



Research Article

Institutional Determinants of Domestic Price Dynamics: Evidence from Food Inflation in Nigeria

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Abstract

Food inflation is recognized as a major macroeconomic issue in Nigeria, significantly affecting household welfare, poverty reduction, and overall economic stability. Thus, provides valuable insights into how institutional factors, such as the CBN's monetary autonomy and regulatory quality, alongside monetary and fiscal policy measures, affect food inflation in Nigeria between 1997 and 2023. This is motivated by Nigeria's persistent and complex inflation issues, despite numerous monetary and fiscal policy efforts to ensure economic growth and stability. The datasets were gathered from the Central Bank of Nigeria (CBN) Statistical Bulletin, the National Bureau of Statistics, the World Bank, and the Chinn-Ito index, and analyzed using descriptive statistics, pre-estimation tests (unit root and cointegration tests), and least-squares estimation. The results showed that CBN's monetary autonomy and regulatory quality contributed positively to food inflation in Nigeria during the study period. The contemporaneous positive effect of regulatory quality on food inflation is significant at the 5% level, indicating that a percentage increase in regulatory quality is associated with a 16.59% increase in food inflation during the study period. This finding highlights the ineffectiveness of institutional quality in reducing food inflation in Nigeria. The results further showed that the monetary policy rate has a positive effect on food inflation. Although this finding is not significant at the 5% level, it highlights the monetary policy rate's ineffectiveness as a tool for mitigating rising food prices. The effect of broad money supply on food inflation is mixed. While contemporaneous broad money supply negatively affects food inflation, its one-period lag has a positive and significant effect. The estimated parameter revealed that food inflation increases by 1.08% following a percentage increase in the one-period lag of the broad money supply. Additionally, the results showed that total government expenditure contributed positively to food inflation. This finding is not surprising, as increased government spending raises households' purchasing power, boosting aggregate demand for food and, in turn, raising food prices. The error correction coefficient (-0.6868) is negative and significant at the 5% level, indicating that distortions from the long run are corrected at a speed of 68.68% each year. Thus, we recommend that policymakers reinforce the CBN's autonomy in practice and strengthen the bank's inflation-targeting regime by explicitly defining its inflation goals to improve the precision of inflation forecasts and stabilize food prices.

Keywords

Institutional Quality, Food Inflation, Monetary Autonomy, Regulatory Quality, Government Expenditure, Nigeria

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1. Introduction

Food inflation is recognised as a major macroeconomic issue in Nigeria, significantly affecting household welfare, poverty reduction, and overall economic stability. The [35], report indicates that food prices disproportionately affect poor households in Nigeria, whose food expenditure accounts for up to 70% of their total spending. This is worrisome, as it raises concerns about the gap between policy and people, with gains from ongoing reforms yet to trickle down to the poor and boost food security. Conventional macroeconomic debates typically explain inflationary pressures through monetary expansion, exchange rate pass-through, and supply-demand gaps. For instance, studies such as [7, 11, 14, 22-24, 34] have identified money supply, monetary policy rates, and exchange rate fluctuations as significant determinants of food price shocks worldwide, including in Nigeria. However, in recent years, attention has shifted from traditional explanations to institutional quality as a critical yet underexplored factor shaping domestic price dynamics, including food price shocks in developing economies.

Institutional architecture can shape inflationary outcomes through channels such as property rights, the rule of law, contract enforceability, and political stability [21]. In Nigeria, several institutional challenges, including corruption, inadequate regulatory enforcement, political interference in monetary policies, and a fragile rule of law, have been identified as major bottlenecks to successful macroeconomic management [16, 35]. These issues often result in inconsistent policies, ineffective monetary transmission mechanisms, and fiscal dominance, all of which worsen inflationary pressures. [4] emphasise that in Sub-Saharan Africa, inflation is less about monetary aggregates and more about institutional inefficiencies and governance failures. In Nigeria, weak institutional checks and a lack of transparency in policy implementation exacerbate the inflationary impact of exchange rate pass-through and supply shocks [3, 18]. Consequently, Nigeria has emerged as a compelling context for examining the institutional determinants of food inflation. Despite abundant agricultural resources and its status as one of Africa's largest food-producing countries, Nigeria has continued to experience persistent food price instability. This concerns policymakers, development practitioners, and donor agencies, as sustained food price inflation has profound implications for welfare, economic growth, and progress toward the Sustainable Development Goals (SDGs), particularly SDG 1 and SDG 2.

Although an extensive body of empirical literature has examined the determinants of inflation in Nigeria, most studies have focused on monetary policy variables, exchange rate movements, money supply, fiscal deficits, crude oil prices, and external shocks. By comparison, relatively little attention has focused on how institutional quality shapes domestic food price dynamics. Many previous studies, such as [5, 6, 25-27], focus on aggregate inflation and overlook food inflation, the

most volatile and welfare-sensitive component of the Consumer Price Index (CPI). This study addresses this gap by investigating the institutional determinants of domestic price dynamics, using food inflation as the focal measure of domestic price movements in Nigeria. This is imperative, as it extends the conventional inflation literature by integrating institutional economics into the analysis of domestic food price shocks and provides country-specific evidence on the nexus between institutional quality and food inflation in Nigeria. Accordingly, this paper is structured into 5 sections. Following the introduction in Section I, Section II reviews the related literature, emphasising theoretical and empirical work, as well as stylised facts on food inflation dynamics during the study period. Sections III and IV embody the methodology and findings, respectively, while Section V concludes the paper with policy insights.

2. Related Literature

2.1. Theoretical Literature

This study draws on North's (1990) institutional quality theory, which describes institutions as "the rules of the game" that influence economic interactions by reducing uncertainty in exchange and production. [28] explains that institutions include formal rules like constitutions, laws, regulations, and government agencies, as well as informal norms and conventions that shape economic behaviour. Building on this, [2, 10] highlight that institutional quality is crucial for long-term economic performance because it affects how political and economic power are exercised. Countries with strong governance can better create and implement sound economic policies, maintain macroeconomic stability, and shield markets from distortions that drive inflation. Similarly, [30] argue that institutions are more fundamental than geography or trade openness in explaining why countries have different economic outcomes. High-quality institutions boost government credibility, ensure policy consistency, foster market confidence, and reduce uncertainty, all of which support stable prices and better economic results. While traditional monetary theories explain inflation primarily through the growth of monetary aggregates, institutional quality theory argues that weak governance structures often undermine the effectiveness of monetary and fiscal policies, thereby generating persistent inflationary pressures. The World Bank's Worldwide Governance Indicators (WGI) framework operationalises institutional quality across six main dimensions: Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption, Political Stability and Absence of Violence, and Voice and Accountability. These indicators are now the standard benchmarks for assessing institutional quality in macroeconomic and development studies.

Institutional quality affects both the supply-side and demand-side determinants of food inflation through various channels. For instance, an effective government adopts well-coordinated macroeconomic policies that reduce policy uncertainty and enhance collaboration among fiscal and monetary authorities. Additionally, improved regulatory quality boosts market efficiency by curbing monopoly power, fostering competition, and preventing monopolistic pricing. Effective regulations support agricultural marketing and distribution systems, reducing structural inefficiencies that drive food price inflation. Moreover, the rule of law ensures enforcement of contracts, property rights, and the integrity of commercial transactions. A strong legal system lowers transaction costs, encourages private investment in agriculture and logistics, and strengthens supply chains. Strong anti-corruption measures limit rent-seeking, smuggling, and resource diversion, which increase costs and food prices, while political stability minimizes uncertainty in agriculture, investment, and supply chains.

In sum, the key assumption of the institutional quality theory is that weak institutions lead to policy uncertainty, fiscal indiscipline, and monetary instability, all of which contribute to higher and more volatile inflation. In contrast, strong institutions constrain discretionary power and provide credible commitments to stable macroeconomic policy, thereby anchoring inflation expectations. Thus, this theory is relevant to this study, as it directly explains how variations in governance quality influence food price behaviour through institutional channels rather than purely monetary mechanisms.

2.2. Empirical Literature

Empirically, previous studies have provided some insights into the link between institutional quality and food price dynamics, though findings are mixed. For instance, [17] utilised various econometric techniques, including Common Correlated Effects (CCE), Panel Corrected Standard Errors (PCSE),

and System Generalised Method of Moments (System-GMM), to investigate how institutional quality shapes inflation and food security dynamics in Africa. The findings indicated that strong institutional quality mitigates inflation's harmful impact on food access in 32 African countries between 1995 and 2020. This underscores the importance of governance in ensuring food security. Similarly, [20] used contemporary econometric methodologies, including second-generation unit root tests, the Westerlund co-integration test, the fully modified least squares (FMOLS) and dynamic least squares (DOLS) estimation to investigate how monetary policy and institutional quality affect inflation (CPI), investment (FDI), and economic growth (GDP) in G-10 countries between 1996 and 2022. The findings indicate that monetary policy and institutional quality have a negative impact on inflation during the study. This highlights the effectiveness of strong institutions and monetary policy measures in mitigating inflationary pressures. [13] also provided empirical evidence on the magnitude and direction of the relationship between institutional quality and inflation in Türkiye, establishing that the inflation rate is co-integrated with institutional quality. In particular, the findings show that deterioration in institutional quality in Türkiye between 2005 and 2019 has been associated with higher inflation. In their study, [31], examined how institutional quality affects the effectiveness of monetary policy to curb inflation in Egypt from 1984 to 2021. Their results show a strong negative relationship between institutional quality and inflation rates in both the short and long run, suggesting that better institutional quality enhances the effectiveness of monetary policy in stabilising prices.

2.3. Stylised Facts on Food Inflation in Nigeria

Food prices in Nigeria have varied over the years, reflecting the dynamics of food availability and demand growth. Figure 1 summarises the trend in food inflation in Nigeria between 1997 and 2023.

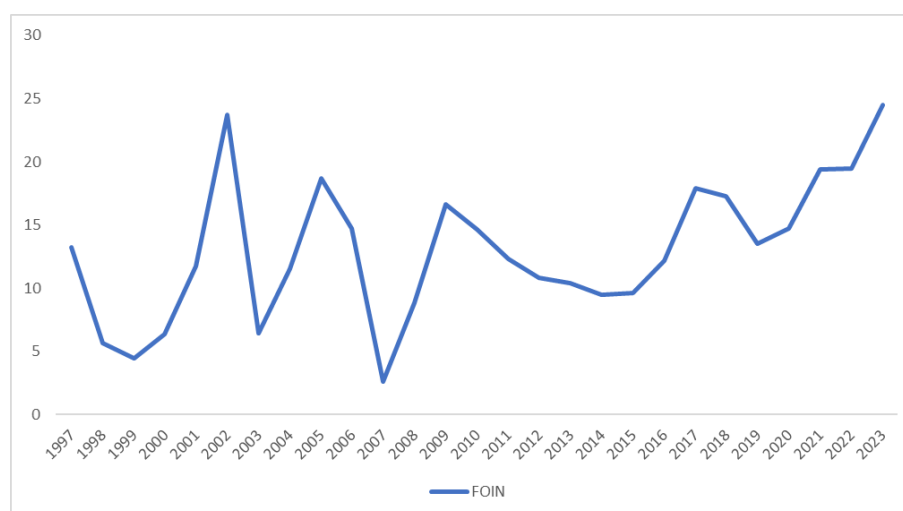


Figure 1. Time series trend of food inflation in Nigeria, 1997-2023.

As shown in Figure 1, food inflation varied over the 27-year span from 1997 to 2023, with periods of decline, stability, and acceleration. In 1997, it stood at 13%, then declined to about 5% in 1998, and further to 4.9% in 1999. From 2000 to 2002, food inflation rose notably to 23%, indicating rising food prices. After this peak, the trend fluctuated, and by 2007, food inflation fell to an all-time low of about 3%, temporarily stabilizing prices. The rate remained steady, with 2014 and 2015 both around 9.5%. Food inflation rose steadily, reaching about 19% in 2021 and 2022. However, in 2023, it peaked at about 24%, highlighting how pervasive food inflation is in Nigeria.

3. Methodology

3.1. Data Description and Measurement

Food inflation is the persistent rise in food prices over time. Unlike broader inflation measures, it captures the percentage change in the food component of the CPI, which can be driven by supply disruptions, weather conditions, input costs, and global commodity prices. CBN monetary autonomy is introduced as an independent variable and defines a country's ability to set monetary policy to meet its economic objectives, primarily by adjusting the money supply and setting short-term interest rates. This index follows Aizenman's framework, with values ranging from 0 to 1, where 1 indicates maximum independence, and 0 indicates minimum independence. A higher index reflects greater monetary policy independence. Increased monetary autonomy is expected to reduce inflationary pressures. The regulatory quality index is an integral component of the World Governance Indicators (WGI) and describes the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development. The regulatory quality index is scored on a scale ranging from approximately -2.5 (weak) to +2.5 (strong). A higher score indicates better regulatory quality, with fewer distortive regulations and better facilitation of business activity. An increase in the regulatory quality index is expected to

reduce domestic inflation. Additionally, the monetary policy rate is the rate at which the CBN lends to deposit money banks and serves as the nominal anchor for all other rates in the economy. As a policy rate, the CBN uses the monetary policy rate to signal its monetary policy stance, influencing short-term interest rates and inflation expectations. An increase in the monetary policy rate is expected to reduce inflationary pressures by raising interest rates. Broad money supply is described as the total volume of money in the economy, comprising narrow money plus savings and time deposits with banks, including foreign-denominated deposits. This study measures broad money as a percentage of GDP. An increase in the broad money supply is expected to raise domestic inflation because it increases overall monetary aggregates. Moreso, total government expenditure is introduced into the model following the growing recognition of policy coordination, and it refers to the aggregate of all government disbursements on recurrent and capital expenditures within a fiscal year. This study measures total government expenditure as a percentage of Nigeria's GDP. An increase in government expenditure is expected to be inflationary.

3.2. Model Specification

The model set up for this study follows [1, 23], with some improvements following the focus on food inflation and the combination of the core institutional frameworks of CBN independence and regulatory quality with monetary and fiscal policy measures, including the monetary policy rate, broad money supply, and total government expenditure. Accordingly, the model is specified as follows:

$$FOIN = f(CBMA, REGT, MPR, BRM, TGE) \quad (1)$$

Where: FOIN = Food inflation, CBMA = central bank monetary autonomy, REGT = regulatory quality, MPR = monetary policy rate, BRM = broad money supply and TGE = total government expenditure

The error correction model (ECM) representation of the functional equation is provided as:

$$\Delta FOIN_t = \alpha_0 + \sum_{i=1}^p \psi_1 \Delta FOIN_{t-1} + \sum_{i=1}^q \psi_2 \Delta CBMA_{t-1} + \sum_{i=1}^q \psi_3 \Delta REGT_{t-1} + \sum_{i=1}^q \psi_4 \Delta MPR_{t-1} + \sum_{i=1}^q \psi_5 \Delta BRM_{t-1} + \sum_{i=1}^q \psi_6 \Delta TGE_{t-1} + \beta ECT_{t-1} + e_t \quad (2)$$

Where: α_0 = intercept, ψ_1 - ψ_6 = short-run coefficients, e_t = error term, Δ = first difference notation, p and q = optimum lag order for the dynamic regressors, and β = error correction coefficient.

3.3. Method of Data Analysis

In this study, the least-squares method was employed to estimate the general-to-specific error-correction model (ECM).

The ECM has desirable statistical properties compared with standard linear regressions. Effectively, the ECM model, unlike a static model that accounts only for static effects, captures the dynamic impacts of the independent variables on the dependent variable. Further, the ECM is best suited for models with first-difference [I(1)] integrated series. Additionally, descriptive statistics and pre-estimation tests, including the [29] unit root test and [11] cointegration test, were used to examine

each variable and determine stationarity and the long-run relationship among the variables. Moreover, we evaluated the econometric reliability of the estimated parsimonious ECM using serial correlation, heteroskedasticity, and stability tests.

4. Results and Discussion

4.1. Descriptive Statistics

Table 1 summarises the descriptive statistics for each variable.

Table 1. Summary of descriptive statistics.

	FOIN	CBMA	REGT	MPR	BRM	TGE
Mean	12.98111	0.511999	-1.005556	13.12037	18.59593	2.444815
Median	12.27000	0.475700	-0.940000	13.50000	21.35000	1.780000
Maximum	24.48000	0.790900	-0.680000	20.50000	27.09000	9.080000
Minimum	2.560000	0.296800	-1.750000	6.000000	9.350000	0.640000
Std. Dev.	5.571712	0.151864	0.264376	3.334241	5.503051	2.005125
Jarque-Bera	0.417822	1.605372	5.733718	0.076370	2.865343	28.05785
Probability	0.811468	0.448124	0.056877	0.962535	0.238670	0.000001
Observations	27	27	27	27	27	27

Source: EViews output

The descriptive statistics for food inflation show an average of 12.98% and a median of 12.27%. The standard deviation of 5.57 indicates relatively tight clustering around the mean, and the Jarque-Bera statistic (0.418; $p = 0.812$) suggests that food inflation is normally distributed. The results also indicate that the CBN monetary autonomy index averaged 0.511999. It ranged from a minimum of 0.296800 to a maximum of 0.790900, showing that the CBN monetary autonomy index varied considerably in response to institutional and economic conditions. The Jarque-Bera statistic and the probability value (1.605372, $p = 0.448124$) confirm that the distribution was approximately normal with no severe outliers. Additionally, Nigeria's regulatory quality index was generally poor during the study period, as descriptive statistics show a mean value of -1.0055. The standard deviation of 0.264376 indicates that regulatory quality variations are generally confined to a small negative range, demonstrating limited volatility. Additionally, the Jarque-Bera test statistic of 5.733718, with a p -value of 0.05687, suggests the data are approximately normally distributed. The descriptive statistics for the monetary policy rate across 27 observations show a mean of 13.12% and a median

of 13.50%. The standard deviation of 3.334 indicates moderate fluctuations around the mean, suggesting policies should be adjusted periodically in response to macroeconomic conditions. The Jarque-Bera statistic of 0.076370, with a p -value of 0.962535, confirms normality, indicating symmetric fluctuations with no significant outliers. The summary statistics for broad money supply reveal an average of 18.59% and a median of 21.35%. The Jarque-Bera test (2.865343, $p = 0.238670$) supports normality, and the standard deviation (5.503051) indicates moderate fluctuations. Government total expenditure (TGE) across 27 observations has a mean of 2.44% and a median of 1.78%, with a difference of 0.66%. The standard deviation of 2.01 confirms moderate convergence around the mean. The distribution of government total expenditure is not normal, as indicated by the Jarque-Bera statistic of 28.05785 with a p -value of 0.000001, suggesting uneven spending patterns and outliers.

4.2. Unit Root Test

The Phillips-Perron method formed the basis for the unit root test. Table 2 summarises the results.

Table 2. PP unit root test results.

Variable	Adj. t-stat at levels	Adj. t-stat at 1 st difference	5% critical value	Order of Integration
FOIN	-2.866	-9.148	-2.981	I(1)
CBMA	-2.175	-4.972	-2.981	I(1)
REGT	-2.160	-11.88	-2.981	I(1)
MPR	-1.906	-6.233	-2.981	I(1)
BMR	-1.056	-4.244	-2.981	I(1)
TGE	-2.454	-9.104	-2.981	I(1)

Source: E-views output

The unit root test results showed that all the variables are non-stationary. This is because the adjusted t-statistics for all variables are below the 5% critical value. Consequently, the null hypothesis of a unit root cannot be rejected. However, the first-difference test results showed that all variables are stationary in first differences, indicating that they are integrated of order one, I(1). Evidence of first-difference stationarity across all variables required a cointegration test to determine whether the variables have a long-run relationship.

4.3. Cointegration Test

Given evidence of first-difference stationarity across the multivariate datasets, the Johansen cointegration test was used

to determine whether the variables have a long-run relationship. The results are presented in Table 3.

The results indicate that the trace test identified five (5) cointegrating equations in the model, as the computed trace statistics exceed the corresponding 5% critical values. At the same time, the maximum eigenvalue test results indicate three (3) cointegrating equations. Given these findings, we reject the null hypothesis of no cointegration at the 5% level. This indicates that food inflation has a long-term relationship with institutional factors. The evidence of a long-term relationship among the variables is compelling, as it provides the foundation for modeling the relationship among them as an error correction model (ECM).

Table 3. Johansen cointegration test results.

Series: FOIN CBMA REGT MPR BRM TGE				
Lags interval (in first differences): 1 to 1				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.846759	146.6493	95.75366	0.0000
At most 1 *	0.729402	99.75573	69.81889	0.0000
At most 2 *	0.644350	67.07773	47.85613	0.0003
At most 3 *	0.590965	41.23254	29.79707	0.0016
At most 4 *	0.466174	18.88369	15.49471	0.0148
At most 5	0.119849	3.191537	3.841466	0.0740
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.846759	46.89357	40.07757	0.0074
At most 1	0.729402	32.67799	33.87687	0.0690
At most 2	0.644350	25.84519	27.58434	0.0821

Series: FOIN CBMA REGT MPR BRM TGE

At most 3 *	0.590965	22.34885	21.13162	0.0336
At most 4 *	0.466174	15.69215	14.26460	0.0295
At most 5	0.119849	3.191537	3.841466	0.0740

Source: E-views output

Note: * denotes rejection of the hypothesis at the 0.05 level

4.4. Model Estimation

Given the evidence of cointegration among the nonstationary variables in each model, the ECM is estimated to capture

the dynamic effects of institutional factors on food inflation. The results of estimated parsimonious ECM from the general-to-specific method are summarised in [Table 4](#).

*Table 4. Parsimonious ECM results.***Dependent Variable: D(FOIN)**

Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CBMA(-1))	10.08501	7.200111	1.400674	0.1817
D(REGT)	16.59902	7.380240	2.249117	0.0400
D(REGT(-1))	13.16463	6.695718	1.966127	0.0681
D(MPR)	0.798416	0.417891	1.910583	0.0754
D(MPR(-1))	0.684824	0.377478	1.814212	0.0897
D(BRM)	-0.677489	0.462985	-1.463306	0.1640
D(BRM(-1))	1.078532	0.493936	2.183548	0.0453
D(TGE)	1.262750	0.938856	1.344989	0.1986
ECT(-1)	-0.686792	0.206530	-3.325382	0.0046
C	-0.087129	0.952588	-0.091466	0.9283
R-squared	0.739044	Mean dependent var		0.753600
Adjusted R-squared	0.582471	S. D. dependent var		6.181352
S. E. of regression	3.994172	Akaike info criterion		5.896724
Sum squared resid	239.3011	Schwarz criterion		6.384274
Log likelihood	-63.70905	Hannan-Quinn criter.		6.031950
F-statistic	4.720117	Durbin-Watson stat		1.480735
Prob(F-statistic)	0.004142			

Source: E-views software output

The results showed that CBN's monetary autonomy and regulatory quality contributed positively to food inflation in Nigeria during the study period. This finding suggests that, in this context, autonomy may enable monetary interventions

that do not address the underlying causes of food inflation. This may be because supply-side factors, including high transport costs, insecurity in farming regions, and exchange-rate depreciation, mainly drive food inflation in Nigeria. The

positive effect of CBN's monetary autonomy on food inflation contradicts the findings of [12, 19], which reported an inverse relationship between central bank autonomy and inflation, suggesting that central bank autonomy serves as a necessary institutional safeguard against inflation. The results also indicated that the monetary policy rate positively influences food inflation. This finding suggests that monetary tightening could unintentionally raise food prices due to cost-push effects. This is because rising interest rates make borrowing more expensive for farmers, food processors, and distributors, increasing the costs of agricultural production and logistics. These higher costs are passed on to consumers, resulting in higher food prices, despite the CBN's goal of raising the MPR to reduce inflationary pressures. The positive effect of the monetary policy rate on food inflation contradicts the findings of [33], who reported that the monetary policy rate has a significant negative impact on food inflation in Nigeria.

Furthermore, the results showed that broad money has a positive and significant effect on food inflation. The positive and significant impact of broad money supply on food inflation indicates that monetary expansion boosts aggregate demand, including demand for food products. This finding aligns with the monetarist view, which suggests that excessive money supply growth relative to output growth creates inflationary pressures. The positive effect of the money supply on

food inflation corroborates [9] findings, which reported a contemporaneous positive effect of the money supply on food inflation. Similarly, total government expenditure contributed positively to food inflation. This suggests that expansionary fiscal policy contributed to food inflation, possibly through demand-pull pressures, fiscal dominance, and limited productivity gains in the agriculture sector. It highlights the importance of fiscal discipline, improved spending allocation, and stronger policy coordination to ensure government expenditures promote food supply and price stability rather than driving inflation. The positive effect of total government spending on food inflation is consistent with [15, 32], who found that government spending expansion is inflationary. This contrasts with [8], which reported that fiscal policy, especially increases in government expenditure, is noninflationary. The error correction coefficient (-0.68679) has the expected negative sign and is significant at the 5% level, indicating that distortions from the long run are corrected at a speed of 68.68% each year. The R-squared of 0.739 further indicates that approximately 73.9% of the total variation in food inflation is collectively explained by the changes in the regressors. The F-statistic p-value (0.004) is below 0.05, suggesting that the regressors are jointly significant in explaining variations in food inflation over the study period.

Table 5. Post-estimation test results.

Test type	Test Statistic	Prob. Value	Inference
Breusch-Godfrey Serial Correlation LM Test	3.491	0.0651	No serial correlation
White Heteroskedasticity Test	4.661	0.8628	Homoscedastic
Normality	0.754	0.6858	Normally distributed
Ramsey RESET	1.823	0.2005	No misspecification

Source: E-views software output

The Breusch-Godfrey serial correlation LM test indicates that the test statistic (3.491) with a probability value (0.0651) exceeds 0.05, suggesting no serial correlation in the residuals at the 5% significance level. Likewise, the White heteroskedasticity test shows homoscedastic residuals, with a probability value (0.8628) above 0.05 for the test statistic (4.661), con-

firmed the model's reliability. Furthermore, residuals are normally distributed at the 5% level, supported by the Jarque-Bera statistic (0.754) and a probability value (0.6858) over 0.05. The model diagnostics also reveal no evidence of functional misspecification, as the F-statistic (1.823) and associated p-value (0.2005) exceed 0.05. Overall, these post-estimation results confirm the model's robustness.

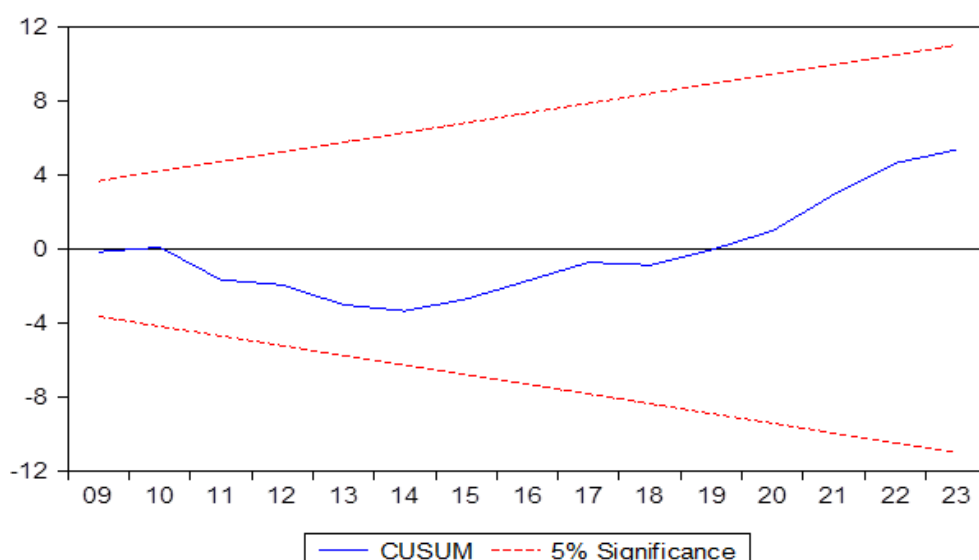


Figure 2. Cumulative sum (CUSUM) graph.

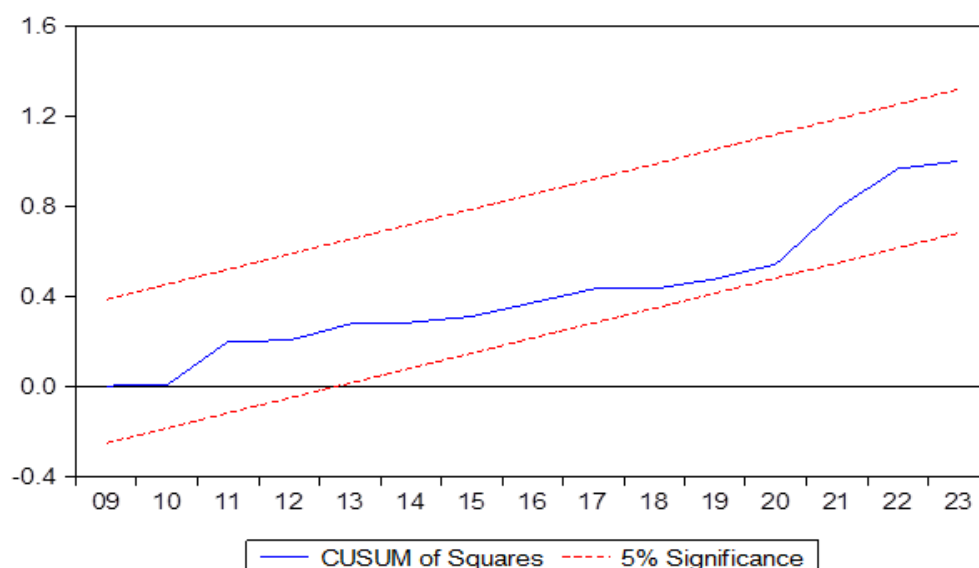


Figure 3. CUSUM of squares graph.

Figures 2 and 3 show that the CUSUM plots are within the 5% critical bounds, indicating that the estimated parameters are stable. This stability highlights the reliability of the parsimonious ECM for forecasting and policy prescription.

5. Conclusion and Policy Recommendations

This study provides valuable insights into how institutional factors, such as the CBN's monetary autonomy and regulatory quality, alongside monetary and fiscal policy measures, affect food inflation in Nigeria. This is motivated by Nigeria's persistent and complex inflation issues, despite numerous monetary and fiscal policy efforts to ensure economic stability and growth. The findings indicate that the central bank's monetary

independence positively influences food inflation in Nigeria. This finding highlights the ineffectiveness of the CBN's purported independence in mitigating food price shocks in Nigeria, which may be linked to persistent political interference in the bank's operations. Similarly, regulatory quality positively affects food inflation, suggesting that poor regulatory quality undermines the goal of stable food prices in Nigeria. The results further indicate that the monetary policy rate has a positive effect on food inflation. Additionally, the results showed that broad money supply and total government expenditure are positively related to food inflation. This implies that growth in monetary aggregates and increased government spending are inflationary, as they stimulate aggregate demand. Based on the findings, this study concludes that institutional quality, particularly CBN's monetary autonomy and regulatory quality, has not been effective in mitigating food inflation in Nigeria. Thus,

we recommend that policymakers reinforce the CBN's autonomy in practice and strengthen the bank's inflation-targeting regime by explicitly defining its inflation goals to improve the precision of inflation forecasts and stabilise food prices. The government should strengthen the aggregate regulatory framework by promoting rule-based policy enforcement, maintaining consistency in economic regulations, and reducing arbitrary policy reversals to foster stability in Nigeria's food prices.

Abbreviations

CBN	Central Bank of Nigeria
SDG	Sustainable Development Goal
WGI	World Governance Indicators
CUSUM	Cumulative Sum
ECM	Error Correction Model

Author Contributions

Johnbosco Chukwuma Ozigbu: Methodology

Christopher Ifeanyi Ezekwe: Formal Analysis

Lucky Igwebuike Okofu: Data Curation

Conflicts of Interest

The authors declare no conflicts of interest

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