The Nigerian Journal of Energy & Environmental Economics
Department of Economics,
Nnamdi Azikiwe University, Awka,
Anambra State, Nigeria.
Web:www.aeeeng.org *ISSN 2006-8395*

MONETARY POLICY SHOCK AND AGRICULTURAL SECTOR PERFORMANCE IN NIGERIA

Callistus Tabansi Okeke[1], Chinwe Ann Anisiobi[2], Joan N. Ozoh[3] & Chinwe M. Madueke[4]

[1,2,3&4]Department of Economics, Faculty of Social Sciences, Nnamdi Azikiwe University Awka, Anambra State, Nigeria
Corresponding Author: callytabansiokeke@gmail.com

Abstract

The study examined the impact of monetary policy on agricultural sector performance in Nigeria and also investigated the relationship between them. The study adopted the Autoregressive Distributed Lag model (ARDL) as the estimation technique to capture the impact of monetary policy on agricultural sector performance from 1986 to 2023. Data were sourced from Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics. The study found that maximum lending rate and broad money supply have a positive and significant impact on agricultural sector performance in Nigeria while the agricultural export has a positive but insignificant impact. Also, it was revealed that exchange rate and inflation rate have negative but significant impact on the performance of agricultural sector, while commercial banks credit to agriculture has negative and insignificant impact. Based on the findings, the study recommended that the government should provide more credit to the agricultural sector with adequate supervision of fund, as it would contribute significantly to the economy. The government should implement low interest rate as it encourages rural farmers to borrow and invest in large scale agricultural activities.

Keywords: Agricultural sector, ARDL, monetary policy, Nigeria

JEL Classification Codes: C24, C15, C20, G12

1. Introduction

Agricultural sector contributes to a consequential part of Nigeria's gross domestic product and is one of the key drivers of growth and development. The sector is part of the Millennium Development Goals program for poverty reduction in Nigeria and contributes significantly to food production, employment opportunities, raw materials for other industries, provision of foreign earnings from exportation of the surpluses, and more importantly the enormous advantage of the value added in the various production process (Izuchukwu, 2011). Before Nigeria's unearthing of oil, agriculture was the backbone of the nation. However, with oil discovery and the oil boom of the 1970s, the sector was neglected with the sector's contribution to GDP declining to 23.78% in 2021 from 65.7% in 1957 leading to food insecurity and increased level of poverty in the country

(National Bureau of Statistics {NBS}, 2021). The problem facing the Nigerian agricultural sector is inadequate capital and credit for start-up, investment and expansion.

Monetary policy through its influence on the financial sector of the economy plays an important role in making credit available to the agricultural sector. Monetary policy is the art of controlling the direction and movement of credit facilities in pursuance of stable price and economy growth in an economy (Central Bank of Nigeria {CBN}, 1992). Monetary policy in the Nigerian context refers to the actions of the Central Bank of Nigeria to regulate the money supply which could be through discretionary monetary policy instruments such as the open market operation (OMO), discount rate, reserve requirement, moral suasion, direct control of banking system credit, and direct regulation of interest rate (Iyoha, 2002).

Monetary policy makes available, credit facilities to farmer to enable them obtain capital for farm inputs and machinery, and for adoption of modern technology that improves agricultural production. Government measures that will improve agricultural business and enable farmers to get access to affordable credit facilities and production inputs are advisable for the success of this sector. Although, agriculture influences other economic sectors, there seems to be an interconnection between monetary policy and agricultural performance in Nigeria since it has great effect on the country's GDP (Birch, 2018). Agriculture contributes 40% of the GDP and employs 70% of the working population in Nigeria (Central Intelligence Agency, CIA, 2012). It has been argued in the literature that the main reason behind the poor performance of Nigeria's agricultural sector is because farming is done manually, with the use of crude labour on minimal acreage and low credit facilities (Chisasa & Nakina, 2015). The inaccessibility of agricultural credit by farmers has been known to have an adverse effect on farmers' ability to purchase the required input materials for adequate production (Ojo & Ayanwale, 2019). Therefore, agricultural transformation using credit availability is necessary to increase agricultural performance. This is because the use of crude implement often results in limited farm yields (Osabohien et al., 2019).

The Agricultural Transformation Agenda (ATA), Agricultural Promotion Policy (APP) and Agricultural Credit Guarantee Scheme (ACGS) were introduced from 2011 to 2020. The policy aimed to provide food security, access to credit, encourage import substitution, create employment and economic diversification. Most of the policies and programmes were geared towards making the agricultural sector fundamental to dynamic structural effects and promote growth and development throughout the sector (Popoola, Asaleye, & Eluyela, 2018). The promotion of the agricultural sector in Nigeria is an avenue to accelerating economic development and reduction of poverty. Despite these policies,

Agricultural sector in Nigeria is still characterized by low productivity.

Some empirical research has been carried out on the impact of monetary policy on agricultural sector performance in Nigeria. But most of these studies like Brain et al (2014), Ajudua et al. (2015), & Christopher and Akorah (2012) made use of VECM and OLS estimation techniques which are not adequate in generating consistent and robust coefficient estimates about the study variables, thereby providing a gap in the methodology used. Also, most of the empirical work chose their control variables at random thereby showing their shortcoming by not using most of the important variables stated in the literature. Based on this research gap, this study intends to bridge the knowledge gap by examining the impact of monetary policy on agricultural sector performance in Nigeria using autoregressive distributed lag (ARDL) model in the estimation technique and also using the major monetary policy variables (maximum lending rate, exchange rate, agricultural employment, agricultural export) to capture the effect of monetary policy on agricultural sector performance from 1991 to 2020. This study also investigate the relationship between monetary policy and agricultural sector performance in Nigeria. Section one comprises of introduction, Section Two presents a review of the literature, Section Three consist of the materials and method, Section Four discusses the result and Section Five concludes the research.

2. Literature Review

2.1 Basic Theories

This section examines theories that deal with monetary policy and agricultural sector performance.

The Monetarist and Structuralist Theory

Theoretically, the monetarist and structuralist schools of thought explain the connection between monetary policy and agricultural performance. The Structuralist school of thought shared the perspective that monetary policy influences the agricultural sector's performance based on two assumptions (Sunkel, 1958). The first assumption expresses the rigidity in the supply of agricultural production, while the second stressed the inadequacy and fluctuation of exports' purchasing power. The structuralist explained that agricultural output is price inelastic, making it flexible to demand changes like the manufacturing output, which is rigid downward. As a result, during economic transformation, resources are transferred from the agricultural sector to the manufacturing sector. It was further argued that resource allocation stagnates output in the agricultural sector despite persistent increase in demand. This effect, coupled with the inadequacy and fluctuation of exports' purchasing power, results in an undesirable effect on the long-run agricultural performance (Sunkel, 1958; Friedman, 1968).

On the other hand, the monetarist shared the perspective that a surplus in demand caused by

an excessive supply of money results in inflation and generates prompt action by financial institutions to improve the situation by adopting contractionary measures. These institutions can also embark on expansionary measures if the need arises, and the agricultural sector will benefit from this through the credit channel.

The Monetary Transmission Mechanism (MTM)

The MTM hypothesis explains how the monetary policy shocks are passed through to the real economy through channels of interest rates, credit supply, exchange rate, and inflation (Mishkin, 1996). It assumes that monetary authorities can influence aggregate demand by adjusting money supply or policy rates, influencing investment, consumption, and sectoral production including agriculture. Its strength lies in providing a comprehensive structure that establishes policy interventions with actual consequences, but it is most often being criticized for relying upon stable and predictable transmission mechanisms, which could be absent in structurally poor economies like Nigeria with shallow financial markets (Bernanke & Gertler, 1995). John Hicks' IS-LM model (1937), formulated on the basis of John Maynard Keynes' macroeconomic theory, complements MTM by showing how interest rate adjustment (via the LM curve) and investment-demand equilibrium (IS curve) determine output. Price rigidities and short-run underemployment are taken to hold enabling monetary policy to boost output. Although the IS-LM model is praised for being straightforward and simple, it is faulted because it's static in nature and does not capture supply-side forces, therefore being less applicable in the long run (Blanchard & Fischer, 1989). Such theories are relevant to this study because they provide the theoretical lens through which monetary shocks are viewed to flow through channels of interest rates, credit channels, and exchange rate channels to impact agricultural sector performance in Nigeria.

2.2 Empirical Literature

Ogunjimi and Adekunle (2025) investigated the impact of monetary policy on agricultural output in Nigeria between 1981 and 2021, using non-linear ARDL approach. The findings indicated that monetary policy rate increase boosted the performance of agricultural sector while the rate cuts weakened it. Muhammed (2024) employed ARDL on a study on the impact of monetary policy on agricultural productivity and food prices in Nigeria between 1995 and 2023. The results found that exchange rate depreciation increased agricultural output and food prices, while high interest rates and money supply had detrimental impact.

Using ARDL for 1981-2019, Iwegbu and Nwaogwugwu (2022) investigated the impact of monetary policy on agricultural sector performance in Nigeria. The study found that monetary policy stance in the short run helped to stimulate agricultural performance but failed to ensure long-run improvement. Adekunle (2022)

empirically carried out a research on the impact of monetary policy shocks on agricultural performance in Nigeria over the period 1981 to 2021. The method of analysis was non-linear ARDL and it was found that in the short run, the positive shocks to monetary policy rate and lending rate, and high liquidity ratio enhanced agricultural output. However, long-run effects of some variables (like liquidity) were insignificant, while deposit money banks' credit to agriculture had negative effects in the short run

Between 1981Q1 and 2016Q4, Ogbuabor et al. (2020) investigated the impact of monetary policy shocks on agriculture, using VAR-based impulse response and variance decomposition techniques. It was shown from the findings that contractionary monetary policy had negative impact on agricultural sector, while interest rate and credit demand contributes positively to the development of the sector. Oboh, Tule and Ebuh (2019) examined the impact of monetary policy on agricultural performance in Nigeria for the period 1986 – 2016 using Autoregressive Distributed Lag (ARDL) approach, the study found a long run relationship between agriculture value-added and selected monetary policy variables. The study recommends among others the pursuit of expansionary (but not inflationary) monetary policy in order to improve value addition to the agricultural sector.

Ajudua, Davis and Osmond (2015) examined a review of monetary policy and the Nigerian agricultural sector performance. The study adopted the Ordinary Least Square (OLS) method. The study revealed that monetary policy instruments have direct relationship with the performance of agricultural sector. Brian, Innocent, Kin and Abbyssinia (2014) examined monetary policy actions and agricultural sector outcomes: empirical evidence from South Africa. They adopted Vector Error Correction Mechanism (VECM). The study reveals that inflationary shocks and money market rates have inverse relationship with the performance of agricultural sector. They recommended that policy makers, monetary authorities and participants in the monetary arena should pay careful attention on the interaction of the agricultural sector and stock prices.

Udeaja and Udoh (2014) also investigated the impact of monetary policy on the agricultural sector using autoregressive distributed lags. Likewise, in Nigeria, Muftaudeen and Hussainatu (2014) analysed the macroeconomic policy impact on agriculture using the VECM method. The results showed that government spending has a positive and substantial impact on agricultural productivity, while short-term credit to agriculture has a negative effect on agricultural productivity. Christopher and Akorah (2012) examined the impact of monetary policy on agricultural development in Nigeria. The study adopted the OLS method. Findings show that CBN monetary instruments have played a crucial and significant role in improving the performance of agricultural sector. They further

recommend that CBN should design more instruments that are more flexible. Ehionomen and Charles (2012) also investigated the impact of monetary policy on agricultural development using ordinary least squares. They reported that series were non-stationary; however, the error correction model would have been a suitable technique instead of the least squares approach.

Empirical research has been carried out on the impact of monetary policy on agricultural sector performance in Nigeria. But most of these studies like Brain et al (2014), Ajudua et al (2015), and Christopher & Akorah (2012) made use of VECM and OLS estimation techniques which are not adequate in generating consistent and robust coefficient estimates about the study variables, thereby providing a gap in the methodology used. This study adopted the more advanced ARDL method, which allows for a more robust co-integration that play well with small sample sizes. Through this method, it becomes methodologically possible to deal with model selection, estimation, inference and to determine the long run and short run impact of monetary policy on agricultural sector performance in Nigeria. Also, the ARDL method posits the speed of adjustment to restore the economy to long run equilibrium growth path after a shock. Also, most of the empirical work chose their control variables at random thereby showing their shortcoming by not using most of the important variables stated in the literature. This study incorporated more monetary policy variables in its empirical model to overcome variable omission bias and guide against the identified gap in variables used from previous studies.

3. Research Methods and Procedure

This study employed annual secondary data between 1986 and 2023. The data were collected from Central Bank of Nigeria (CBN) and NBS statistical database.

3.1 Model Specification

The main focus of this study is to examine the impact of monetary policy on agricultural sector performance in Nigeria. From our Analytical Framework and Literature review, the model is hereby specified following the work of Ajudua et.al (2015) with some modifications in a functional form as follows:

$$AGDP=f(MS, MLR, REXR, INFR, AEXP, GCEA) \quad (3.1)$$

Where: AGDP = Agriculture gross domestic product; REXR = Real exchange rate; MLR =Maximum lending rate; INFR = Inflation rate; AEXP = Agricultural export; GCEA = Government capital expenditure on agriculture.

The econometric form of this model is therefore specified thus;

$$AGDP_t = \beta_0 + \beta_1 MS_t + \beta_2 MLR_t + \beta_3 REXR_t + \beta_4 INFR_t + \beta_5 AEXP_t + \beta_6 GCEA_t + \mu_t \quad (3.2)$$

Where: μ_t is the error term that is assumed to be normally distributed with the mean of zero and constant variance; β_0 = Constant term/intercept; β_1; β_2; β_3; β_4; β_5; β_6 = Slope coefficients.

3.2 Estimation Technique

The study employed the Autoregressive Distributed Lag (ARDL) methods to examine the relationship between monetary policy and agricultural sector performance in Nigeria. Autoregressive Distributed Lag (ARDL) is a long-established method of estimating co-integrating relationships, such as Engle-Granger (1987) method which requires all variables to be I(1), or require prior knowledge and specification of which variables are I(0) and which are I(1). To alleviate this problem, Pesaran and Shin (1999) and Smith (2001) showed that co-integrating systems can be estimated as ARDL models, with the advantage that the ARDL bounds test for cointegration was adopted irrespective of whether the underlying variables are I(0), I(1) or a combination of both, and cannot be applied when the underlying variables are integrated of order I(2). However, to avoid crashing of the ARDL technique and, effort in futility, it is advisable to tests for unit roots since variables that are integrated of order I(2) leads to the crashing of the technique. In order to establish a long run relationship among the variables the first thing to do is to check the existence of the long run relation between the variables under investigation by computing the Bounds F-statistic (bounds test for cointegration). Also, estimates provided by ARDL method avoid problems such as autocorrelation and endogeneity, they are unbiased and efficient and can accommodate greater number of variables in comparison to vector autoregressive (VAR) models and more flexible with respect to lag structure since it can accommodate different optimal lag structure for different variables in the model, which is not applicable in the other cointegration methods (Rahman & Islam, 2020).

$$
\begin{aligned}
&AGDP_t \\
&= \beta_0 + \beta_1 \mathrm{AGDP}_{t-1} + \beta_2 \mathrm{MS}_{t-1} + \beta_3 \mathrm{MLR}_{t-1} + \beta_4 \mathrm{EXR}_{t-1} + \beta_5 INFR_{t-1} + \beta_6 AEXP_{t-1} \\
&+ \beta_7 CBCA_{t-1} + \sum_{i=1}^{p} \beta_1 \, \Delta \mathrm{AGDP}_{t-1} + \sum_{i=1}^{p} \beta_2 \, \Delta \mathrm{MS}_{t-1} + \sum_{i=1}^{p} \beta_3 \, \Delta \mathrm{MLR}_{t-1} + \mathrm{EX}\Delta \mathrm{INTR}_{t-1} \\
&+ \sum_{i=1}^{p} \beta_5 \, \Delta \mathrm{INFR}_{t-1} + \sum_{i=1}^{p} \beta_6 \, \Delta \mathrm{AEXP}_{t-1} + \sum_{i=1}^{p} \beta_7 \, \Delta \mathrm{CBCA}_{t-1} - \emptyset \mathrm{ECM}_{t-1} \\
&+ £_t \qquad\qquad 3.3
\end{aligned}
$$

Where, ln is the natural logarithm, Δ is first difference operator.

4. PRESENTATION AND INTERPRETATION OF RESULT

4.1. Stationarity Test

Table 4.1: Summary of ADF and PP Unit Root Tests

Variable	ADF Test Statistic	5% Critical Value	PP Test Statistic	5% Critical Value	Order of Integration
D(AGDP)	-5.6732	-2.9458	-5.6788	-2.9458	**I(1)**
D(MLR)	-7.7184	-2.9604	-7.8837	-2.9604	**I(1)**
D(MS)	-4.0668	-2.9458	-4.0939	-2.9458	**I(1)**
D(EXR)	-6.3005	-2.9458	-6.3167	-2.9458	**I(1)**
D(AEXP)	-5.6936	-2.9484	-6.5466	-2.9458	**I(1)**
D(CBCA)	-6.9136	-2.9458	-7.4343	-2.9458	**I(1)**
INFR	**-3.8681**	**-2.9458**	**-3.4126**	**-2.9434**	**I(0)**

Source: Authors' computation using Eviews 13

The results from both the ADF and PP statistics showed that Agricultural Production (AGDP), Maximum Lending Rate (MLR), Broad Money Supply (MS), Exchange Rate (EXR), Agricultural Export (AEXP), and Commercial Bank Credit to Agriculture (CBCA) are I(1), indicating they became stationary after first differencing, while Inflation Rate (INFR) was stationary at level, that is, I(0). This implies the series consist of a mix of I(1) and I(0) variables.

4.2 Lag Selection Criteria

The VAR lag order selection results in Table 4.2 show that lag 1 is chosen as the optimal lag by all the selection criteria (LR, FPE, AIC, SC, and HQ). This indicates that including one lag of the variables provides the best model fit for the data.

Table 4.2: VAR Lag Selection Criteria

VAR Lag Order Selection Criteria						
Endogenous variables: AGDP MS MLR EXR INFR AEXP CBCA						
Exogenous variables: C						
Sample: 1986 2023						
Included observations: 33						
Lag	LogL	LR	FPE	AIC	SC	**HQ**
0	15.83972	NA	1.38e-09	-0.535741	-0.218300	**-0.428931**
1	221.3549	311.3867*	1.12e-13*	-10.02151*	-7.481983*	**-9.167037***
*** indicates lag order selected by the criterion**						

Source: Authors' computation using Eviews 13

4.3. Cointegration Test

The F-statistic (1.689681) (Table 4.3) was less than the 5% lower bound critical values, and the null hypothesis of no long-run relationship could not be rejected. This indicated that the variables failed to show a cointegrating relationship and hence did not possess a stable long-run equilibrium.

Table 4.3: Summary of ARDL Bounds Test

Test Statistic		**Value**
F-statistic		**1.689681**
Sample Size	**5% Critical Value I(0)**	**5% Critical Value I(1)**
35	2.794	**4.148**
40	2.685	**3.960**
Asymptotic	**2.270**	**3.280**

Source: Authors' computation using Eviews 13

Therefore, ARDL model without bounds cointegration analysis (short-run ARDL) was conducted.

4.4. Estimation Test

Table 4.4: Short-run ARDL

Dependent Variable: D(AGDP)				
Method: ARDL				
Sample: 1987 2023				
Included observations: 33				
Max. dependent lags: 1 (Fixed)				
Fixed-lag linear regressors: MS MLR EXR INFR AEXP CBCA				
Deterministics: Restricted constant and no trend (Case 2)				
Selected model: ARDL(1,1,1,1,1,1,1)				
Variable	Coefficient	Std. Error	t-Statistic	**Prob.**
COINTEQ*	-0.276707	0.064337	-4.300878	**0.0002**
D(MS)	0.184492	0.119556	2.543145	**0.0349**
D(MLR)	0.013103	0.054772	0.239226	**0.8128**
D(EXR)	-0.046614	0.039925	-3.165663	**0.0097**
D(INFR)	-0.026918	0.021253	-3.266531	**0.0066**
D(AEXP)	0.005008	0.004190	1.195345	**0.2427**
D(CBCA)	-0.124982	0.064518	-1.937185	**0.0637**

R-squared	0.610847	Mean dependent var	**0.021348**
Adjusted R-squared	0.474889	S.D. dependent var	**0.032091**
F-statistic	3.021860	Prob(F-statistic)	**0.022359**
*** p-values are incompatible with t-Bounds distribution.**			

Source: Authors' computation using Eviews 13

The ARDL results showed that the error correction term (COINTEQ*) was negative and significant, indicating a moderate speed of adjustment of about 28% toward equilibrium. Broad Money Supply (MS) had a positive and significant short-run impact on agricultural production (AGDP), implying that a 1% increase in MS increased AGDP by about 0.18%. Maximum lending rate (MLR) had a positive but insignificant impact, while exchange rate (EXR) and inflation rate (INFR) both revealed negative and significant effects, meaning a 1% rise in EXR and INFR reduced AGDP by about 0.05% and 0.03% respectively. Agricultural export (AEXP) was positive but not significant, whereas commercial bank credit to agriculture (CBCA) had negative and weakly significant impact, indicating that a 1% rise in CBCA reduced AGDP by about 0.12%. The R-squared value of 0.61 indicated that the model explained 61% of the variation in agricultural production, and the F-statistic confirmed the model was jointly significant at 5%.

4.5. Post Estimation Tests

Table 4.5: Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	0.778107	Prob. F(2,17)	0.4750
Obs*R-squared	2.767538	Prob. Chi-Square(2)	0.2506

Source: Authors' computation using Eviews 13

The results in Table 4.5 showed F-statistic of 0.79 with a p-value of 0.4759, indicating that there was no evidence to reject the null hypothesis of no serial correlation. As such, it was concluded that there was no serial correlation in the residuals.

Table 4.6: Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	0.934285	Prob. F(13,19)	0.5395
Obs*R-squared	12.86881	Prob. Chi-Square(13)	0.4580
Scaled explained SS	22.26687	Prob. Chi-Square(13)	0.0514

Source: Authors' computation using Eviews 13

The Breusch-Pagan-Godfrey test produced an F-statistic of 0.93 with a p-value of 0.54. Since the p-value is greater than 0.05, we fail to reject the null hypothesis, indicating no evidence of heteroskedasticity in the model.

Test of Stability

Both the CUSUM and CUSUM of Squares tests in Figures 4.1 and 4.2 indicate that the plots remain within the 5% significance boundaries. This suggests that the model is stable over the sample period, with no evidence of structural breaks in either the mean or the variance of the residuals.

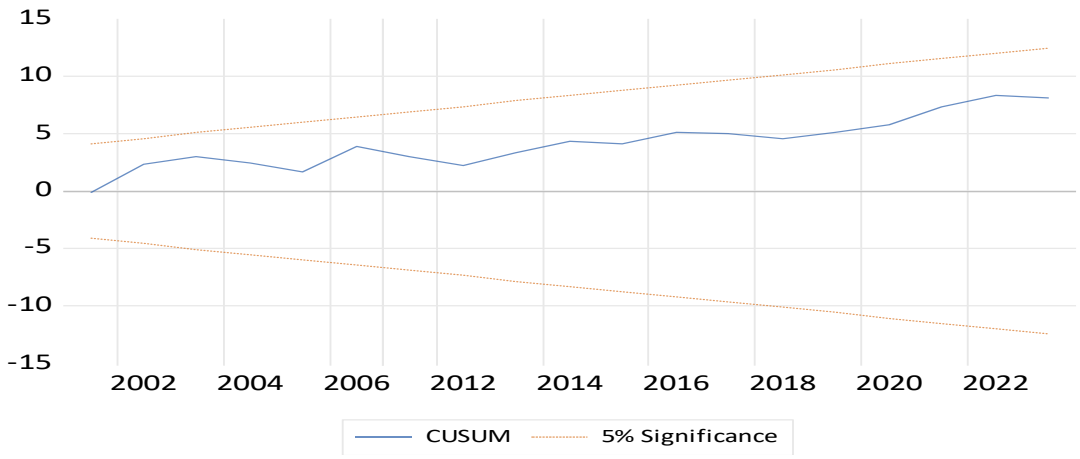

Figure 4.1: Cumulative Sum Result
Source: Author's computation, 2025

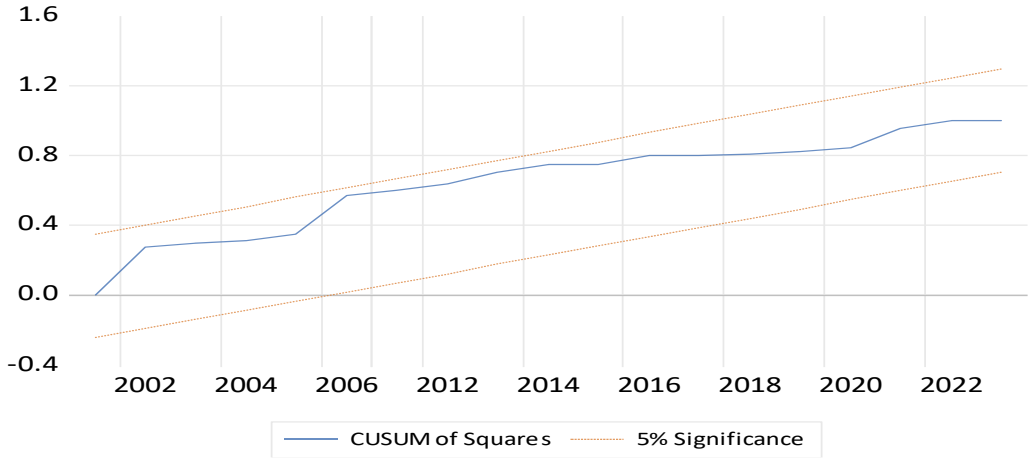

Figure 4.2: Cumulative Sum of Square Result
Source: Author's computation, 2025

4.6. Discussion of Findings

The short-run results revealed that broad money supply exerted a positive and significant effect on agricultural production, while exchange rate depreciation and rising inflation showed negative and significant effects, with lending rate and agricultural export showing positive but insignificant impacts, and commercial bank credit to agriculture exerting a negative influence. These outcomes align closely with the findings of Ogunjimi and Adekunle (2025), who reported that increases in monetary policy rate enhanced agricultural sector performance, and with Muhammed (2024), who observed that exchange rate depreciation boosts agricultural output while high interest rates and money supply negatively affected it. The results also corroborate Adekunle (2022) & Iwegbu and Nwaogwugwu (2022), who found that monetary policy stance can stimulate agricultural performance in the short run, though some credit-related variables may have adverse effects, as similarly observed in this study with commercial bank credit to agriculture. Conversely, the negative effect of credit contrasts with Oboh, Tule and Ebuh (2019), who reported a positive long-run relationship between agricultural value added and monetary variables, suggesting that the effect of credit may be more long-run than short-run. These findings are broadly in line with a priori expectations that expansionary monetary policy instruments, such as increased money supply, can stimulate agricultural output while contractionary pressures from exchange rate depreciation and inflation tend to suppress it. The implication is that in the short run, monetary policy interventions that improve liquidity can support agricultural growth, but instability in prices and exchange rates may undermine these gains, highlighting the need for balanced policies that manage credit allocation and stabilize the macroeconomic environment to enhance the sector's performance.

5. Conclusion and Policy Recommendations

The study on the effects of monetary policy shocks on agricultural sector development in

Nigeria between 1986 and 2023 found that monetary policy instruments had diverse but significant effects on the growth of agriculture. The error correction mechanism validates that long-term deviations across time are corrected gradually, reflecting the agriculture sector's steady adjustment in response to policy shocks. While an increase in overall money supply promotes farm output, rising exchange rates and inflation have a dampening effect, implying that macroeconomic instability might limit sectoral growth. Other variables, such as commercial bank credit to agriculture and maximum lending rates, were insignificant or had no effect, implying that conventional credit channels are incapable of successfully translating into improved agricultural efficiency under current conditions. This implies that agricultural development is susceptible to both macroeconomic stability and liquidity conditions, and policy shocks can either stimulate or retard growth depending on the tool and context.

The following recommendations are made in regards to the findings of the study:

i. In respect of the positive impact of broad money supply, the central bank should enhance targeted liquidity to the agricultural sector through specialized agro-finance windows to ensure that farmers and agribusiness firms can gain access to low-rate loans.

ii. Considering the negative impact of exchange rate volatility on agricultural sector growth, policymakers are encouraged to move to stabilize the naira against major trading countries and promote local production of key agriculture inputs in order to reduce reliance on costly imports.

iii. Given the negative effect of inflation on agricultural production, it is recommended that the coordinated fiscal and monetary policies be tightened in a bid to contain the prices of food and agricultural commodities to protect farmers' real incomes and investment resources.

iv. Based on the impact of maximum lending rate, it is recommended that preferential lending rates be maintained for the agricultural sector in a bid to improve access to low-cost credit and encourage productive investment.

v. Since commercial bank credit has weak negative impact, it is suggested that new risk-sharing instruments, such as crop-yield-linked guarantees or insurance-backed lending, be introduced to encourage banks to lend to farmers with long-term finance.

vi. Competitiveness in Nigerian agricultural exports also needs to be enhanced through export incentives, quality enhancement programs, and

infrastructure support in order to promote long-run sector growth.

References

Adekunle, E. A. (2022). *Impact of monetary policy on agricultural performance in Nigeria* (Unpublished MSc thesis). Lead City University. https://repository.lcu.edu.ng/handle/123456789/111

Ajudua, E. I., Davis, O. J., & Okonkwo, O. N. (2015). A review of monetary policy and the Nigerian agricultural sector performance. *International Journal of Academic Research in Progressive Education and Development, 4*(3), 70-86. Available at: https://doi.org/10.6007/ijarped/v4-i3/1789

Bernanke, B. S., & Gertler, M. (1995). Inside the black box: The credit channel of monetary policy transmission. *Journal of Economic Perspectives, 9*(4), 27–48.

Birch, I. (2018). Agricultural productivity in Kenya: Barriers and opportunities. *Help desk Report*.

Blanchard, O., & Fischer, S. (1989). *Lectures on macroeconomics*. MIT Press.

Brian, M., Innocent S., Kin, S., & Abbyssinia, M. (2014). Monetary Policy actions and agricultural sector outcomes: empirical evidence from South Africa. *Mediterranean Journal of Social Science, 5(1),* 613-620.

Chisasa, J., & Nakina, D. (2015). "Bank credit and agricultural output in South Africa: Cointegration, short run dynamics and causality." Journal of Applied Business Research (JABR) 31 (2): 489–500.

Central Bank Nigeria (2002). Budget of economic growth and development. *Bullion, 26(2) April/June.*

Christopher, E., & Akorah, C.C. (2012). The impact of monetary policy on agricultural development in Nigeria (1970 – 2010). *ISOR Journal of Humanities and Social Science, 5 (5),* 13–25.

Ehionomen, C., & Charles, A. C. (2012). The impact of monetary policy on agricultural development in Nigeria. *IOSR Journal of Humanities and Social Sciences, 5*(5), 13 –25.

Engle, R. F., & Granger, C. W. J. (1987). Co-integration and error correction: Representation, estimation, and testing. *Econometrica, 55*(2), 251–276. https://doi.org/10.2307/1913236

Friedman, M. (1968). The role of monetary policy. *American Economic Review, 58*(1), 1–17.

Hicks, J. R. (1937). Mr. Keynes and the "classics": A suggested interpretation. *Econometrica, 5*(2), 147–159.

Iwegbu, O., & Nwaogwugwu, I. C. (2022). Monetary policy, development finance institutions and agricultural sector performance in Nigeria. In I. C. Nwaogwugwu & C. A. Ighodaro (Eds.), *Dynamics of Fiscal and Monetary Policies in Nigeria: Issues, Design and Operations* (Chapter 6, pp. 123-141). Fiscal and Financial Economists Society of Nigeria & Department of Economics, University of Lagos. https://ir.unilag.edu.ng/handle/123456789/12618

Iyoha, M. A. (2002). *Macroeconomics: Theory and policy*. Benin City: Mindex Publishing.

Iyoha, M.A., & Oriakhi, D. (2002). Explaining African economic growth performance: The case of Nigeria. A revised interim report on Nigerian. Case Study prepared for the African Economic Research Consortium Research.

Izuchukwu, O.O. (2011). Analysis of the contribution of agricultural sector on the Nigerian Economic Development. *World Review of Business Research*, 191-200.

Mishkin, F. S. (1996). The channels of monetary transmission: Lessons for monetary policy. *NBER Working Paper No. 5464*.

Muftaudeen, O. O., & Hussainatu, A. (2014). Macroeconomic policy and agricultural output in Nigeria: Implications for food security. *American Journal of Economics, 4*(2), 99- 113.

Muhammed, A. B. (2024). The Impact of Monetary Policy on Agricultural Productivity and Food Prices in Nigeria: A Time-Series Analysis. African Journal of Stability and Development, 16(2), 291-315. https://doi.org/10.53982/ajsd.2024.1602.06-j

National Bureau of Statistics. (2021). *Nigerian gross domestic product report Q4 2021*. https://www.nigerianstat.gov.ng

Oboh, V. U., Tule, M. K., & Ebuh, G. U. (2019). Does monetary policy matter for agricultural sector performance; Empirical evidence from Nigeria. *Journal of Economics and Sustainable Development, 10*(12), 48 - 58.

Ojo, M. P., & Ayanwale, A.B. (2019). Estimating Farm-Level Financing Gap: A Technical Efficiency Approach. *Agricultural Finance Review* 79 (2): 74–191.

Ogbuabor, J. E., Anthony-Orji, O. I., Manasseh, C. O., & Orji, A. (2020). A disaggregated analysis of monetary policy effects on the agricultural sector in Nigeria. Applied Studies in Agribusiness and Commerce, 14(3-4), 47-58. https://doi.org/10.19041/APSTRACT/2020/2-3/6

Ogunjinmi, O. O., & Adekunle, E. A. (2025). Asymmetric effects of monetary policy on agricultural performance in Nigeria (1981-2021). African Journal of Economic Review, 13(1). https://www.ajol.info/index.php/ajer/article/view/290599

Osabohien, R.O., Matthew, O., Gershon, T., & Nwosu B. (2019). Agriculture development, employment generation and poverty reduction in West Africa. *The Open Agriculture Journal, 13*, 82–89.

Pesaran, M. H., & Shin, Y. (1999). An autoregressive distributed lag modelling approach to cointegration analysis. In S. Strom (Ed.), *Econometrics and economic theory in the 20th century: The Ragnar Frisch Centennial Symposium* (pp. 371–413). Cambridge University Press.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics, 16*(3), 289–326. https://doi.org/10.1002/jae.616

Popoola, O., Asaleye, A. J., & Eluyela, D. F. (2018). Domestic revenue mobilization and agricultural productivity: Evidence from Nigeria. *Journal of Advanced Research in Law and Economics, 9*(4 (34)), 1439-1450. https://doi.org/10.14505//jarle.v9.4 (34).31.

Rahman, M. M., & Islam, M. S. (2020). Exploring the nexus between monetary policy and economic growth: Fresh evidence from South Asia. *International Journal of Finance & Economics, 26*(4), 6022–6038. https://doi.org/10.1002/ijfe.2084

Sunkel, O. (1958). A structuralist approach to the problems of economic development in Latin America. *Social and Economic Studies, 7*(1), 1–23.

Udeaja, E. A., & Udoh, E. A. (2014). Effect of monetary policy on agricultural sector in Nigeria. *CBN Economic and Financial Review, 52*(2), 33–74.