in 1981 and -10.92% in 1983. Reforms in the 2000s drove growth, peaking 15.33% in 2002. Oil price shocks produced a -1.62% drop in 2016, while the pandemic led to -1.79% in 2020. Growth rebounded to 3.65% in 2021, reaching 3.19% in 2024, underpinned by growing oil output and a robust services sector.

Inflation and Economic Growth

Awogbemi and Taiwo (2012) identified growing costs of products and services as a serious economic concern, highlighting price stability as vital for national economic success. They stress monetary policy, fiscal policy, and balance of payments as significant inflationary determinants, saying that inflation is primarily driven by money supply expansion.

According to Ahamba et al. (2020), the main long-term factors influencing inflation in Nigeria are the country's GDP, money supply, government spending, imports, exchange rate, salaries, interest rate, petrol prices, and unemployment. Their research demonstrates the intricate interaction of macroeconomic variables by confirming that both cost-push and demand-pull forces contribute to inflation.

Anidiobu, Okolie, and Oleka (2018) argue that, from a structuralist perspective, moderate inflation can drive economic growth by encouraging production and investment. However, opposing views imply inflation hampers growth by reducing purchasing power and increasing uncertainty. Oranefo (2022) found that while inflation does not significantly impact GDP, it strongly influences Gross National Expenditure (GNE), influencing overall spending patterns.

Empirical Review

Bawa & Ismaila (2021) conducted a study on threshold inflation level of 13% for Nigeria using quarterly data from 1981 to 2009. Their findings indicate that inflation below this level has a mild effect on economic growth, while inflation above it significantly hampers growth. These results provide insights for monetary policy, guiding policymakers in setting optimal inflation targets.

Similarly, Onwubuariri *et al.,* (2021) study is on the impact of inflation on Nigeria’s economic growth from 1980 to 2019 using the ARDL and ECM models. Their study found that inflation and exchange rates negatively affect economic growth, whereas interest rates have a positive influence. Government consumption was found to be insignificant in driving growth. The study recommended stricter inflation control measures by the CBN's Monetary Policy Committee.

Yussuff (2021) examined the relationship between inflation and economic growth from 1990 to 2016 using unit root tests, cointegration, and VECM. The study found that inflation had no significant effect on economic growth during this period. Based on these findings, the study suggested implementing dynamic monetary policies to manage inflation when it becomes detrimental in the long run.

Theoretical Framework

The Monetary Growth Theory was originally developed by Milton Friedman in the 1960s and 1970s, asserted that inflation arises when money supply growth surpasses real output. Excessive money supply leads to rising prices, affecting economic stability and growth. In Nigeria, inflation has been driven by monetary expansion, fiscal deficits, and external shocks like exchange rate volatility and commodity price fluctuations. To manage inflation and stabilize growth, the Central Bank of Nigeria (CBN) has implemented monetary policies, including interest rate adjustments and open market operations.

Objectives of the Study

This study is guided by the following specific objectives:

1. To investigate the relationship between inflation and economic growth in Nigeria.
2. To assess the role of population growth in influencing Nigeria's economic growth.

Research Questions

This study seeks to answer the following research questions:

1. How does inflation affect the economic growth rate in Nigeria?
2. What is the relationship between population growth and economic growth in Nigeria?

Hypotheses

The study tests the following hypotheses:

H_{01}: There is no significant relationship between inflation rate and economic growth in Nigeria.

H_{02}: There is no significant relationship between population growth rate and economic growth in Nigeria.

Methodology

The study employed an expo facto research design. The data used for the study were secondarily sourced from world Bank (WB,2024) and span the period from 1994 to 2024. Multiple linear regression analysis was conducted using the Statistical Package for the Social Sciences (SPSS) software package to examine the relationship between Inflation and Economic growth. The regression model for this study is adapted and modified from the research work of Olurin *et al.,* (2024). The functional relationship used in this study is described below:

$$GDPt=\beta0+\beta1INFt+\beta2\ POPt+\epsilon t$$

Where:

GDP_t = Real Gross Domestic Product at time t (dependent variable)

INFt= Inflation rate at time t (independent variable)

POP_t = Population growth rate at time t (control variable)

B_0= Constant term (intercept)

B_1 = Coefficient for inflation rate (INF)

B_2 = Coefficient for population growth (POP)

ϵ_t = Random error term (captures unexplained variation)

The model analyses inflation's impact on Nigeria's economic growth, with population growth as a control variable. B1 represents inflation's effect, while β2 captures population growth's influence, offering insights into economic and demographic dynamics.

Result and Discussion

Table 1: ANOVA Results for the Regression Model on Nexus between Inflation and Economic Growth in Nigeria

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	218.552	2	109.276	12.227	0.000
Residual	285.983	32	8.937		
Total	504.534	34			

Source: World Bank (WB), 2024.

Dependent Variable: Economic Growth.

Predictors: (Constant), Population Growth Rate, Inflation Rate Annually.

The ANOVA results confirm that the regression model is statistically significant ($F = 12.227$, $p = 0.000$), indicating that inflation and population growth significantly influence economic growth.

Table 2: Regression Results for the Relationship Between Inflation, Population Growth Rate, and Economic Growth in Nigeria

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	Collinearity Statistics
	B	Std. Error	Beta		Lower Bound	Upper Bound
1	Constant	-39.234	11.603		-3.381	0.002
	Inflation Rate	-0.049	0.021	0.318	-2.355	0.025
	Population Growth Rate	17.003	4.392	0.523	3.871	0.001

Source: World Bank (WB), 2024.

Significance level of 0.05: The threshold below which the result is considered statistically significant. p-value < 0.05: The result is statistically significant, indicating a high likelihood that the observed effect is real.

The regression results indicated that inflation negatively impacts economic growth in Nigeria, as a 1% increase in inflation reduces growth by 0.049 percentage points (p = 0.025), highlighting the need for inflation control measures. Conversely, population growth significantly enhances economic growth, with a 1% increase leading to a 17.003 percentage point rise (p = 0.001), suggesting that demographic expansion drives economic activity. With a VIF of 1.031, no multicollinearity is detected

Discussion of Findings

The regression analysis confirms that inflation and population growth significantly influence Nigeria’s economic growth. This aligns with Olurin (2024), who found that government expenditure and inflation positively impact economic growth. Similarly, Bawa & Ismaila (2012) identified a negative relationship between inflation and economic growth, regardless of the inflation threshold.

Rukayat (2021) reported that deviations from long-run equilibrium are corrected at an adjustment speed of 6.7%, with a short-run inflation coefficient of 0.0706, suggesting that a 1% increase in inflation leads to a 0.07% rise in economic growth. Nwaonuma & Ebubechima (2023) established a long-run relationship between inflation, unemployment, and economic growth. Lastly, Ojomolade & Oni (2018) found a positive linear relationship between inflation, money supply, and economic growth in both the short and long run, indicating moderate inflation benefits economic growth.

Conclusion

The study reveals that both inflation and growing populations significantly affect Nigeria's economic growth. Inflation negatively affects economic growth, as a one-unit increase in inflation corresponds to a 0.049 reduction in GDP. Conversely, population expansion positively promotes economic growth, with a one-unit rise contributing to a 17.003 increase in GDP. The regression model is statistically significant ($F = 12.227$, $p = 0.000$), demonstrating the importance of these variables in affecting economic success. The absence of multicollinearity (VIF = 1.031) assures the reliability of the results.

Recommendations

1. The government should implement effective monetary policies to keep inflation at a sustainable level to support economic growth.
2. Collaboration between the Central Bank of Nigeria and fiscal authorities is essential to balance inflation control with economic expansion.
3. Encouraging investment in key sectors will help mitigate inflationary pressures and sustain long-term economic growth.

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