

AGRICULTURAL CREDIT GUARANTEES SCHEME, INFLATION DYNAMICS AND POVERTY NEXUS IN NIGERIA

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ARTICLE INFO

Article No.: 0345

Accepted Date: 11/05/2026

Published Date: 28/05/2026

Type: Research

ABSTRACT

This study investigates the moderating influence of the Agricultural Credit Guarantee Scheme Fund on the relationship between inflation and poverty in Nigeria over the period 1986-2025. Rising inflation has continued to reduce household purchasing power and worsen poverty, especially among rural farming households, thereby making inflation management a critical policy concern. The study specifically examines whether agricultural credit support can cushion the adverse effects of inflation on poverty reduction. Annual time-series data were sourced from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), World Development Indicators (WDI), and the Federal Ministry of Agriculture and Rural Development. This study employs the Non linear Autoregressive Distributed Lag (NARDL) model to capture asymmetric short run relationships among poverty, inflation proxied by the Consumer Price Index (CPI), and ACGSF. The ADF unit root test indicated mixed orders of integration, while the Wald test confirmed significant short run asymmetry. However, the Bounds Cointegration Test revealed that no long run relationship among the variables, as the F-statistic (1.8099) fell below the 5% critical bounds. The findings indicate that positive inflation shocks significantly increased poverty by 43.6%, whereas negative inflation shocks reduced poverty by 35.7%. In contrast, the coefficients of ACGSF were positive but statistically insignificant, implying limited effectiveness in reducing poverty. Diagnostic tests confirmed the absence of serial correlation, heteroskedasticity, and model misspecification. The study recommends stronger inflation control policies, improved agricultural credit targeting, and coordinated rural development interventions to enhance poverty reduction in Nigeria.

Keywords: ACGSF; Inflation; Poverty; Consumer Price Index; NARDL.

JEL Classification Codes: Q14, E31, I32, C22, O55

Introduction

Agriculture remains a critical sector in the Nigerian economy due to its contribution to employment generation, food production, poverty reduction, and rural development. Despite the dominance of the petroleum sector, agriculture continues to provide livelihoods for a substantial proportion of Nigerian population, particularly among rural households. According to the World Bank (2025), the agricultural sector contributes significantly to Nigeria's Gross Domestic Product (GDP) and employs over 60% of the labour force, making it one of the largest sources of employment in the Nigeria. However, the sector has consistently experienced structural and institutional challenges, including low productivity, inadequate infrastructure, insecurity, climate variability, poor mechanization, and limited access to finance. These constraints have weakened the capacity of agriculture to effectively drive economic growth and reduce poverty among rural populations.

One of the most persistent constraints confronting agricultural development in Nigeria is inadequate access to institutional credit. Access to finance is essential for agricultural productivity because it enables farmers to acquire improved seeds, fertilizers, machinery, irrigation facilities, and other modern inputs required to increase output. However, many smallholder farmers in Nigeria are unable to secure loans from conventional financial institutions due to lack of collateral, high transaction costs, and perceived risks associated with agricultural production (Osabohien et al., 2020). In response to this financing gap, the Federal Government of Nigeria established the Agricultural Credit Guarantee Scheme Fund (ACGSF) in 1977 under the supervision of the Central Bank of Nigeria (CBN). The scheme was designed to encourage banks to extend credit facilities to farmers by guaranteeing up to 75% of the value of defaulted agricultural loans (Central Bank of Nigeria [CBN], 2025).

Over the years, the ACGSF has emerged as one of the major policy instruments for stimulating agricultural financing in Nigeria. Empirical evidence suggests that agricultural credit contributes positively to agricultural productivity and economic performance. Ahmed, Yusuf, and Ahmed (2021) found that increased agricultural credit under the ACGSF significantly improved agricultural output and economic growth in Nigeria. Similarly, Reuben, Nyam, and Rukwe (2020) established that the ACGSF had a positive and statistically significant effect on agricultural productivity, accounting for substantial variations in agricultural output. More recently, Muhammad and Isah (2025) employed a Vector Error Correction Model (VECM) and reported that agricultural financing significantly enhanced agricultural output both in the short run and long run. Likewise, Fagbemi, Geraldine, and Oke (2025) confirmed that agricultural credit positively influenced productivity growth in Nigeria's agricultural sector. These studies collectively demonstrate the importance of agricultural financing in promoting food production, improving rural livelihoods, and stimulating economic development.

Despite these interventions, poverty remains widespread in Nigeria, particularly among rural farming households. Nigeria continues to rank among the countries with the highest poverty incidence globally, with millions of citizens lacking access to adequate food, healthcare, education, and decent living conditions (World Bank, 2025). The poverty situation has been further aggravated by persistent inflationary pressures that have reduced purchasing power and increased the cost of living. Inflation has emerged as one of the major macroeconomic challenges confronting Nigeria in recent years, largely driven by exchange rate depreciation, insecurity, fiscal imbalances, energy price increases, and supply side disruptions (Bawa & Abdullahi, 2016). Rising inflation particularly affects low income households because a large proportion of their income is spent on food and basic necessities. Consequently, increases in food prices, transportation costs, and agricultural inputs significantly reduce household welfare and deepen poverty.

The inflation poverty relationship has attracted increasing scholarly attention because inflation directly erodes real income and weakens living standards. Existing empirical studies generally indicate that inflation worsens poverty conditions by reducing the purchasing power of households and increasing the cost of production for farmers. Isiaka and Olayiwola (2022) observed that inflation significantly intensified poverty in Nigeria, especially when combined with high lending rates and declining real incomes. Similarly, Adeyemi Tijani (2025) argued that exchange rate depreciation contributed to rising food inflation, thereby worsening food insecurity and poverty among vulnerable households. The implication is that persistent inflation can offset the welfare benefits associated with agricultural financing programs by reducing the real value of loans and increasing production costs for farmers.

Theoretically, agricultural credit guarantee schemes are expected to moderate the adverse effects of inflation on poverty by sustaining access to finance during periods of macroeconomic instability. Access to agricultural credit can increase farmers investment capacity, improve productivity, stabilize food supply, and enhance income generation. However, persistent inflation may undermine the effectiveness of agricultural credit interventions if rising production costs exceed the productive gains derived from such financing. Consequently, understanding the interaction between inflation, agricultural credit guarantees, and poverty is essential for designing effective policies aimed at improving rural welfare and achieving sustainable economic development.

Existing studies on the moderating role of agricultural credit in the inflation poverty nexus remain limited and inconclusive. Nungul, Kuzhe, and Okoroike (2025) examined the moderating role of the ACGSF in the inflation poverty relationship in Nigeria using a Non linear Autoregressive Distributed Lag (NARDL) framework. Their findings revealed that inflation significantly worsened poverty, while the impact of ACGSF on poverty reduction remained statistically insignificant. The study concluded that although the ACGSF represents an important intervention mechanism, its current scale and operational efficiency may be insufficient to substantially reduce poverty. Similarly, Ojo and Oluwaseun (2018) noted that bureaucratic bottlenecks and poor targeting mechanisms constrained the effectiveness of agricultural financing interventions in Nigeria. These mixed findings indicate the need for further empirical investigation into the nonlinear and asymmetric relationships among inflation, agricultural credit, and poverty.

Against this backdrop, this study examines the moderating role of the Agricultural Credit Guarantee Scheme Fund in the inflation poverty nexus in Nigeria over the period 1986–2025. Specifically, the study investigates whether agricultural credit guarantees mitigate the adverse effects of inflation on poverty reduction. Unlike previous studies that predominantly adopted linear econometric approaches, this study employs the Non linear Autoregressive Distributed Lag (NARDL) model to capture asymmetric short run and long run dynamics among the variables. The study is particularly important given the persistent inflationary pressures, increasing poverty levels, and renewed emphasis on agricultural financing as a strategy for achieving food security, rural development, and inclusive growth in Nigeria. Findings from the study are expected to provide policy relevant insights for the Central Bank of Nigeria, the Federal Ministry of Finance, and the Federal Ministry of Agriculture and Rural Development in designing integrated policies aimed at inflation stabilization, agricultural development, and poverty reduction.

Literature Review

Conceptual Review

Poverty, Inflation and Agricultural Credit: A Synthesized Framework

Poverty, inflation, and agricultural credit are closely interconnected macroeconomic and developmental variables, particularly in agrarian economies such as Nigeria. Rather than

existing as isolated concepts, these variables interact dynamically to influence household welfare, agricultural productivity, and rural economic stability. Poverty in developing economies is not merely a condition of inadequate income; it reflects multidimensional deprivation characterized by poor access to food, healthcare, education, shelter, and productive resources (Sen, 1999). In Nigeria, rural poverty is especially severe because a substantial proportion of the population depends on agriculture for survival, yet lacks adequate access to institutional finance and modern farming inputs.

Inflation intensifies this deprivation by eroding purchasing power and reducing real household income. Persistent increases in consumer prices raise the cost of food, transportation, fertilizer, and other agricultural inputs, thereby worsening the welfare of vulnerable households (Mankiw, 2021). Recent empirical evidence indicates that inflation in Nigeria is largely structural and cost push in nature, driven by exchange rate instability, insecurity, rising energy costs, and supply chain disruptions (Ashakah et al., 2025). Since poor households allocate a significant proportion of their income to food consumption, inflation disproportionately deepens poverty and food insecurity.

Agricultural credit therefore becomes a critical mediating mechanism within the inflation–poverty nexus. The Agricultural Credit Guarantee Scheme Fund (ACGSF) was established to reduce lending risks and encourage financial institutions to extend credit to farmers. By improving access to finance, agricultural credit can enhance productivity, increase farm income, stimulate rural employment, and cushion households against inflationary shocks. Studies have shown that agricultural financing contributes positively to output growth and rural welfare when properly targeted and efficiently administered.

The interaction among these variables suggests a circular relationship. Inflation increases poverty through declining real incomes, while inadequate credit access constrains agricultural productivity and income generation. Conversely, effective agricultural credit intervention can moderate the adverse effects of inflation by enabling farmers to maintain production capacity despite rising costs. Consequently, the effectiveness of ACGSF depends not only on the volume of disbursement but also on macroeconomic stability, institutional efficiency, and the purchasing power of beneficiaries. This integrated framework therefore provides a stronger conceptual basis for examining how agricultural credit moderates the inflation–poverty relationship in Nigeria.

Theoretical Framework

Financial Intermediation Theory

This study adopts the Financial Intermediation Theory as its theoretical foundation. The theory, originally advanced by Gurley and Shaw (1960), and later expanded by Mc Kinnon (1973), explaining how financial institutions mobilize savings and allocate credit efficiently to productive sectors of the economy. Financial intermediaries reduce transaction costs, information asymmetry, and lending risks, thereby facilitating investment and economic development. The relevance of the theory to this study lies in the role of the Agricultural Credit Guarantee Scheme Fund (ACGSF) as a specialized financial intermediation mechanism designed to channel credit to the agricultural sector. Under normal market conditions, commercial banks often perceive agricultural lending as highly risky due to weather uncertainty, price volatility, and weak collateral structures among rural farmers. The ACGSF addresses this market failure by guaranteeing a substantial proportion of agricultural loans, thereby encouraging banks to lend to smallholder farmers who would otherwise remain financially excluded.

Financial Intermediation Theory provides a more robust analytical foundation than the Basic Needs Theory because it establishes a direct causal relationship between access to finance, productive investment, income generation, and poverty reduction. The theory predicts that increased agricultural credit should improve farm productivity, expand rural

incomes, and reduce poverty. However, inflation may weaken this transmission mechanism by reducing the real value of credit and increasing production costs. Thus, the interaction between inflation and agricultural credit becomes central to understanding poverty dynamics in Nigeria. The theory also supports the nonlinear framework adopted in this study. Positive and negative changes in inflation or credit availability may produce asymmetric effects on poverty outcomes due to market imperfections, institutional rigidities, and varying adaptive capacities among rural households. Consequently, the NARDL model is appropriate because it captures these asymmetries and dynamic adjustments.

Empirical Review

Empirical literature on the relationship among inflation, agricultural credit, and poverty in Nigeria presents mixed and inconclusive findings. Recent studies increasingly acknowledge that macroeconomic instability significantly shapes the effectiveness of agricultural financing interventions.

Nungul, Kuzhe, and Okoroike (2025) investigated the moderating role of ACGSF in the inflation poverty nexus using the Nonlinear Autoregressive Distributed Lag (NARDL) framework and Hierarchical Multiple Regression techniques over the period 1976-2023. Their findings revealed that inflation and ACGSF exerted statistically insignificant effects on poverty reduction in Nigeria. The authors attributed this outcome to inadequate loan disbursement, weak targeting mechanisms, and institutional inefficiencies within the scheme. While the findings of Nungul et al. (2025) are important, the present study differs conceptually and methodologically. First, this study emphasizes the asymmetric effects of inflation and agricultural credit using decomposed positive and negative shocks within the NARDL framework. Second, unlike Nungul et al., this study incorporates broader macroeconomic interpretations regarding inflation persistence and rural vulnerability.

Third, the present study recognizes that the absence of significant poverty reduction may not imply policy irrelevance, but rather reflects structural impediments such as insecurity, weak rural infrastructure, rising production costs, and declining real credit value under inflationary conditions. Therefore, this study extends existing literature by examining whether short-run nonlinear dynamics can still reveal important policy insights even in the absence of long-run cointegration.

Similarly, Danfulani et al. (2025) argued that financial inclusion and agricultural financing remain critical determinants of rural welfare and poverty reduction in Nigeria. Their study emphasized that insufficient access to formal agricultural finance perpetuates low productivity, income inequality, and household vulnerability among rural farmers. They further noted that inflationary pressures weaken the poverty reduction capacity of agricultural interventions by increasing input costs and reducing the purchasing power of beneficiaries. Other empirical studies generally support the positive contribution of agricultural credit to agricultural productivity and food security. Reuben, Nyam, and Rukwe (2020) reported that ACGSF significantly improved crop, fishery, and livestock production in Nigeria. Jam, Tsegba, and Aondoakaa (2023) similarly found evidence of long run positive effects of agricultural credit on sectoral productivity using Johansen cointegration and ECM techniques. Ogbodo, John, and Mmesoma (2022) established a significant causal relationship between agricultural credit guarantees and agricultural output growth.

However, despite improvements in agricultural output, evidence linking ACGSF directly to poverty reduction remains weak. Omeje et al. (2019) found substantial sectoral imbalances in credit allocation, with food crops receiving disproportionately larger shares than fisheries and livestock subsectors. Such uneven distribution limits inclusive rural development and weakens poverty reduction outcomes. Furthermore, Ojo and Oluwaseun (2018) observed that bureaucratic bottlenecks and poor institutional implementation constrained farmers effective access to ACGSF facilities. Recent macroeconomic studies also

confirm the strong relationship between inflation and poverty in Nigeria. Apeh, Yunana, and Ahemen (2025) found that food inflation significantly increases poverty rates in both the short and long run using an ARDL approach. Likewise, Uke et al. (2025) showed that inflation negatively affects household consumption expenditure and rural welfare despite increased agricultural interventions.

Collectively, the reviewed literature suggests that although agricultural credit schemes contribute to agricultural productivity, their effectiveness in reducing poverty depends heavily on inflation control, institutional efficiency, and equitable credit allocation. The inconsistency in empirical findings therefore justifies further investigation into the asymmetric interaction between inflation, agricultural credit guarantees, and poverty in Nigeria.

Methodology

Aligned with the objectives of this study, it is notable that much of the existing empirical literature predominantly investigates linear relationships among the variables under consideration. However, many microeconomic indicators, including poverty, inflation, and credit flows, often exhibit asymmetric behaviors that cannot be adequately captured through linear models. Consequently, this research adopts a nonlinear analytical framework to investigate the complex interplay among poverty, inflation, and the Agricultural Credit Guarantee Scheme Fund (ACGSF) in Nigeria. By leveraging nonlinear methodologies, the study aims to capture potential asymmetries, delayed effects, and dynamic adjustments within the inflation poverty ACGSF nexus that linear models might overlook.

Model Specification

To empirically examine the relationships between inflation and poverty, as well as between ACGSF disbursements and poverty in Nigeria, poverty (PO) is conceptualized as a function of inflation proxy by the Consumer Price Index (CPI), and the Agricultural Credit Guarantee Scheme Fund (ACGSF). Formally, the relationship is expressed as:

$$\text{Model one; } PO = (CPI, ACGSF) \tag{3.1}$$

Specifying the equation as linear function for model one,

$$PO = \beta_0 + \beta_1CPI + \beta_2ACGSF + \mu \tag{3.2}$$

$$PO = \beta_0 + \beta_1CPI_{t-i}^+ + \beta_2CPI_{t-i}^- + \beta_3ACGSF_{t-i}^+ + \beta_4ACGSF_{t-i}^- + \mu \tag{3.3}$$

Where; PO = Poverty rate (% of population), CPI = Consumer Price Index (%), serving as a proxy for inflation, ACGSF = Agricultural Credit Guarantee Scheme Fund (in Naira), t = Time trend, β_0 = Intercept or constant term, $\beta_1 - \beta_4$ = Slope coefficients capturing the impact of explanatory variables, μ = Error term or stochastic disturbance capturing unexplained variation, (+/-) = Positive and negative partial sum decompositions capturing asymmetric effects in NARDL.

$$CPI_t^+ = \sum_{j=1}^t \max(\Delta CPI_j, 0), \quad CPI_t^- = \sum_{j=1}^t \min(\Delta CPI_j, 0) \tag{3.4}$$

$$ACGSF_t^+ = \sum_{j=1}^t \max(\Delta ACGSF_j, 0), \quad ACGSF_t^- = \sum_{j=1}^t \min(\Delta ACGSF_j, 0) \tag{3.5}$$

This decomposition allows increases (inflationary pressures and agricultural Credit Guarantee Scheme Fund) and decreases (deflationary movements and agricultural Credit Guarantee Scheme Fund) to exert distinct effects on poverty. Additionally, the corresponding short run Error Correction Model (ECM) representation of the NARDL specification is given as:

$$\Delta PO_{it} = \Phi_i(PO_{it-1} - \beta_1CPI_{it-1}^+ - \beta_2CPI_{it-1}^- - \beta_3ACGSF_{it-1}^+ - \beta_4ACGSF_{it-1}^-) + \sum_{k=1} \Phi_{ik} \Delta PO_{it-k} + \sum_{k=1} (\Phi_{1ik}\Delta CPI_{it-k}^+ + \Phi_{2ik}\Delta CPI_{it-k}^-) + \sum_{k=1} (\Phi_{3ik}\Delta ACGSF_{it-k}^+ + \Phi_{4ik}\Delta ACGSF_{it-k}^-) + \mu_i + \xi_{it} \tag{3.6}$$

Where: Φ_i = error-correction term (expected to be negative and significant), long run coefficients are homogeneous and short run coefficients are heterogeneous.

Estimation Technique and Data

This study on ACGSF, CPI and PO nexus employs a Pooled Mean Group (PMG) estimation technique, that was developed by M. Hashem Pesaran, Yongcheol Shin, and Ron Smith (1999), which allows for heterogeneity in short run dynamics while enforcing

homogeneity in long run coefficients across study countries. This make it well suited for most datasets over study periods, this study is far a period of 39 year spanning from 1986 to 2025. Poverty rate (% of population), Consumer Price Index (%), serving as a proxy for inflation, Agricultural Credit Guarantee Scheme Fund (in Naira). Data were sourced from reliable site, including the Central Bank of Nigeria annual statistical bulletin, the National Bureau of Statistics, the World Bank Development Indicators, and the Federal Ministry of Agriculture and Rural Development and all variables were transformed into natural logarithms to stabilize variance and enable interpretation in terms of elasticities.

Results and Discussion

This section presents the findings from the descriptive analysis, trend examination, unit root testing, and NARDL estimations. The discussion focuses on interpreting the statistical evidence and linking it to the broader theoretical and empirical literature.

1 Unit Root Test Result

To ensure that the time series data employed in the analysis exhibit stability and do not produce spurious regression results, stationarity tests were conducted. The ADF technique was applied to determine the integration properties of the variables. This step is critical for confirming whether the series are stationary at level or require differencing to achieve stationarity, thereby guiding appropriate modeling strategies and ensuring the reliability of subsequent NARDL estimation results. The detailed outcomes of the unit root tests are discussed below.

Table 1: Summary of ADF Unit Root Test Result

Variables	ADF test statistics	Critical values	Order of integration	of Prob value
PO	-6.14102	-2.819251	I(1)	0.0010
CPI	-3.675601	-2.817233	I(0)	0.0049
ACGSF	-7.888779	-2.819031	I(1)	0.0001

Source: Authors Computation, 2026 using (Eviews-10)

The outcomes of the ADF unit root test reveal that both poverty (PO) and the Agricultural Credit Guarantee Scheme Fund (ACGSF) series are non stationary at their levels when tested at the 5% significance threshold, tests include an intercept and no trend based on series inspection, whereas the Consumer Price Index (CPI) series was found to be stationary at level. Given that the dataset exhibits mixed orders of integration, the Non linear Auto Regressive Distributed Lag (NARDL) framework was employed to analyze both the short run and possibly long run asymmetric relationships among the variables.

Asymmetry Test

To examine whether the variables exhibit asymmetric behavior in both short and long term dynamics, an asymmetry test was performed using the Wald statistic on ACGSF, CPI, and PO. The null hypothesis posited that there are no significant differences between positive and negative changes in ACGSF and CPI, implying the absence of asymmetry in their effects on poverty. Conversely, the alternative hypothesis contends that the partial sum decomposition of positive and negative fluctuations in ACGSF and CPI significantly influences PO, indicating the presence of asymmetries.

Table 2: Summary of Asymmetry Test Result

Test Statistic	Value	Df	Short run	Probability
F-statistic	3309660.	(2, 63)		0.0000
Chi-square	11038641	2		0.0001
Normalized Restriction (= 0)	Value	Std. Err.		
(CPI) -6 + C(2)	0.9833205	0.011015	Yes	
(ACGFS) -7 + C(3)	0.070671	0.013846	Yes	

Source: *Authors Computation, 2026 using (Eviews-10).*

The findings from the Wald test, as reported above, indicate that the null hypothesis stating that no asymmetry exists in the short run effects of the variables is rejected for both the Agricultural Credit Guarantee Scheme Fund (ACGSF) and the Consumer Price Index (CPI). This outcome suggests that positive and negative changes in these variables do not have identical effects on poverty, confirming the presence of short run asymmetries in the relationships under investigation. In other words, increases and decreases in ACGSF and CPI exert differential impacts on poverty levels, validating the need to account for these nonlinear dynamics in the analysis. Consequently, the results provide strong empirical support for the adoption of the Non linear Auto Regressive Distributed Lag (NARDL) modeling framework in this study, as it is specifically designed to capture and estimate such asymmetric interactions both in the short and long run. The evidence therefore underscores the methodological appropriateness of NARDL for examining complex economic relationships where linear models would fail to fully capture the nuances of positive versus negative shocks in explanatory variables.

Co integration Test Result

Table 3: Summary of Co integration Estimates

F-Bounds Test	Null hypo;no level relationship	L-Bound	U-bound
Test Statistic	Value	I(0)	I(1)
F-Statistic	1.8099608	1.76	2.77
K	4	5%	1.99
		1%	2.41
			2.04
			3.61

Source: *Authors Computation, 2026 using (Eviews-10).*

The results obtained from the bounds testing procedure indicate that the calculated F-statistic value of 1.8099608 falls below both the lower and upper critical bounds, which are 1.99 and 2.04 respectively at the 5% level of significance. This outcome suggests that the null hypothesis of no long run relationship among the examined variables. Poverty (PO), Consumer Price Index (CPI), and Agricultural Credit Guarantee Scheme Fund (ACGSF) cannot be rejected. In other words, the evidence points to the absence of cointegration, implying that these variables do not move together in the long run and that there is no persistent or stable asymmetric long run equilibrium linking inflation, agricultural credit support, and poverty in Nigeria.

NARDL short run estimates

Given this findings above, the study logically proceeds to focus on the short run dynamics, where fluctuations in the variables may still exert significant immediate effects even in the absence of long term co-movement. Accordingly, the short run estimates of the Non linear Auto Regressive Distributed Lag (NARDL) model were derived to explore how positive and negative changes in both CPI and ACGSF disbursements influence poverty levels over shorter time horizons. This approach allows for the detection of transient,

asymmetric responses in poverty due to variations in inflation and agricultural credit, providing critical insights for policy intervention even when long term equilibrium relationships are not evident.

Table 4: Short run Estimates of the NARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CP (+)	0.436874	0.150481	2.227153	0.0224
CP (-)	-0.357155	0.112303	-2.277798	0.0189
AC (+)	0.001610	0.001733	1.413461	0.1543
AC (-)	0.001167	0.001698	0.082868	0.9166
C	38.31810	3.672495	10.36075	0.0100

Source: Authors Computation, 2026 using (Eviews-10).

The short run NARDL results suggest that changes in the Consumer Price Index (CPI) exert strong and significant asymmetric effects on poverty in Nigeria, while the Agricultural Credit Guarantee Scheme Fund (ACGSF) does not significantly reduce poverty in the short run. These outcomes can be explained from several economic perspectives.

First, the positive and significant coefficient of CPI implies that increases in inflation worsen poverty levels in Nigeria. Economically, inflation reduces the real purchasing power of households, especially low income earners whose incomes are relatively fixed. As the prices of food, transportation, energy, and other basic necessities rise, poor households are unable to maintain previous consumption levels. Since Nigeria is heavily import dependent and food constitutes a large share of household expenditure, rising consumer prices immediately increase the cost of living and deepen poverty. The significant negative coefficient of CPI also indicates that reductions in inflation can alleviate poverty by improving households real income and welfare. However, the larger magnitude of the positive effect compared to the negative effect shows that inflationary shocks hurt the poor more severely than disinflation benefits them, reflecting structural weaknesses such as unemployment, low wages, and weak social protection systems.

Additionally, the Agricultural Credit Guarantee Scheme Fund (ACGSF) results indicate that both positive and negative changes in agricultural credit have insignificant effects on poverty reduction in the short run. Economically, this may occur because agricultural credit in Nigeria often fails to reach the truly poor and smallholder farmers who are the most vulnerable to poverty. A substantial proportion of the credit may be captured by politically connected individuals, medium scale farmers, or agribusiness elites, thereby limiting its poverty reducing capacity. Consequently, increases in ACGSF disbursement may not translate into broad based welfare improvements among poor rural households. More so, there is problem of inefficiency and diversion of agricultural loans. Beneficiaries may use the loans for non agricultural purposes such as consumption, ceremonies, or repayment of previous debts rather than productive agricultural investment. This weakens the capacity of the credit scheme to improve farm output, income, and employment generation. In such a situation, higher credit disbursement would not significantly reduce poverty.

Furthermore, agricultural investments usually have gestation periods before yielding returns. Credit obtained by farmers may take several farming seasons before translating into higher productivity, increased income, and poverty reduction. Since the model focuses on short run dynamics, the immediate poverty reducing impact of agricultural credit may not yet be visible. Poor infrastructure, insecurity, climate shocks, inadequate storage facilities, and unstable agricultural markets in Nigeria also reduce the effectiveness of agricultural credit in improving rural livelihoods. The positive sign of the ACGSF coefficient may additionally reflect the possibility that agricultural credit is being expanded during periods of economic hardship or rising poverty. In this case, government may increase credit interventions as a

response to worsening poverty conditions, creating a positive association between credit disbursement and poverty in the short run without implying that credit itself causes poverty.

Generally, the findings imply that inflation remains a major driver of poverty in Nigeria, while agricultural credit interventions have not been sufficiently effective in delivering immediate poverty reduction outcomes. This suggests the need for better targeting of agricultural credit, stronger monitoring of loan utilization, complementary rural infrastructure, extension services, and macroeconomic policies aimed at stabilizing prices and improving the welfare of vulnerable households.

Robustness Test Results

Robustness tests conducted in this study were Breusch Godfrey Serial Correlation Test and Heteroscedasticity ARCH Test.

Table 5: Robustness Test Result

Test		Outcomes	
		Coefficient	Probability
Breusch-Godfrey-Serial-Correlation Test	F-stat.	0.457851	0.6300
Breusch-Pagan-Godfrey Heteroscedasticity Test	F-stat.	2.382778	0.0689

Source: *Authors Computation, 2026 using (Eviews-10)*

The results of post-estimation test of NARDL model presented in Table 6 showed that there was no evidence of serial correlation and heteroscedasticity in the estimated model as the p-values of both (0.6300 and 0.0689) were found to be greater than 0.05.

Table 6: Ramsey RESET Test

Equation: NARDL 01

Specification: PO CPI ACGSF

	Value	Df	Probability
t-statistic	1.186736	42	0.2481
F-statistic	1.442176	(1,42)	0.2481

Source: *Authors Computation, 2026 using (Eviews-10)*

Ramsey Reset test presented in Table above shows the predicted value of the normalized NARDL regression is properly specified as the coefficients of all powers of the predicted were jointly insignificant ($F = 1.442176$, $P = 0.2481$). Thus, the study model was properly specified.

Summary, Conclusion and Policy Recommendations of study

This study investigated the moderating role of the Agricultural Credit Guarantee Scheme Fund (ACGSF) in the relationship between inflation and poverty in Nigeria from 1986-2025. The study was motivated by persistent inflationary pressures, rising poverty levels, and concerns about the effectiveness of agricultural financing interventions in improving rural welfare. Using annual time-series data obtained from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), World Development Indicators (WDI), and the Federal Ministry of Agriculture and Rural Development, the study adopted the Nonlinear Autoregressive Distributed Lag (NARDL) model to capture asymmetric short run dynamics among poverty, inflation proxied by the Consumer Price Index (CPI), and ACGSF. The Augmented Dickey-Fuller (ADF) unit root test showed mixed integration orders, while the Wald test confirmed significant short run asymmetry among the variables. However, the Bounds Cointegration Test revealed no long run relationship among poverty, inflation, and ACGSF. The short run NARDL estimates showed that positive inflation shocks significantly increased poverty by 43.6%, while negative inflation shocks reduced poverty by 35.7%. Conversely, ACGSF coefficients were statistically insignificant, indicating limited

effectiveness in reducing poverty. Diagnostic tests confirmed that the model was free from serial correlation, heteroskedasticity, and misspecification.

This study concludes that inflation remains a major driver of poverty in Nigeria as rising consumer prices significantly reduce household purchasing power and worsen living conditions, especially among low income and rural households. The asymmetric findings further indicate that inflationary shocks have stronger adverse effects on poverty than the welfare gains associated with declining inflation. Although the Agricultural Credit Guarantee Scheme Fund was expected to cushion the effects of inflation through improved access to agricultural finance, the results reveal that the scheme has not significantly reduced poverty in the short run. This may be attributed to poor targeting, institutional inefficiencies, loan diversion, inadequate monitoring, and structural challenges confronting the agricultural sector. The absence of a long run relationship among the variables also suggests that existing agricultural financing interventions have not generated sustainable poverty reduction outcomes in Nigeria.

The study recommends that the government and monetary authorities prioritize inflation control through effective fiscal and monetary policies aimed at stabilizing prices and protecting household welfare. The ACGSF should be strengthened through improved targeting, transparency, and monitoring to ensure that credit reaches genuine smallholder farmers. Government should also complement agricultural credit interventions with rural infrastructure, extension services, and market support systems to improve agricultural productivity and rural incomes. Additionally, policies promoting rural security, financial literacy, and efficient loan utilization should be intensified to enhance the poverty-reducing impact of agricultural financing in Nigeria.

References

- Adeyemi, T. (2025). Exchange rate depreciation, food inflation and poverty in Nigeria. *Journal of African Macroeconomic Studies*, 12(2), 45–61.
- Ahmed, A., Yusuf, M., & Ahmed, S. (2021). Agricultural credit and economic growth in Nigeria: Evidence from the Agricultural Credit Guarantee Scheme Fund. *Nigerian Journal of Agricultural Economics*, 8(1), 77–92.
- Apeh, E., Yunana, P., & Ahemen, B. (2025). Food inflation and poverty dynamics in Nigeria: An ARDL approach. *African Development Review*, 37(1), 102–118.
- Ashakah, J., Ibrahim, M., Suleiman, A., & Haruna, L. (2025). Structural drivers of inflation in Nigeria: Evidence from exchange rate and supply-side shocks. *CBN Economic and Financial Review*, 63(1), 33–57.
- Bawa, S., & Abdullahi, I. S. (2016). Threshold effect of inflation on economic growth in Nigeria. *CBN Journal of Applied Statistics*, 7(1), 43–63.
- Central Bank of Nigeria. (2025). Annual statistical bulletin. Central Bank of Nigeria.
- Danfulani, M., Yusuf, A., & Ibrahim, S. (2025). Financial inclusion, agricultural financing and rural poverty in Nigeria. *Journal of Development Economics and Policy Studies*, 14(1), 88–104.
- Fagbemi, T., Geraldine, O., & Oke, A. (2025). Agricultural financing and productivity growth in Nigeria. *International Journal of Agricultural Finance*, 10(3), 55–70.
- Gurley, J. G., & Shaw, E. S. (1960). *Money in a theory of finance*. Brookings Institution.
- Isiaka, A., & Olayiwola, K. (2022). Inflation, lending rate and poverty nexus in Nigeria. *Nigerian Economic Review*, 18(2), 90–108.
- Jam, D., Tsegba, I., & Aondoakaa, S. (2023). Agricultural credit and sectoral productivity in Nigeria: Evidence from cointegration analysis. *Journal of Agricultural Policy and Development*, 9(4), 65–81.
- Mankiw, N. G. (2021). *Macroeconomics* (11th ed.). Worth Publishers.
- McKinnon, R. I. (1973). *Money and capital in economic development*. Brookings Institution.
- Muhammad, U., & Isah, A. (2025). Agricultural financing and output growth in Nigeria: A VECM approach. *Journal of Agricultural Economics and Rural Development*, 15(2), 120–136.
- Nungul, P., Kuzhe, T., & Okoroike, C. (2025). Agricultural Credit Guarantee Scheme Fund and the inflation-poverty nexus in Nigeria: Evidence from NARDL estimation. *Journal of Contemporary Economic Research*, 11(1), 50–72.
- Ogbodo, J., John, E., & Mmesoma, P. (2022). Agricultural credit guarantees and output growth in Nigeria. *International Journal of Agricultural Economics*, 6(2), 44–59.
- Ojo, T., & Oluwaseun, A. (2018). Institutional bottlenecks and agricultural financing in Nigeria. *African Journal of Economic Policy*, 25(3), 112–128.
- Omeje, C., Eze, U., & Okafor, L. (2019). Sectoral allocation of agricultural credit and inclusive growth in Nigeria. *Journal of Rural Development Studies*, 7(1), 31–49.
- Osabohien, R., Matthew, O., Gershon, O., Ogunbiyi, T., & Nwosu, E. (2020). Agricultural financing and food security in Nigeria. *Heliyon*, 6(5), e04001. <https://doi.org/10.1016/j.heliyon.2020.e04001>
- Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association*, 94(446), 621–634. <https://doi.org/10.1080/01621459.1999.10474156>
- Reuben, J., Nyam, K., & Rukwe, D. (2020). Agricultural Credit Guarantee Scheme Fund and agricultural productivity in Nigeria. *Nigerian Journal of Agricultural Development*, 5(2), 74–89.
- Sen, A. (1999). *Development as freedom*. Oxford University Press.

Uke, P., Adamu, S., & Ibrahim, H. (2025). Inflation, household consumption and rural welfare in Nigeria. *Journal of Economic and Social Studies*, 13(2), 140–159.

World Bank. (2025). World development indicators. World Bank.