



Monetary Policy, Income Inequality, and Long-Run Growth in Nigeria: Structural Evidence from an Emerging Market Economy

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Abstract

This study examined whether monetary policy shocks exert persistent distributional effects capable of shaping economic growth in Nigeria, an emerging market characterised by financial frictions and elevated income inequality. While prior research has often analysed monetary policy, inequality, and growth separately, limited evidence integrates these relationships within a unified structural framework. To address this gap, the study employed a Structural Vector Autoregressive (SVAR) model using annual data from 1990 to 2024. The identification strategy isolated exogenous monetary policy shocks and traced their transmission through lending rates, credit access, and private sector credit to output and income inequality. Impulse response functions and forecast error variance decomposition reveal that monetary and financial shocks generate persistent distributional effects, with credit channels amplifying their impact on growth. The findings indicate that monetary policy in Nigeria is not distribution-neutral and that inequality functions as a significant transmission mechanism influencing growth dynamics. The study contributes to emerging market literature by structurally identifying monetary shocks and demonstrating how financial and distributional channels jointly shape macroeconomic outcomes.

Keywords: Monetary policy shocks; income inequality; structural VAR; financial accelerator; emerging markets; Nigeria; economic growth

1. Introduction

Monetary policy remains a central instrument of macroeconomic management, influencing output stabilisation, price stability and financial conditions in both advanced and developing economies. Within the New Keynesian transmission framework, central banks affect real economic activity through adjustments in policy interest rates and liquidity conditions, which in turn influence borrowing costs, investment decisions and household consumption. Recent extensions of this framework emphasise that monetary policy shocks are not distribution neutral. Rather, they generate heterogeneous effects across households and firms, with implications for income distribution and aggregate performance. These distributional effects are especially relevant in emerging market economies such as Nigeria, where financial market imperfections, limited access to credit and persistent income inequality shape the transmission of policy actions (Auclert et al., 2021; Colciago et al., 2023). Despite the increasing prominence of these issues in policy debates, the channels through which monetary policy shocks operate through income distribution to influence long run

economic growth in Nigeria remain insufficiently examined.

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Recent developments in monetary economics have moved beyond representative agent models to incorporate differences in income, wealth and credit access. The New Keynesian transmission theory with distributional effects provides a structured approach for analysing how exogenous monetary disturbances affect macroeconomic outcomes through interest rate, credit and expectations channels, while redistributing income across economic agents. Empirical evidence indicates that contractionary monetary policy tends to impose larger costs on lower income households through higher borrowing costs and tighter credit conditions, while higher income groups may benefit from asset price movements and financial income (Kaplan et al., 2018; Furceri et al., 2022). Monetary policy therefore influences both aggregate output and income distribution.

The Financial Accelerator theory further explains how credit market frictions amplify the real effects of monetary policy shocks (Gilchrist & Zakrajšek, 2011; Hammersland & Træe, 2014; Giri et al. 2019). When policy tightening increases borrowing costs, firms and households with weak balance sheets face higher external finance premia, reducing investment and output. In economies characterised by low financial inclusion, these mechanisms may widen income inequality. In addition, Endogenous Growth theory links income distribution to long run productivity and growth through human capital accumulation. Higher inequality may limit investment in education and health for lower income groups, thereby reducing aggregate human capital formation and weakening sustained growth (Ogbeifun & Shobande, 2022; Mengesha & Singh, 2023). Together, these perspectives provide a coherent framework for analysing how monetary policy shocks may influence growth through financial and distributional channels.

Empirical research has increasingly examined the interaction between monetary policy, inequality and growth. Cross country evidence shows that monetary tightening episodes are often associated with rising income inequality, particularly in economies with less developed financial systems (McKay & Wolf, 2023; Alves & Coelho, 2024). In Nigeria, existing studies report that monetary policy instruments significantly affect macroeconomic performance and income distribution. Empirical analyses identify asymmetric effects of interest rate and money supply shocks on income inequality, suggesting that expansionary and contractionary policies affect income groups differently (Kappes, 2022; Kunawotor et al. 2022; Samarina & Nguyen, 2024; Rabhi & Parsons, 2025). Other studies show that both anticipated and unanticipated monetary policy shocks contribute to changes in inequality indicators (Davtyan, 2023; McKay & Wolf, 2023). However, although the Nigerian literature confirms that monetary policy influences economic growth, most studies focus on aggregate output responses and do not explicitly integrate income inequality as a channel

through which monetary policy may shape long run growth (Zungu & Greyling, 2022; Xiang et al. 2023).

Several gaps therefore remain. First, there is limited systematic evidence linking monetary policy induced changes in income inequality to long run economic growth in Nigeria. Inequality and growth are typically treated as separate outcomes rather than as interrelated processes within a unified framework. Second, much of the Nigerian literature relies on short run analyses using conventional time series methods, which restricts insight into the persistence of distributional effects and their cumulative implications for long run growth. Third, few studies explicitly incorporate financial accelerator mechanisms and evaluates the role of financial frictions in this transmission process when analysing monetary policy effects, thereby limiting understanding of the structural pathways through which inequality may influence growth over time (Onatunji & Akinlo, 2025; Hurst, et al. 2022). These limitations reduce the policy relevance of existing findings.

The absence of an integrated framework that jointly considers monetary policy transmission, income distribution, financial frictions and long run growth represents a significant limitation in the Nigerian literature. This constraint has practical implications, as policymakers require evidence on whether monetary actions designed to stabilise prices and output may also have persistent distributional consequences that affect growth. In an economy characterised by high inequality, credit constraints and exposure to external shocks, understanding how monetary policy propagates across income groups and influences long run growth is essential. Insights from Nigeria may also inform policy debates in other developing economies facing similar structural conditions.

In response to these issues, this study examined the effects of monetary policy shocks on income inequality and long run economic growth in Nigeria within a unified empirical framework. It identifies monetary policy shocks using structural econometric techniques and evaluates their short and long run effects on income inequality, assesses how monetary policy induced changes in inequality influence long run economic growth, and examined the roles of financial frictions in this transmission process. Accordingly, the study addressed three central questions: what are the short and long run effects of monetary policy shocks on income inequality in Nigeria; how do monetary policy induced changes in income inequality affect long run economic growth; and to what extent do financial frictions channels mediate the relationship between monetary policy shocks, income inequality and long run growth. By addressing these questions within a single framework, the study contributes new evidence on the interaction between monetary policy, inequality and growth in a developing economy context and provides policy relevant insights for monetary authorities.

2. Literature Review

2.1 Theoretical Framework

Understanding how monetary policy influences income inequality and long run economic growth requires a framework that extends beyond aggregate stabilisation analysis. In emerging market economies such as Nigeria, where financial markets are shallow and income disparities remain pronounced, monetary policy shocks may operate through distributional and credit channels with persistent macroeconomic consequences. This study integrates three complementary theoretical perspectives: the New Keynesian transmission framework with heterogeneous agents, the financial accelerator mechanism, and endogenous growth theory. Together, these strands provide a coherent explanation of how monetary policy shocks can influence inequality and long run growth within a unified structure.

The New Keynesian transmission framework (Clarida et al. 1999; Woodford & Walsh, 2005) provides the core structure for analysing the real effects of monetary policy. In its traditional form, the model assumes representative agents and focuses on aggregate demand management through interest rate and expectations channels. However, recent heterogeneous agent extensions demonstrate that monetary policy is not distribution neutral because households and firms differ in income sources, asset holdings and access to credit (McKay & Wolf, 2023; Andersen et al. 2023). Monetary tightening raises policy rates, increases borrowing costs and reduces labour demand, thereby compressing labour income and consumption among liquidity constrained households (Almgren, et al. 2022; Umeaduma, 2024). At the same time, changes in interest rates and asset prices may benefit wealthier households with financial assets (Lenza & Slacalek, 2024). These redistributive effects alter aggregate consumption and saving behaviour, implying that inequality is not merely an outcome of policy but part of the transmission process itself.

In Nigeria, limited household asset ownership and restricted access to formal credit intensify these distributional effects. Monetary tightening raises lending rates and reduces credit availability, disproportionately affecting wage dependent households and small firms. As a result, income inequality becomes embedded within the monetary transmission mechanism. The New Keynesian framework therefore establishes the first link in the analytical chain: monetary policy shocks generate heterogeneous income effects that influence both distribution and aggregate activity (Umeaduma, 2024; Davis & Haltiwanger, 2024; Bilbiie, 2025). Lofaro et al. (2025). The financial accelerator mechanism reinforces and amplifies this transmission process. According to this theory, credit market imperfections magnify the impact of monetary shocks by affecting borrowers' balance sheets and external finance premia (Marzouki & Mahmoud, 2025). When monetary policy tightens, higher interest rates reduce the net worth of firms and households, increasing borrowing costs and restricting access to credit. This amplification effect is particularly

strong in developing economies where financial intermediation is limited and collateral constraints are binding (Umeaduma, 2024; Wang, 2025).

In the Nigerian context, reliance on bank based lending and low financial inclusion heighten vulnerability to balance sheet deterioration (Sanusi, 2011; Olawale, 2024). Monetary contractions increase lending rates and reduce credit supply to small and medium enterprises and informal sector participants, leading to declines in investment and output. At the same time, restricted credit access may widen income disparities between those with established financial connections and those excluded from formal finance. Thus, financial frictions magnify both macroeconomic fluctuations and distributional outcomes, linking monetary shocks more closely to inequality and growth dynamics (Fernández-Villaverde, 2023; Obazee & Osifo, 2025). Endogenous growth theory provides the long run dimension of this framework by connecting income distribution to productivity and sustained growth. Unlike exogenous growth models, endogenous approaches emphasise the role of deliberate investment in human capital and innovation as drivers of persistent growth (Jones, 2022; Eriksson et al. 2023). Rising inequality can weaken these processes if lower income households face constraints that limit investment in education, skills and health. In economies where private expenditure is central to human capital formation, income compression resulting from monetary tightening may have lasting effects on productivity and growth potential. (De Schutter et al. 2023; Yakusheva et al. 2024).

In Nigeria, where household resources play a substantial role in education and health investment, monetary policy induced income shocks may therefore influence long run growth through distributional channels. If monetary tightening disproportionately reduces income and credit access for lower income groups, investment in human capital may decline, weakening future growth prospects. Inequality thus functions as a mediating variable through which short run monetary disturbances can generate persistent macroeconomic effects (Carlin & Soskice, 2024). Accordingly, these theories imply a sequential mechanism. Monetary policy shocks first generate heterogeneous income effects through interest rate and expectations channels as described by the New Keynesian framework. Financial frictions then amplify these effects by altering balance sheet conditions and credit access, consistent with the financial accelerator mechanism. Finally, the resulting changes in income distribution influence long run productivity and growth through the channels emphasised in endogenous growth theory. This integrated framework provides the theoretical foundation for empirically examining how monetary policy shocks affect income inequality and long run economic growth in Nigeria within a unified structural model.

Empirical studies on African economies have largely analysed monetary policy and economic growth using reduced-form VAR or ARDL models, with primary focus on aggregate output dynamics (Olamide et al. 2022; El Hussein, 2023). Research on inequality in Sub-Saharan Africa has similarly concentrated on structural and institutional determinants, often without explicitly identifying monetary policy shocks as drivers of distributional change (Ahiadorme, 2022). As a result, the interaction between monetary transmission, inequality, and growth remains weakly integrated within a unified structural framework. Moreover, structurally identified monetary shocks are rarely applied in African contexts, limiting causal interpretation of transmission mechanisms. This study contributes by employing a Structural VAR (SVAR) model to identify exogenous monetary shocks and jointly examine credit frictions, income inequality, and growth dynamics. By integrating financial accelerator effects and distributional channels within a structurally identified system, it provides clearer causal insight into monetary transmission in financially constrained emerging markets.

2.2 Empirical Literature

Recent empirical research has significantly advanced understanding of how monetary policy shocks redistribute income and influence macroeconomic outcomes over both medium and long horizons. A major development in this literature is the move beyond representative agent models towards empirically grounded analyses that explicitly identify monetary shocks and trace their heterogeneous effects across income and wealth groups. Studies using administrative micro data and high frequency identification strategies show that conventional monetary instruments, including interest rate adjustments and liquidity interventions, generate systematic distributional effects. Using exogenous variation from a historical currency peg, Nakajima (2015) and McKay and Wolf (2023) demonstrated that expansionary monetary policy increases income, consumption, and wealth in a manner that rises with pre policy income, implying disproportionate gains for higher income households. These effects persist beyond the short run, indicating enduring distributional gradients rather than temporary redistributions. Proxy structural VAR and local projection evidence reinforces these findings by documenting heterogeneous income and consumption responses across the distribution following identified shocks (Zungu and Greyling, 2022; Chang and Schorfheide, 2024). Collectively, this evidence challenges the assumption of monetary neutrality.

Subsequent research examines why such heterogeneity matters for aggregate outcomes. Studies incorporating credit market frictions and balance sheet dynamics emphasise amplification mechanisms linking distributional effects to macroeconomic performance (Hasan et al., 2023; Müller and Verner, 2024). Empirical work grounded in heterogeneous agent New Keynesian frameworks and supported by cross country evidence shows that monetary shocks are amplified in

economies characterised by weak financial intermediation and limited credit access (Gilchrist & Zakrajšek, 2011; Beck et al. 2014; Salimi et al., 2025). In these contexts, contractionary shocks raise borrowing costs and tighten constraints for lower income households and small firms, leading to sharper declines in consumption and investment relative to wealthier agents (Drechsel, 2023; Dammerer et al., 2025). Inequality thus operates not only as an outcome but as a transmission mechanism, with the financial accelerator serving as a key channel linking policy, inequality, and real activity.

A parallel strand of research investigates the feedback from inequality to long run growth. Studies rooted in endogenous growth theory provide evidence that income distribution influences growth through human capital accumulation and innovation incentives. Rising inequality constrains education and health investment among lower income households, reduces skill formation, and weakens productivity growth over time (Murphy & Topel, 2016; Li et al., 2024). Panel and regional evidence further indicates that where human capital investment is largely privately financed, higher income dispersion is associated with slower long run growth and weaker convergence (Zeynalov, 2025). These findings imply that distributional effects induced by monetary shocks may have persistent growth consequences (Afolabi and Wapji, 2024).

Despite these advances, the literature remains fragmented. Many studies analyse either the distributional effects of monetary shocks or the growth consequences of inequality, but few integrate both within a single structural framework. Proxy structural VAR and local projection studies document short and medium run inequality responses (Zungu and Greyling, 2022; Ocampo and Ojeda Joya, 2022; Trabelsi, 2025), while endogenous growth studies focus on long run productivity effects (Romer, 1994; Mu et al., 2023). However, relatively few studies trace the full causal chain from structurally identified monetary shocks, through distributional responses, to long run growth outcomes mediated by financial and human capital channels (Fratto et al., 2022; Ahiadorme, 2022).

This gap is particularly evident in SSA. Methodologically rigorous studies are concentrated in advanced economies and consistently report a pro rich bias in the distributional effects of expansionary policy (Jordà et al., 2024; Coglianese et al., 2025; Auntu and Pilinkienė, 2026). Evidence for Nigeria remains limited and typically relies on reduced form VAR, ARDL, or conventional SVAR approaches without external instruments (Oyadeyi, 2025; Hamed et al., 2025). While informative, these methods constrain causal inference and long run structural interpretation.

From a methodological standpoint, leading studies combine credible shock identification, disaggregated distributional measures, and explicit modelling of

financial and human capital channels (Zungu & Greyling, 2022; Meager, 2022). The predominance of reduced form approaches in the Nigerian context therefore highlights the need for integrated empirical strategies linking identification, distributional analysis, and growth dynamics (Craig & Porter, 2003; Afolabi and Wapji, 2024). The present study addresses this gap by providing a unified structural analysis of monetary policy shocks, income inequality, and long run economic growth in Nigeria.

3. Methodology

3.1 Data Description and Variable Measurement.

This study investigates the effects of monetary policy shocks on income inequality and long run economic growth in Nigeria using annual data spanning 1990 to 2024. Economic growth is measured by real gross domestic product. Monetary policy is proxied by broad money supply and the lending interest rate. Financial conditions are captured through private sector credit and credit access indicators, while income inequality is measured using the Gini coefficient. Data were sourced from the Central Bank of Nigeria (CBN, 2025) and the World Bank's World Development Indicators (WDI, 2025).

3.2 Pre Estimation Tests

Unit Root Test

The empirical analysis begins with pre-estimation diagnostics to establish the time-series properties of the variables and ensure valid inference. Given the long annual span (1990–2024) and the macroeconomic nature of the variables, unit root tests are conducted to determine their order of integration.

The unit root results in Table 1, reveal mixed orders of integration among the variables, with GDP and credit access being non-stationary at levels but stationary after first differencing, while broad money growth, lending interest rates, private sector credit, and income inequality are stationary at levels. This combination of $I(0)$ and $I(1)$ processes is consistent with macro-financial systems in emerging economies and validates the econometric strategy adopted in this study. Importantly, the absence of $I(2)$ variables permits estimation of the VAR in levels without loss of long run information and supports the use of a Structural VAR framework to examine short run dynamics and monetary transmission mechanisms linking policy shocks, inequality, and growth.

3.3 Model Specification.

Structural Identification Strategy

The multivariate system is first specified as a reduced form VAR(p): (A). Structural Form Representation

$$AY_t = BY_{t-1} + \varepsilon_t \quad (1)$$

where matrix A captures contemporaneous interactions and B contains lagged dynamics and ε_t are orthogonal structural shocks. The structural form separates

contemporaneous interactions from dynamic effects, allowing identification of exogenous monetary policy shocks. Identification is achieved through recursive short run restrictions. Monetary policy variables are permitted to affect financial conditions and income inequality contemporaneously, while real output responds with a lag, reflecting adjustment frictions and information delays.

(B). Restriction Structure

To achieve identification, short-run recursive restrictions are imposed:

$$A = \begin{pmatrix} & \text{ms2} & \text{lnr} & \text{dcp} & \text{cra} & \text{gini} & \text{gdp} \\ \text{ms2} & 1 & 0 & 0 & 0 & 0 & 0 \\ \text{lnr} & a_{21} & 1 & 0 & 0 & 0 & 0 \\ \text{dcp} & a_{31} & a_{32} & 1 & 0 & 0 & 0 \\ \text{cra} & a_{41} & a_{42} & a_{43} & 1 & 0 & 0 \\ \text{gini} & a_{51} & a_{52} & a_{53} & a_{54} & 1 & 0 \\ \text{gdp} & a_{61} & a_{62} & a_{63} & a_{64} & a_{65} & 1 \end{pmatrix}$$

Variable Ordering

$$Y_t = (\text{ms2}, \text{lnr}, \text{dcp}, \text{cra}, \text{gini}, \text{gdp})' \quad (2)$$

Structural identification is achieved by imposing short run recursive restrictions on the contemporaneous coefficient matrix A. The variables are ordered such that monetary policy variables appear first, followed by financial variables, income inequality, and finally real output. This ordering implies that monetary policy shocks may affect financial conditions and income distribution within the same period, whereas output responds with a lag. The structure reflects standard New Keynesian timing assumptions and the transmission logic implied by financial accelerator mechanisms.

In a six variable SVAR framework, exact identification requires $n(n-1)/2=15$ contemporaneous restrictions. The lower triangular specification of matrix A imposes precisely these fifteen zero restrictions, thereby satisfying the identification condition. Because the number of imposed restrictions equals the theoretical requirement, the structural system is uniquely identified, and the resulting shocks are economically interpretable rather than statistically arbitrary.

Identification Robustness and External Instrument Considerations

The study does not employ external instruments for monetary policy shock identification due to limited availability of high-frequency monetary surprise data and narrative policy series for Nigeria over the sample period. In emerging market contexts where such data are unavailable, structurally motivated recursive

Table 1: Unit Root Test Results (Augmented Dickey–Fuller Test)

Variable	Level ADF Statistic	p-value	Order of Integration
GDP (gdp)	-2.033	0.583	I(1)
Broad Money Growth (ms2)	-4.246	0.004	I(0)
Lending Interest Rate (lnr)	-4.027	0.008	I(0)
Private Sector Credit (dcp)	-3.789	0.017	I(0)
Credit Access (cra)	-2.472	0.342	I(1)
Income Inequality (gini)	-4.153	0.005	I(0)

Source: Author's computation (2026).

Table 2: VAR Lag Order Selection Criteria

Lag	Log Likelihood	LR Statistic	Prob> LR	AIC	HQIC	SBIC
0	-475.843	–	–	32.1229	32.2125	32.4031
1	-403.365	144.96	0.000	29.6910	30.3185	31.6527
2	-371.043	64.643	0.002	29.9362	31.1017	33.5793
3	-318.961	104.16	0.000	28.8640	30.5674	34.1886

Source: Author's computation (2026).

Table 3: Residual Serial Correlation Test (VAR LM Test)

Lag Order	Chi-square	df	Prob > Chi-square
1	34.4833	36	0.5408
2	37.9561	36	0.3803

Source: Author's computation (2026).

Table 4: Eigenvalue Stability Condition

Eigenvalue	Modulus
0.7757478	0.775748
0.3422499 ± 0.4972595i	0.603657
0.507471 ± 0.1012613i	0.517475
-0.4104428	0.410443

Source: Author's computation.(2026)

identification remains standard practice. The credibility of the structural shocks is reinforced by theoretical consistency, institutional justification, and stability diagnostics.

Structural VAR Specification

To identify economically meaningful monetary policy shocks, the reduced form VAR is transformed into a structural system:

$$A_0 X_t = C + \sum_{i=1}^p A_i X_{t-i} + \varepsilon_t \quad (3)$$

where A_0 captures contemporaneous structural relationships and ε_t represents orthogonal structural shocks. Identification is achieved using theoretically motivated restrictions consistent with the New Keynesian transmission mechanism. Monetary policy shocks are assumed to affect financial conditions

(lending rates and credit access) contemporaneously, while real economic activity responds with a lag, reflecting information and adjustment frictions.

3.4 Estimation Procedure

The reduced form VAR was estimated using equation by equation least squares, consistent with standard VAR estimation procedures. The model was subsequently transformed into a Structural VAR through the imposition of recursive short run restrictions on the contemporaneous coefficient matrix. Structural shocks were orthogonalised to isolate exogenous monetary innovations. Impulse response functions and forecast error variance decompositions were computed to assess dynamic transmission. The recursive identification scheme is grounded in the institutional structure of monetary policy implementation in Nigeria. Policy instruments such as broad money supply and lending rates are determined

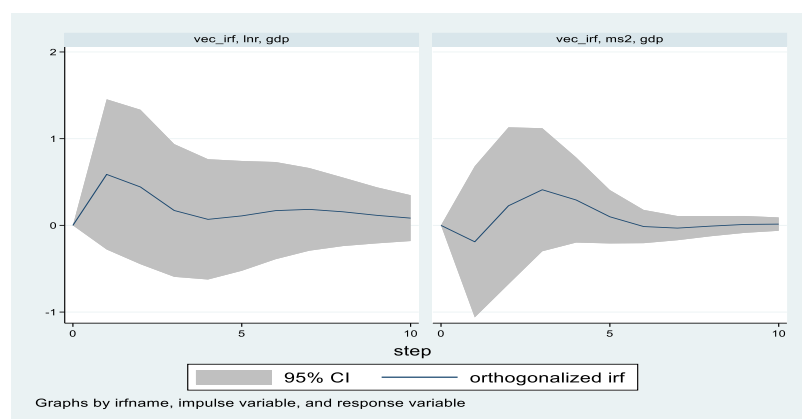


Figure 1: Lending Rate and Money Supply Shocks on GDP

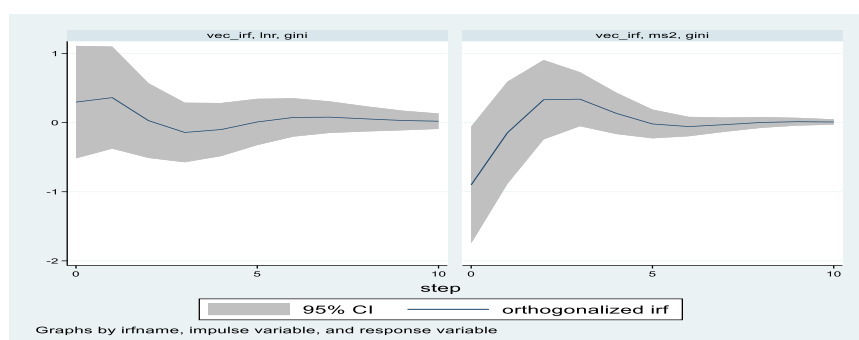


Figure 2: Lending Rate and Money Supply Shocks on Inequality

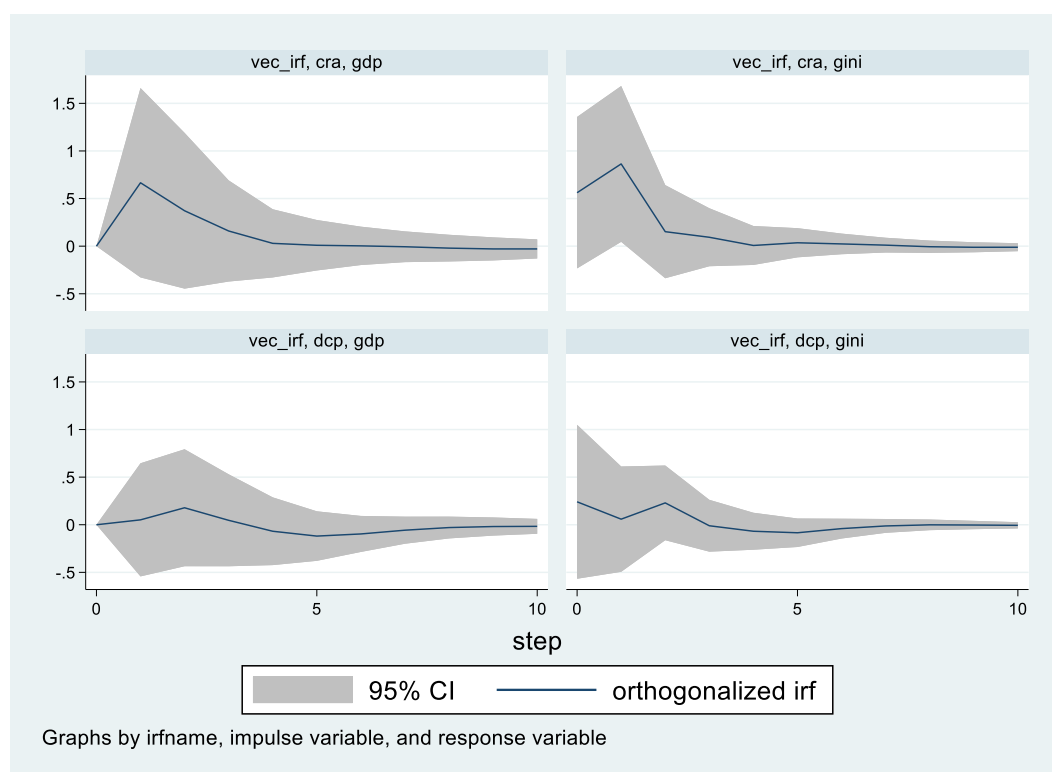


Figure 3: Credit Access and Private Sector Credit Shocks

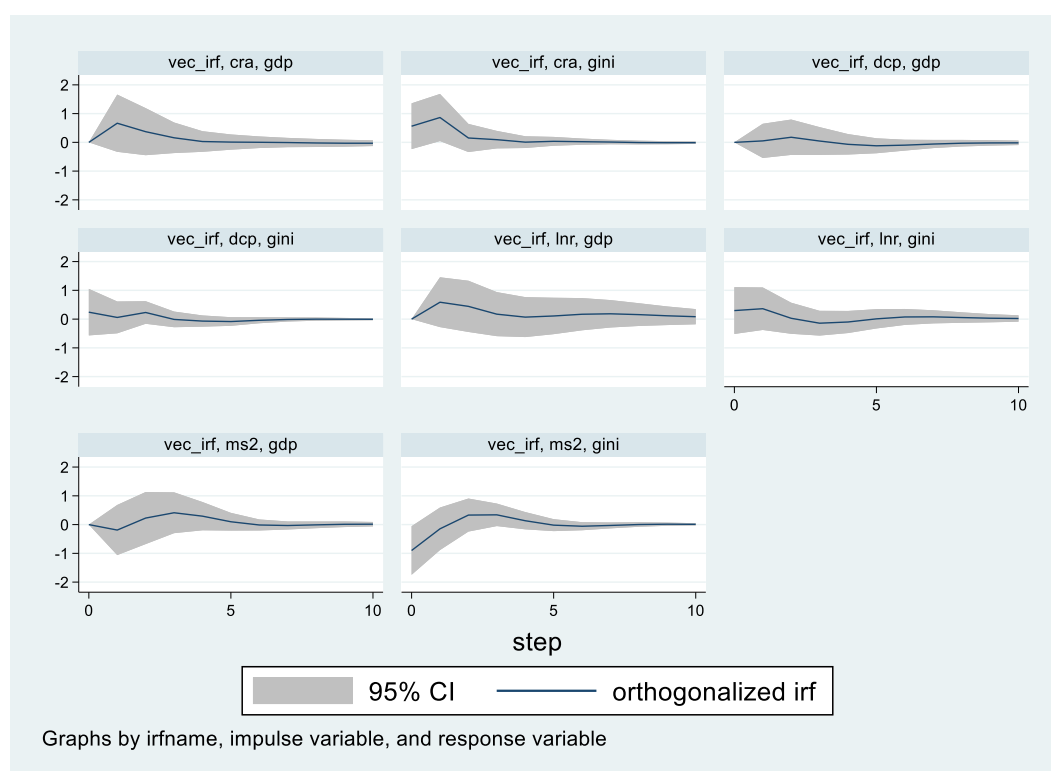


Figure 4: Combined Monetary and Financial Transmission

by the Central Bank of Nigeria within the policy period, while output and income distribution respond with informational and adjustment lags. Financial variables, including private sector credit and credit access, adjust contemporaneously to policy innovations through the banking system, whereas real GDP and inequality reflect slower transmission due to production rigidities and labour market frictions. This timing structure aligns with standard New Keynesian transmission assumptions and the bank-based nature of Nigeria's financial system.

4. Empirical Results

4.1 Diagnostic Tests

Lag Selection Criteria

Lag length selection in Table 2, was determined using standard information criteria. While the Akaike Information Criterion (AIC) favoured lag (3) with 28.864, the Schwarz Bayesian Information Criterion (SBIC) selected lag (1) with 31.6527. Given the relatively small sample size (34 observations), lag (1) was adopted to avoid over-parameterisation and preserve degrees of freedom. This choice ensures parsimonious and efficient SVAR estimation. The SVAR framework is appropriate despite mixed integration comprising both $I(0)$ and $I(1)$ series because it identifies structural monetary policy shocks within a multivariate system. Estimation in levels preserves long run information while enabling economically meaningful contemporaneous restrictions.

Residual Serial Correlation Test

In Table 3, residual serial correlation was examined using the multivariate Lagrange Multiplier (LM) test. The LM statistics at lag 1 ($\chi^2 = 34.48$, $p = 0.541$) and lag

2 ($\chi^2 = 37.96$, $p = 0.380$) failed to reject the null hypothesis of no autocorrelation. The absence of serial correlation confirms correct lag specification and dynamic adequacy of the VAR system.

Eigenvalue Stability Condition

Model stability was assessed using the eigenvalue modulus condition. All characteristic roots lie strictly inside the unit circle, with the largest modulus equal to 0.7757. The system therefore satisfies the stability condition, validating the computation and interpretation of structural impulse responses and forecast error variance decompositions.

Diagnostic tests support the validity of the Structural VAR specification. Lag selection criteria favoured a parsimonious lag one structure. LM statistics indicate no residual serial correlation, while eigenvalue modulus conditions confirm system stability. The joint Wald statistic for crisis period dummies rejects parameter constancy, indicating regime shifts during major macroeconomic shocks. Collectively, these results validate the structural identification and support the reliability of the impulse response and variance decomposition findings.

4.2 Structural Impulse Response Analysis (SVAR)

Impulse responses are traced over a 10 year horizon, with each period representing one year following a one standard deviation structural shock. Responses are derived from the recursively identified SVAR, and statistical significance is evaluated using 95 per cent confidence. Confidence intervals are asymptotic delta

Table 5: Structural Forecast Error Variance Decomposition (SVAR)

Horizon	ms2→gdp	ms2→gini	lnr→gdp	lnr→gini	dcp→gdp	dcp→gini	cra→gdp	cra→gini
1	0.000	0.143	0.000	0.040	0.000	0.155	0.000	0.088
5	0.007	0.368	0.002	0.112	0.004	0.076	0.003	0.199
10	0.007	0.395	0.003	0.120	0.004	0.067	0.003	0.213

Note: Values represent proportion of forecast error variance

Source: Author's computation.(2026)

Table 5: Structural Forecast Error Variance Decomposition (SVAR)

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1	0.000	0.143	0.000	0.040	0.000	0.155	0.000	0.088
5	0.007	0.368	0.002	0.112	0.004	0.076	0.003	0.199
10	0.007	0.395	0.003	0.120	0.004	0.067	0.003	0.213

Note: Values represent proportion of forecast error variance

Source: Author's computation.(2026)

Table 6: Structural Break Robustness Test (2008, 2016, 2020 Crisis Periods) VAR Model with Exogenous Crisis Dummies

Test Statistic	Value
Wald Chi-square (df = 18)	87.76
Prob > Chi-square	0.0000

Source: Author's computation, (2026)

method intervals.

In Figure 1, a one standard deviation lending rate shock increases GDP modestly in period one, peaking in period two before declining and converging to baseline by period eight. The response remains statistically significant for approximately three periods. Conversely, a broad money shock generates a small but positive growth response, peaking early and dissipating within six periods. These results indicate short to medium run monetary non neutrality operating through interest rate transmission.

A lending rate shock in Figure 2, initially increases income inequality, peaking in period two before gradually reversing and converging by period seven. The short run response is statistically significant, indicating redistributive tightening effects. A money supply shock reduces inequality immediately, with the largest effect occurring in period one and fading by period six. These dynamics confirm that monetary shocks exert temporary but meaningful distributional consequences.

In Figure 3, credit access shock stimulates GDP in the short run, peaking in period two and gradually declining toward neutrality by period nine, with significance confined to early horizons. Inequality rises moderately before stabilising. Private sector credit shocks generate smaller growth effects, peaking in period three and dissipating within eight periods. These patterns reflect financial accelerator propagation through balance sheet and borrowing constraint channels.

The joint impulse responses in Figure 4, reveal that monetary and financial shocks generate moderate but

persistent adjustments in growth and inequality. Peak effects occur within the first three periods, after which responses gradually converge to equilibrium by approximately period ten. Statistically significant effects are concentrated in early horizons. The evidence supports a transmission sequence whereby monetary disturbances operate through credit and distributional channels before affecting aggregate growth outcomes. These dynamics are consistent with the New Keynesian transmission mechanism, where monetary disturbances affect real activity through interest rate and credit channels. Credit access and private sector credit shocks display clear propagation effects, reflecting the operation of financial accelerator mechanisms that amplify monetary impulses through balance sheet and borrowing constraints.

The responses of income inequality further reveal that monetary disturbances transmit through distributional channels before influencing output. Over time, these distributional adjustments shape growth dynamics, supporting the view that monetary policy affects long run economic performance through inequality mediated mechanisms.

4.3 Structural Forecast Error Variance Decomposition (SVAR)

In Table 5, Structural monetary shocks increasingly explained income inequality variance, with broad money contributing 14.3% to 39.5% over time, while effects on GDP remained modest (0–0.7%). Lending-rate and credit-access shocks progressively influenced inequality dynamics, highlighting financial accelerator and distributional transmission channels shaping Nigeria's growth–inequality nexus.

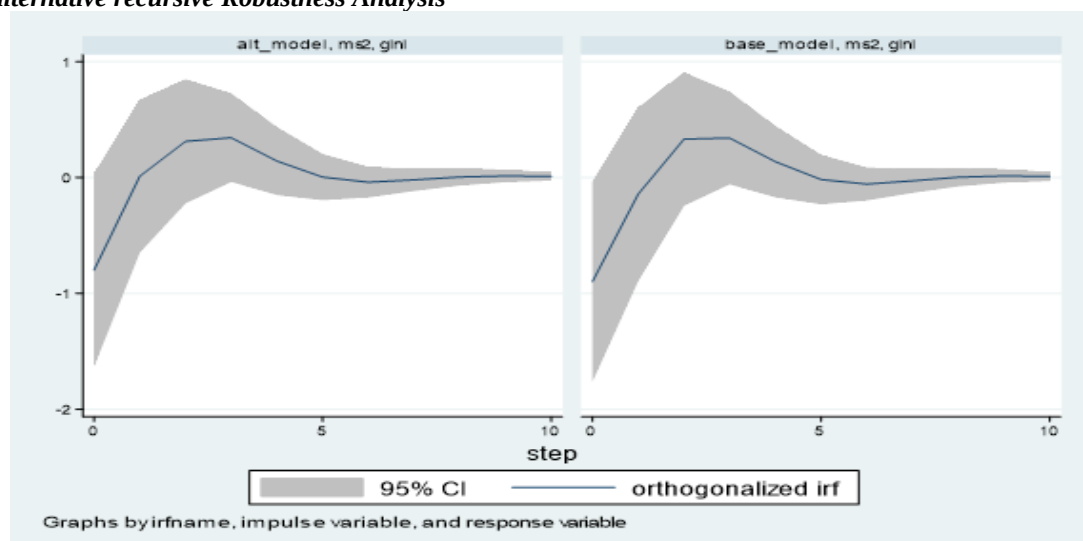
The alternative recursive Robustness Analysis

Figure 5: Impulse variables, and response variable

4.4 Structural Break and Robustness Analysis

The joint Wald statistic ($\chi^2(18) = 87.76$, $p = 0.000$) in Table 6, provides strong evidence of structural instability across the 2008, 2016, and 2020 crisis periods. The 2016 recession dummy significantly reduced GDP (-4.675 , $p = 0.034$), while the 2008 crisis exerted a significant contractionary effect on money supply (-19.430 , $p = 0.042$) and lending rates (-5.436 , $p = 0.001$). These coefficients suggest that monetary transmission intensified during crisis episodes, amplifying financial constraints and altering inequality and growth dynamics.

In Figure 5, the alternative recursive specification yields impulse responses that preserve the sign, peak timing, persistence, and convergence properties of the baseline model. The similarity across orderings indicates that the identified monetary shocks and their distributional effects are not sensitive to contemporaneous identification assumptions. Hence, the structural conclusions are robust to ordering choice.

5. Discussion of Findings

The Structural VAR results show that monetary policy shocks in Nigeria exert statistically significant but moderate effects on both income inequality and economic growth. Impulse responses indicate that shocks to broad money growth and lending rates transmit through credit access and private sector credit before affecting output and distribution. These findings confirm that monetary policy operates primarily through financial channels rather than solely through aggregate demand.

Forecast error variance decomposition underscores the role of monetary and credit shocks in explaining inequality fluctuations relative to output. The results are consistent with the New Keynesian transmission framework, which emphasises heterogeneous responses through interest rate and credit channels. In Nigeria's

financially constrained setting, credit frictions amplify initial shocks, in line with Financial Accelerator theory. The persistence of inequality responses indicates that distributional channels shape growth dynamics, consistent with Endogenous Growth theory. Overall, the SVAR evidence shows that monetary disturbances affect growth indirectly through financial and inequality channels, implying that policy is not distribution neutral in emerging markets.

The findings suggest that monetary authorities in Nigeria should incorporate distributional and financial stability considerations into policy design. Contractionary shocks may disproportionately restrict credit access and intensify inequality, thereby weakening long run growth. Complementary macroprudential measures, financial inclusion initiatives, and targeted credit programmes are therefore necessary to mitigate amplification effects. A coordinated monetary and financial framework would enhance policy effectiveness while reducing inequality induced growth constraints.

6. Conclusion and Policy Recommendations

This study examined the dynamic effects of monetary policy shocks on income inequality and economic growth in Nigeria using a Structural VAR framework. The findings indicate that monetary disturbances transmit through financial channels, particularly credit access and lending conditions, before influencing growth and distributional outcomes. The results support New Keynesian transmission mechanisms and highlight the amplifying role of financial frictions in emerging markets. Policy authorities should therefore complement conventional monetary actions with measures that expand credit access and strengthen financial inclusion to mitigate inequality-induced growth constraints. Future research could incorporate micro-level data to explore heterogeneous transmission and nonlinear effects.

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The data used in this study were sourced from the Central Bank of Nigeria Statistical Bulletin and the World Bank's World Development Indicators. All data are publicly accessible through the respective institutional databases.

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