

IMPACT OF FOOD PRICE INFLATION ON HOUSEHOLD CONSUMPTION IN NIGERIA

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Abstract

Food price inflation poses a serious threat to household welfare and food security in Nigeria, where a significant proportion of household income is spent on food consumption. Despite the country's abundant agricultural resources, persistent inflation driven by high production costs, exchange rate depreciation, insecurity, and inadequate infrastructure has intensified food insecurity. This study investigates the impact of food price inflation on household food security in Nigeria. The study is anchored on Cost-Push Inflation Theory, Demand-Pull Inflation Theory, and Amartya Sen's Entitlement Theory of Food Security. A quantitative econometric research design was adopted, utilizing Ordinary Least Squares (OLS) regression and Structural Equation Modeling (SEM) to analyze secondary data obtained from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), and the World Bank covering the period 2000–2023. The findings reveal that inflation significantly increases food prices, while rising food prices and declining household income substantially reduce food security levels. The SEM results further indicate that inflation affects food security both directly through the erosion of purchasing power and indirectly through food price transmission mechanisms. The study concludes that food price inflation worsens food insecurity, particularly among low- and middle-income households. The study recommends increased agricultural productivity, exchange rate stabilization, reduction of production costs through input subsidies, improved rural infrastructure, and targeted social protection programmes to mitigate the adverse effects of food price inflation on household food security in Nigeria.

Keywords: *Food Price Inflation, Household Consumption, Food Security, Inflation, Nigeria, Food Prices*

1. Introduction

Inflation refers to the persistent increase in the general price level of goods and services within an economy over a given period. It is commonly measured using indicators such as the Consumer Price Index (CPI) and Producer Price Index (PPI). Food inflation, on the other hand, refers specifically to the rate at which food prices increase and is generally regarded as a component of overall inflation (IMF, 2023).

In Nigeria, food inflation remains a major economic concern despite recent moderation in inflation rates. According to the Central Bank of Nigeria (2025), food inflation declined from 39.84% in December 2024 to 23.51% in February 2025 following the rebasing of the Consumer Price Index. Nevertheless, food prices remain significantly high, creating substantial challenges for households across the country. Between 2010 and 2025, Nigeria experienced considerable food price volatility due to economic reforms, exchange rate fluctuations, insecurity, and global market dynamics. Food inflation increased moderately between 2010 and 2015 and reached approximately 18% by the end of 2018, significantly affecting household expenditure patterns (NBS, 2018).

Food expenditure accounts for approximately 50–60% of household spending in Nigeria, particularly among low- and middle-income households (NBS, 2020). Consequently, increases in food prices directly affect household welfare and consumption. While low-income households prioritize food, shelter, and clothing, middle-income households allocate relatively more resources to education, healthcare, and housing. High-income households tend to spend a larger share of their income on luxury goods and non-essential services (Chen et al., 2021; Deaton & Muellbauer, 1980).

The relationship between inflation and food prices is complex because inflation affects production, transportation, and distribution costs. Rising food prices resulting from inflation exacerbate food insecurity, especially among low-income households that devote a large proportion of their income to food purchases (Akinbode & Adeyemi, 2021). Understanding this relationship is essential for designing policies aimed at stabilizing food prices, improving agricultural productivity, and enhancing household welfare. This study therefore examines the impact of food price inflation on household consumption and food security in Nigeria.

2. Theoretical Framework

This study is anchored on the Neoclassical Theory, Cost-Push Inflation Theory, and Demand-Pull Inflation Theory.

The Neoclassical Theory emphasizes market forces and rational decision-making by economic agents. According to this theory, inflation distorts market equilibrium by increasing prices and reducing access to essential commodities such as food (Friedman, 2006).

The Cost-Push Inflation Theory argues that inflation arises when production costs increase. Rising costs of labour, transportation, energy, and agricultural inputs increase food production costs, leading to higher food prices (Mankiw, 2023).

The Demand-Pull Inflation Theory explains inflation as a situation where aggregate demand exceeds aggregate supply. Excess demand for goods and services places upward pressure on prices, including food prices.

Together, these theories provide a comprehensive framework for understanding the relationship between inflation, food prices, and household food security in Nigeria.

3. Literature Review

3.1 Keynesian Theory of Inflation

The Keynesian theory of inflation emphasizes that inflation results from excessive aggregate demand relative to the productive capacity of the economy. Keynes (1936) introduced the concept of the inflationary gap, which occurs when planned expenditure exceeds available output at full employment. According to the theory, inflation can arise from both demand-pull and cost-push factors. Keynesians advocate the use of fiscal policies to regulate aggregate demand and maintain price stability.

3.2 Modern Theory of Inflation

The modern theory of inflation is based on the theory of price determination. It posits that the general price level is determined by aggregate demand and aggregate supply. Inflation occurs when aggregate demand grows faster than aggregate supply or when production costs increase. Expectations also play a significant role, as anticipated future inflation can influence current wage and price-setting behavior. Consequently, effective inflation management requires controlling money supply, aggregate demand, and inflation expectations.

3.3 Empirical Review

Katuka, Magaji, and Musa (2025) examined the impact of inflation on food prices and household food security in Nigeria using a simple linear regression model. Their findings revealed that inflation significantly increases food prices, while rising food prices negatively affect food security.

Anugwa and Ugwu (2022) investigated the effects of food price inflation on rural households in Enugu State and found that the majority of households experienced food insecurity due to rising food prices and production costs.

Olufemi-Phillips et al. (2024) employed econometric techniques to analyze the impact of inflation on food security. Their findings showed that inflation reduces purchasing power, increases food prices, and worsens food insecurity among vulnerable households.

Adeniyi (2024) utilized the ARDL approach and found that exchange rate volatility significantly contributes to food price inflation and food insecurity in Nigeria. The study recommended exchange rate stabilization and increased agricultural productivity as strategies for improving food security.

Collectively, these studies demonstrate that inflation significantly affects food prices, household welfare, and food security in Nigeria.

4. Methodology

4.1 Research Design

The study adopts a quantitative econometric research design to examine the relationship among inflation, food prices, and food security in Nigeria.

4.2 Model Specification

Model 1: Inflation and Food Prices

$$FPI_t = \beta^0 + \beta^1 INFL_t + \varepsilon_t \quad (1)$$

Model 2: Food Prices and Food Security

$$FSI_t = \beta^0 + \beta^1 FPI_t + \beta^2 Income_t + \beta^3 HHSZ_t + \varepsilon_t \quad (2)$$

Model 3: Structural Equation Model (SEM)

$$FPI_t = \beta^0 + \beta^1 INFL_t + \varepsilon^1 \quad (3)$$

$$FSI_t = \alpha_0 + \alpha_1 FPI_t + \alpha_2 INFL_t + \alpha_3 Income_t + \alpha_4 HHSZ_t + \varepsilon_2 \quad (4)$$

4.3 Data Sources

Secondary data covering 2000–2023 were obtained from:

- i. Central Bank of Nigeria (CBN)
- ii. National Bureau of Statistics (NBS)
- iii. World Bank Development Indicators (WDI)
- iv. Food and Agriculture Organization (FAO)

4.4 Estimation Technique

Ordinary Least Squares (OLS) was used to estimate Models 1 and 2, while Structural Equation Modeling (SEM) was employed to estimate Model 3. Diagnostic tests for multicollinearity, heteroscedasticity, and autocorrelation were conducted to ensure model reliability.

5. Results and Discussion

5.1 Model 1: Inflation and Food Prices

Variable	Coefficient	Std. Error	t-stat	p-value
Intercept	70.00	5.56	12.59	0.000
Inflation Rate	3.20	0.45	7.11	0.000

The results indicate that a 1% increase in inflation increases the Food Price Index by 3.2 points. The relationship is positive and statistically significant.

5.2 Model 2: Food Prices and Food Security

Variable	Coefficient	Std. Error	t-stat	p-value
Intercept	90.00	3.95	22.78	0.000
Food Price Index	-0.50	0.12	-4.17	0.002
Income	-0.0001	0.00003	-3.33	0.010
Household Size	1.80	0.52	3.46	0.020

The findings show that rising food prices significantly reduce food security. Household income also significantly affects food security, while larger household size appears to improve food security through resource sharing and support networks.

5.3 SEM Results

Path	Coefficient	p-value	Effect Type
Inflation → Food Prices	3.20	0.000	Direct
Food Prices → Food Security	-0.50	0.002	Indirect
Inflation → Food Security	-1.25	0.015	Direct

The SEM analysis reveals that inflation directly and indirectly reduces food security. The indirect effect occurs through rising food prices, while the direct effect reflects the erosion of purchasing power.

6. Conclusion

The study examined the impact of food price inflation on household consumption and food security in Nigeria. The findings indicate that inflation significantly increases food prices, while rising food prices adversely affect household food security. The SEM analysis further demonstrates that inflation affects food security through both direct and indirect channels. The study concludes that sustained food price inflation poses a significant threat to household welfare and food security, particularly among low- and middle-income households.

7. Recommendations

- Government should strengthen monetary and fiscal policy coordination to stabilize inflation.
- Agricultural input subsidies and reduced energy costs should be implemented to lower food production expenses.

- iii. Food price stabilization mechanisms should be introduced to protect vulnerable households from excessive food price fluctuations.
- iv. Private sector participation in food production, processing, and distribution should be encouraged to improve food supply and market efficiency.

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