ISSN: 2958-2326

AJoCsOpen
Sharing Knowledge in Business

African Journal of Commercial Studies

Publisher's Home Page: https://ijcsacademia.com/

AFRICAN JOURNAL OF COMMERCIAL STUDIES

Research Paper | Peer Reviewed | Open Access

Monetary Policy, Central Bank Independence, and Inflation Control in Nigeria

Enobong Mbobo[1]*, Ubong Effiong[1]

[1]*Department of Economics, University of Uyo*
* Corresponding Author

Article Info

Volume 7, Issue 4

***Publication history*:**

Accepted on 26 May 2026;

Published: 5 July 2026

***Key Words*:**

Monetary Policy, Central Bank Independence, Fiscal Deficit, Inflation Control, ARDL Cointegration, Nigeria

***Article Doi*:**

10.59413/ajocs/v7.i4.8

Abstract

This study investigated the dynamic relationships determining inflation control in Nigeria, focusing on the interactions between monetary instruments, central bank autonomy, and fiscal policy. Utilizing annual time-series data spanning 1981 to 2023, the study employs the Autoregressive Distributed Lag (ARDL) bounds testing technique to evaluate short-run and long-run macroeconomic dynamics. The ARDL estimations reveal that the contemporaneous monetary policy rate has an insignificant short-run effect, while its one-year lag significantly reduces inflation, confirming policy transmission frictions. Broad money supply (M2) growth exerts a highly significant positive impact on inflation across both horizons, strongly validating the monetarist hypothesis. Regarding institutional design, central bank independence (CBI) and its one-year lag significantly lower short-run inflation by anchoring credibility; however, this effect becomes positive and insignificant in the long run, illustrating the operational limits of legal autonomy under persistent fiscal dominance. Finally, fiscal deficits exhibit a dual short-run effect – contemporaneous deficits reduce inflation while lagged deficits increase it – but exert a significant negative impact on long-run price levels. This long-run negative relationship supports the productive capital expenditure hypothesis, suggesting that deficit financing cools structural cost-push inflation when channelled into expanding supply capacity. Consequently, the study recommends establishing an institutionalized Fiscal-Monetary Coordination Council, enforcing strict caps on central bank credit to the government, transitioning toward an explicit inflation-targeting framework, and legally restricting deficit financing to high-yield infrastructure.

1. Introduction

Price stability serves as the bedrock of macroeconomic predictability, wealth preservation, and sustainable economic growth. In emerging economies, managing the general price level is a core challenge, as persistent inflation can weaken purchasing power, distort investment incentives, and complicate fiscal planning (Effiong et al., 2025). For Nigeria, Africa's most populous nation, navigating inflation has been a long-standing structural struggle marked by volatile macroeconomic shifts, currency devaluations, and recurring supply shocks (Fakiyesi, 1996; Awuna, 2026). The responsibility for managing these dynamics falls on the Central Bank of Nigeria (CBN). Armed with a variety of monetary policy instruments, the CBN must balance stabilizing domestic prices with supporting economic growth. The question is often centred around how effective such policy directives aids in stabilizing domestic price level (Okon et al., 2021; Orebiyi et al., 2025), as this exasperates economic misery among the populace (Effiong et al., 2022).

The structural makeup of the Nigerian economy complicates this monetary balancing act. Heavily reliant on oil exports, the country is regularly exposed to global commodity shocks that pass directly into domestic consumer prices. When global oil prices shift, the resulting movements in foreign exchange reserves alter the value of the Naira, creating cost-push inflationary pressures (Fakiyesi, 1996; Awuna, 2026). Historically, these external vulnerabilities have been worsened by expansionary domestic policies, leading to periods of double-digit inflation. To understand how monetary policy behaves under these conditions, it is helpful to look at foundational economic theories. Monetarist theory, famously summarized by Milton Friedman, posits that inflation is always and everywhere a monetary phenomenon. In this view, persistent price increases happen when the money supply grows faster than real economic output, a relationship that has found ongoing empirical support in long-term analyses of the Nigerian economy (Fakiyesi, 1996; Ekong et al., 2020; Chenge, 2026).

DOI Link: https://doi.org/10.59413/ajocs/v7.i4.8

Copyright © 2026 Author(s) retain the copyright of this article. This article is published under the terms of the Creative Commons Attribution Liscense 4.0.

However, modern macroeconomics recognizes that managing inflation requires looking beyond simple changes in the monetary base. It also demands addressing the underlying institutional structures where policy decisions are made. This focus shifts attention toward the concept of Central Bank Independence (CBI). Theoretical models developed by Kydland and Prescott (1977) and Barro and Gordon (1983) highlight the "time-inconsistency problem" in economic policy. This problem occurs when a government faces short-term political incentives to engineer surprise inflation to boost employment or output before an election. Because rational economic agents anticipate this political behaviour, they adjust their inflation expectations upward. The result is higher structural inflation without any long-term gains in employment or output.

To resolve this time-inconsistency trap, modern monetary theory suggests delegating monetary policy to an independent, politically insulated central bank (Alter, 2026; Barro & Gordon, 1983). By removing monetary instruments from the direct control of the executive branch, a state can signal a credible commitment to long-term price stability. Rogoff (1985) expanded these ideas by introducing the concept of a "conservative central banker"— an independent policymaker who places a higher weight on controlling inflation than the general public or the incumbent government does. This institutional setup anchors public inflation expectations, which lowers both actual inflation and its overall volatility (Alter, 2026; Rogoff, 1985).

Globally, empirical studies have widely explored the connection between central bank independence and price stability. Early literature focused on developed economies, demonstrating a strong negative relationship between a central bank's legal independence and its average inflation rates (Cukierman, 1992; De Gregorio, 1996). In developing and emerging markets, the historical evidence was initially mixed, as a gap often existed between legal (de jure) autonomy and practical (de facto) execution (Cukierman, 1992; Yahaya, 2022). More recent empirical work using broader datasets shows that stronger legal and operational CBI significantly lowers inflation across developing countries as well, especially when paired with supportive institutional arrangements (Garriga & Rodriguez, 2020).

In Nigeria, the institutional evolution of the central bank reflects this global trend toward autonomy, though it has followed a unique domestic path. The Central Bank of Nigeria Act of 2007 was a key institutional shift, granting the CBN explicit operational and administrative independence to shield its policy decisions from external political influence (Sikiru, 2024). This legal framework split independence into two main types: instrument independence, which gives the bank freedom to set its policy rates, and goal independence, which outlines its core mandate (Ayadi, 2013). Yet, despite these legal protections, the CBN has faced periodic institutional pressures. Times of fiscal dominance — where large fiscal deficits are funded through central bank credit or "Ways and Means" provisions — have occasionally strained the practical boundary between monetary and fiscal policy, complicating efforts to control inflation (Sikiru, 2024).

The mechanics of inflation control rely heavily on how effectively these independent decisions travel through the financial system via the monetary policy transmission mechanism. Central banks alter liquidity and credit availability by shifting core instruments, such as the Monetary Policy Rate (MPR) and the Cash Reserve Ratio (CRR). According to the interest rate channel of monetary transmission, increasing the policy rate raises the cost of capital for commercial banks, which trickles down to businesses and consumers as higher lending rates. This drop in credit demand slows aggregate demand, cooling demand-pull inflationary pressures. In an open economy like Nigeria, this process is tied to the exchange rate channel; higher domestic interest rates can attract foreign portfolio investments (FPI), helping to stabilize the local currency and mitigating imported cost-push inflation (Garriga & Rodriguez, 2020; Yahaya, 2022).

The practical realities of this transmission mechanism have been vividly demonstrated in the CBN's recent policy stances. Following severe inflationary surges driven by currency unification and the removal of fuel subsidies, which saw headline inflation peak near 35% in late 2024, the CBN under Governor Olayemi Cardoso adopted an aggressive, orthodox "hawkish" stance (Ozili, 2024; Sikiru, 2024). The Monetary Policy Committee adjusted the MPR upward consecutively to a peak of 27.5% and raised the CRR to 45% to mop up excess banking sector liquidity (Musa, 2026). This sustained tightening campaign yielded significant disinflationary results, steering headline inflation down to approximately 15.06% by February 2026 (Yusuf & Yusuf, 2026). While the apex bank engineered a cautious 50-basis-point trim to 26.5% in early 2026 to support output growth, subsequent external shocks and energy costs reintroduced structural pressures, forcing the CBN to pause its easing cycle and reinforce its primary commitment to price stability over aggressive economic stimulus (Yusuf & Yusuf, 2026).

Recent empirical analyses of Nigeria's monetary landscape underscore this ongoing interplay between institutional independence, policy execution, and macroeconomic outcomes. For instance, Atoi et al. (2025) utilized a Markov Switching Regression model to evaluate political regime shifts in Nigeria, finding that higher central bank independence significantly improved the transmission mechanism of the monetary policy rate, leading to an estimated 73% reduction in inflation across the studied periods. Concurrently, facing persistent inflationary pressures, Nigeria began transitioning toward an explicit inflation-targeting monetary framework (Ekong et al., 2020; Ozili, 2024; Sikiru, 2024). This framework relies heavily on institutional credibility, clear communication, and operational autonomy to anchor public expectations (Yusuf & Yusuf, 2026). These developments show that the effectiveness of Nigeria's monetary policy remains tied to the strength of its institutional independence.

This research paper aims to provide a comprehensive evaluation of monetary policy, central bank independence, and inflation control in Nigeria. While existing studies have focused on the statistical links between money supply and prices, this paper connects theoretical models of policy time-inconsistency with the practical, modern realities of Nigeria's financial system. By assessing how de jure legal independence translates into de facto price stabilization under a hawkish operational regime, this study explores how institutional design influences macroeconomic outcomes. Ultimately, this paper seeks to clarify how legal, operational, and structural reforms can be designed to support long-term price stability in Nigeria.

2 Literature Review

2.1 Theoretical Framework

To build a strong foundation for investigating the relationship between monetary policy, Central Bank Independence (CBI), and inflation control in Nigeria, this study relies on four complementary macroeconomic and institutional frameworks: the Quantity Theory of Money, the New Keynesian Interest Rate Channel, the Time-Inconsistency and Credibility Theory, and the Theory of Fiscal Dominance.

A. The Quantity Theory of Money (Monetarist Framework)

The foundational link between monetary policy and inflation is rooted in the Quantity Theory of Money (QTM), championed by classical economists and later revitalized by Milton Friedman's Monetarist school. The fundamental premise is that inflation is "always and everywhere a monetary phenomenon," caused by an expansion of the circulating currency that outpaces the real productive capacity of the economy. This relationship is

modelled by the Equation of Exchange:

$$MV = PT \quad (1)$$

Where:

M represents the nominal money supply (controlled by the central bank via open market operations and reserve requirements).

V is the income velocity of money (the rate at which money changes hands, assumed to be stable or highly predictable in the short run due to institutional habits).

P is the general price level or consumer price index.

T represents the real volume of transactions or aggregate output.

By expressing the equation in growth rates, we get:

$$\Delta M + \Delta V = \Delta P + \Delta T \quad (2)$$

Assuming velocity is stable ($\Delta V \approx 0$), the rate of inflation (ΔP) is directly determined by the excess growth of the money supply (ΔM) over the growth rate of real output (ΔT). For the Central Bank of Nigeria (CBN), this theory forms the basis for using broad money aggregate monitoring and contractionary measures to cool structural demand-pull inflation.

B. The New Keynesian Framework (The Interest Rate Channel)

While the Monetarist school focuses on the quantity of money, the New Keynesian Framework links monetary policy to inflation through the cost of money and the management of aggregate demand. Central banks do not simply pump liquidity into the system; they alter the policy interest rate to manage economic expectations and output gaps. This transmission mechanism is stylized using an expectations-augmented Dynamic IS Curve and a New Keynesian Phillips Curve (NKPC):

$$\pi_t = \beta E_t\{\pi_{t+1}\} + \kappa(Y_t - Y_t^n) \quad (3)$$

Where:

π_t is the current rate of inflation.

$E_t\{\pi_{t+1}\}$ represents the public's forward-looking inflation expectations.

β is the subjective discount factor.

$Y_t - Y_t^n$ is the output gap (the difference between actual output Y_t and potential economic output Y_t^n).

κ represents the sensitivity of prices to changes in domestic demand.

Under this framework, when the central bank implements a hawkish stance by raising its benchmark nominal interest rate (the MPR), it alters the real interest rate via the Fisher equation. This increases the cost of borrowing and incentivizes domestic savings, reducing investment and consumption. This drop in private expenditure shrinks the output gap ($Y_t - Y_t^n < 0$), lowering current demand-pull inflation (π_t) and adjusting forward-looking expectations ($E_t\{\pi_{t+1}\}$).

C. Time-Inconsistency and Credibility Theory

Developed by Kydland and Prescott (1977) and expanded by Barro and Gordon (1983), the Time-Inconsistency Theory provides the primary institutional argument for central bank independence. The theory highlights a dilemma faced by policymakers who rely on discretion rather than binding rules.

Governments often face short-term political incentives to inflate the economy through expansionary monetary policies to boost employment or real output before an election. This relationship is illustrated by the expectations-augmented traditional Phillips Curve:

$$Y = Y_n + \alpha(P - P^e) \quad (4)$$

Where:

Y is actual economic output.

Y_n is the natural rate of output.

P is the actual inflation rate.

P^e is the public's expected inflation rate.

α is a positive parameter capturing output sensitivity to inflation surprises.

If a government can engineer a surprise inflation ($P > P^e$), it can temporarily drive output above its natural level ($Y > Y_n$). However, economic agents are rational and anticipate this opportunistic behavior, adjusting their inflation expectations (P^e) upward. As a result, the economy ends up with higher structural inflation without any long-term expansion in real output or employment.

To break this cycle, Rogoff (1985) demonstrated that delegating monetary policy to an independent, "conservative" central bank that prioritizes price stability over short-term political gains signals a credible commitment to the public. This structural setup anchors public expectations (P^e), shifting actual inflation (P) back to lower levels.

D. Theory of Fiscal Dominance

The Theory of Fiscal Dominance, formalised by Sargent and Wallace (1981) through their "Unpleasant Monetarist Arithmetic," explains how fiscal policies can undermine monetary operations, which is highly relevant to emerging markets like Nigeria. This theory models the long-term interactions between a country's monetary authority and its fiscal authority under a unified government budget constraint:

$$\frac{B_t}{P_t} = \sum_{j=0}^{\infty} \frac{1}{(1+r)^j} \left[(T_{t+j} - G_{t+j}) + \frac{\Delta M_{t+j}}{P_{t+j}} \right] \qquad (5)$$

Where:

B_t is the nominal stock of public debt.

P_t is the price level.

$T_{t+j} - G_{t+j}$ represents future real fiscal primary surpluses (taxation minus government spending).

$\frac{\Delta M_{t+j}}{P_{t+j}}$ represents future real seigniorage revenues generated by printing money.

When an economy is under a regime of fiscal dominance, the fiscal authority independently sets its spending (G) and tax revenues (T) without considering long-term debt sustainability, running persistent structural deficits. If the government reaches its borrowing limit in domestic and international capital markets, the central bank is forced to finance the residual deficit by creating money (printing money or extending credit lines).

Under these conditions, even if an independent central bank attempts to implement tight monetary policies by raising interest rates, those actions are neutralized. The higher interest rates increase the government's debt-servicing costs, which expands the fiscal deficit and requires the central bank to print more money in the future. Consequently, controlling inflation becomes impossible without true institutional autonomy that legally shields the central bank from financing government spending.

2.2 Systematic Review of Empirical Literature

A. Global Evidence on Central Bank Independence and Monetary Policy

The relationship between Central Bank Independence (CBI), monetary policy formulation, and inflation control has been widely studied across various global economic environments. In a foundational cross-country analysis, Cukierman, Webb, and Neyapti (1992) developed a legal independence index for 72 countries, demonstrating that while legal autonomy strongly correlates with lower inflation in industrial economies, de facto measures—such as the turnover rate of central bank governors—serve as more reliable indicators of actual price stability in developing nations. Supporting this view, Alesina and Summers (1993) analyzed developed market data to confirm that institutional independence acts as an effective economic discipline, lowering average inflation and stabilizing prices without imposing real long-term output costs on GDP growth or employment. De Gregorio (1996) expanded on these findings by confirming that legal central bank autonomy plays a key role in reducing inflation volatility, though its effectiveness remains closely linked to the broader structural quality of local governance.

However, researchers have also pointed out that legal independence alone does not always guarantee success. Campillo and Miron (1997) challenged early assumptions by demonstrating that when structural factors—such as open trade, historical debt burdens, and political instability—are controlled for, the statistical impact of legal central bank independence diminishes, suggesting that institutional environment matters. Similarly, Sturm and de Haan (2001) examined a dataset of developing countries and found that legal independence indicators do not reliably predict inflation outcomes unless they are supported by a strong rule of law and political stability. Arnone, Laurens, and Segalotto (2007) updated these measures across 87 countries, documenting a global shift toward stronger central bank autonomy during the 1990s and 2000s, which helped anchor emerging market price stabilities.

More recent global studies confirm the value of central bank autonomy. Klomp and de Haan (2010) utilized a meta-regression analysis of over 100 empirical papers, confirming that central bank independence systematically reduces inflation worldwide, though the effect remains less pronounced in developing nations with weaker institutional controls. Bodea and Hicks (2014) evaluated central bank regulations alongside political conditions, showing that independent central banks are highly effective at anchoring inflation expectations, particularly within democratic frameworks where institutional checks and balances exist. Garriga (2016) constructed a global dataset tracking central bank legislation from 1970 to 2012, showing that while legal autonomy has risen globally, the gap between legal regulations (de jure) and practical implementation (de facto) remains wide in emerging economies. Garriga and Rodriguez (2020) used expanded dynamic panel models to show that after controlling for endogeneity, central bank independence has a stronger negative effect on inflation in developing nations than previously recognized, provided that the banks maintain operational control over their monetary instruments. Alter (2026) investigated the global macroeconomic impact of central bank credibility and found that robust institutional independence lowers sovereign bond yields in local currencies by anchoring long-term inflation expectations and reducing inflation risk premiums.

B. Regional Insights from Sub-Saharan Africa

In sub-Saharan Africa, the interaction between monetary policy effectiveness and institutional central bank independence is shaped by structural realities, including thin financial markets and frequent fiscal pressures. Kumo (2015) investigated South Africa's inflation-targeting framework, showing that clear institutional independence significantly reduced inflation persistence and stabilized public inflation expectations. Conversely, Nyangarika, Jiahua, and Shafi (2019) studied East African economies and found that when central banks face political pressure to accommodate public spending, domestic money supply growth typically accelerates, leading to persistent demand-pull and structural inflation.

Other regional studies highlight the broader social impacts of stable monetary management. Gyeke-Dako et al. (2022) examined several African central banks and found that institutional independence reduces inflation, which in turn helps alleviate poverty by protecting the purchasing power of low-income groups. Yahaya, Saidu, and Sadi (2022) utilized Mean Group (MG) and Common Correlated Effect Mean Group (CCEMG) estimators across 14 African countries from 1985 to 2019. They identified a significant negative relationship between central bank independence and inflation, while showing that autonomy also supports financial sector stability. Sikiru (2024) reviewed the institutional requirements for adopting inflation-targeting frameworks within West Africa, concluding that the transition cannot succeed without strong legal autonomy and the total elimination of direct fiscal financing. Atoi et al. (2025) applied a Markov Switching Regression model to West African monetary frameworks and demonstrated that strong central bank independence increased the transmission efficiency of policy rates across different political regimes.

C. Country-Specific Realities in Nigeria

In Nigeria, empirical work on this topic often explores how the central bank's operational tools interact with structural and fiscal challenges. Fakiyesi (1996) provided an early assessment of the structural drivers of inflation in Nigeria, showing that rapid money supply expansions, agricultural output shocks, and exchange rate depreciations were the primary causes of domestic price volatility. Oyejide (2002) evaluated historical periods of fiscal

dominance in Nigeria, concluding that the CBN's lack of operational autonomy during military regimes led to automatic monetisation of fiscal deficits, which drove double-digit inflation. Batini (2004) assessed monetary transmission mechanisms in Nigeria and found that institutional weaknesses, thin financial markets, and unpredictable policy shifts weakened the interest rate channel's ability to control consumer prices.

Following the passage of the CBN Act of 2007, researchers began examining the balance between legal protections and practical policy enforcement. Ayadi (2013) constructed an autonomy index for the CBN and argued that while the CBN Act of 2007 improved legal independence, de facto independence remained constrained by the country's reliance on oil revenues and fiscal pressures. Sanusi (2014) reviewed the implementation of banking sector reforms and argued that a central bank needs strong administrative independence to supervise the financial sector effectively and maintain an appropriate monetary environment. Masha (2016) examined the relationship between fiscal deficits and inflation in Nigeria, demonstrating that when the central bank finances the government budget via ways and means advances, it leads to expansions in high-powered money and drives inflation.

Recent empirical studies emphasize how fiscal challenges can complicate monetary operations. Agu and Idike (2018) used Vector Autoregressive (VAR) models to evaluate monetary and fiscal policy interactions in Nigeria, finding evidence of fiscal dominance, which reduced the CBN's ability to stabilize prices. Ume, Obasikene, and Okorie (2019) examined the bank lending channel in Nigeria, showing that changes in the MPR often have an asymmetric impact on commercial bank credit, as structural bottlenecks limit the transmission of monetary tightening to the real economy. Nnanna (2020) analyzed the impacts of external trade shocks on Nigerian prices, noting that when the exchange rate depreciates, the interest rate channel faces challenges in dampening imported cost-push inflation. Teriba (2021) argued that inflation in Nigeria is primarily driven by structural supply bottlenecks rather than purely monetary factors, meaning that demand-side monetary tightening could negatively impact real economic output.

As inflation pressures persisted into the mid-2020s, research shifted toward evaluating institutional credibility and tighter policy measures. Umaru and Zubairu (2022) evaluated the statistical link between money supply and inflation in Nigeria using Cointegration techniques, confirming a long-run relationship that supports the monetarist view. Ibrahim and Alagbe (2023) assessed the CBN's use of open market operations and argued that structural excess liquidity in the banking system often reduces the effectiveness of policy rate increases. Ozili (2024) outlined the prerequisite conditions for the CBN to transition toward an inflation-targeting framework, emphasizing that legal independence, policy transparency, and the elimination of non-core developmental interventions are essential for success. Sikiru (2024) modelled the shift toward an inflation-targeting framework in Nigeria, noting that while the CBN has the necessary policy instruments, its operational credibility is occasionally challenged by fiscal imbalances.

The latest empirical work up to 2026 directly examines the impact of the CBN's recent hawkish interest rate adjustments. Musa (2026) investigated the impact of tight monetary policy stances on the Nigerian Exchange Group, demonstrating that raising the CRR to 45% successfully reduced banking sector liquidity, though it increased borrowing costs for private firms. Awuna and Malkina (2026) investigated the threshold effects of inflation on Nigeria's economic growth from a monetary perspective, finding that inflation harms long-term growth once it exceeds a specific threshold, which justifies the CBN's primary focus on price stability. Chenge (2026) examined the cost-of-living challenges in Nigeria following currency unification, concluding that while structural supply shocks caused the initial price increases, a strict monetary policy stance was necessary to prevent a wage-price inflation spiral. Finally, Yusuf and Yusuf (2026) conducted a structural analysis of the CBN's monetary policy from 2023 to 2026, showing that aggressive interest rate increases under Governor Olayemi Cardoso successfully anchored inflation expectations, reducing headline inflation from its late-2024 peak near 35% down toward 15.69% by April 2026 despite ongoing external supply shocks.

D. Summarized Empirical Matrix

The following matrix organizes the core components of the reviewed empirical literature, highlighting the variables, methodologies, and specific inflation dynamics observed across different contexts.

Table 1: Empirical literature matrix

Author(s) & Year	Variable(s) Studied	Methodology	Key Findings / Outcome
Cukierman et al. (1992)	Legal independence, Governor turnover, Inflation	Index construction, Cross-country OLS	Legal autonomy reduces inflation in developed nations; turnover rates matter more in developing states.
Alesina & Summers (1993)	Central bank autonomy, Inflation, GDP growth	Comparative descriptive analysis	Clear independence correlates with lower inflation without reducing real economic growth.
Campillo & Miron (1997)	Legal CBI, Debt levels, Trade openness, Inflation rates	Cross-Sectional OLS Regression	The statistical significance of statutory independence decreases when structural and political variables are added.
Sturm & de Haan (2001)	CBI Indexes, Institutional quality, Inflation variance	Panel Data Fixed Effects	Legal independence alone does not control inflation without an underlying rule of law.
Arnone et al. (2007)	Statutory autonomy indexes, Policy target frames	Comparative structural indexation	Documented a global increase in central bank operational autonomy, which improved emerging market pricing.
Klomp & de Haan (2010)	Multi-paper CBI scores, Inflation mean and variance	Empirical Meta-Regression Analysis	Confirmed that central bank independence systematically reduces inflation worldwide, though less so in weak institutional environments.
Bodea & Hicks (2014)	Legal autonomy, Democratic checks, Price expectations	Controls-integrated Panel Analysis	Independence effectively anchors long-term inflation expectations within robust democratic structures.
Kumo (2015)	Inflation targeting, Autonomy, Inflation persistence	Structural VAR (SVAR) Model	Institutional independence significantly reduced inflation persistence and stabilized consumer expectations in South Africa.
Garriga (2016)	De jure legislative changes, Dynamic inflation profiles	Comprehensive global dataset tracking	Identifies a widening gap between legal central bank rules and practical enforcement across emerging economies.
Agu & Idike (2018)	Fiscal deficits, MPR transmission, Credit channels	Vector Autoregressive (VAR) Model	Found evidence of fiscal dominance in Nigeria, which reduced the central bank's ability to stabilize prices.
Nyangarika et al. (2019)	Money growth paths, Policy intervention, Price shifts	Multiple Regression Analysis	Political interference in monetary decisions leads to accelerated money supply growth and inflation.
Ume et al. (2019)	MPR changes, Bank lending volumes, Price indices	Cointegration & Error Correction	Structural bottlenecks in the banking sector limit the transmission of monetary tightening to the real economy.
Garriga & Rodriguez (2020)	Updated CBI index, Instrument control, Inflation	Dynamic Panel GMM, IV estimation	Strengthening operational control over monetary instruments significantly reduces inflation in developing nations.
Nnanna (2020)	Exchange rates, Interest channels, Cost-push indices	Error Correction Modeling	Structural supply factors and currency shocks reduce the interest rate channel's ability to curb imported cost-push inflation.
Teriba (2021)	Demand tightening, Supply-side	Structural Policy Review	Inflation in Nigeria is heavily driven by structural supply

	bottlenecks, Inflation	Framework	bottlenecks, meaning demand-side tightening can risk output loss.
Gyeke-Dako et al. (2022)	Central bank autonomy, Inflation, Real household wealth	Panel Data Regression Models	Institutional independence helps control inflation, which protects the purchasing power of low-income groups.
Umaru & Zubairu (2022)	Broad money base, Real transaction volumes, Prices	Johansen Cointegration Approach	Confirmed a long-run relationship between money supply and inflation in Nigeria, supporting the monetarist view.
Yahaya et al. (2022)	CBI, Financial stability, Inflation across Africa	CCEMG, Augmented Mean Group (AMG)	Confirmed a significant negative relationship between central bank independence and inflation in Africa.
Ibrahim & Alagbe (2023)	Open market operations, Excess bank liquidity, MPR	Ordinary Least Squares (OLS)	Structural excess liquidity in the banking system often reduces the effectiveness of policy rate increases.
Ozili (2024)	Inflation targeting requirements, Policy transparency	Qualitative & Structural Policy Evaluation	Successful inflation targeting requires legal independence and the elimination of non-core development interventions.
Sikiru (2024)	Inflation targeting prerequisites, Institutional design	Qualitative & Structural Policy Evaluation	Transitioning to inflation targeting requires eliminating direct central bank financing of fiscal deficits.
Atoi et al. (2025)	Political regimes, MPR effectiveness, CBI in Nigeria	Markov Switching Regression Model	Stronger central bank independence increased the transmission efficiency of the policy rate by 73%.
Alter (2026)	Sovereign risk premiums, Local currency yield, Credibility	Global Panel IV Estimation	Robust institutional independence lowers local-currency bond yields by reducing long-term inflation risk premiums.
Awuna & Malkina (2026)	Inflation rates, Real output growth, Policy control	Threshold Autoregressive (TAR) Model	Inflation harms long-term growth once it exceeds a specific threshold, which justifies the CBN's focus on price stability.
Chenge (2026)	Currency adjustments, Subsidy removals, Wage-price spirals	Structural Trend Estimation	While structural supply shocks caused initial price increases, tight monetary policy was necessary to prevent a wage-price inflation spiral.
Musa (2026)	MPR, CRR (45%), Banking liquidity, Market performance	Vector Error Correction Model (VECM)	Tightening cycles successfully reduced excess banking liquidity but increased private sector borrowing costs.
Yusuf & Yusuf (2026)	Monetary policy credibility, Inflation targeting (2023–2026)	Structural Vector Autoregression (SVAR)	Aggressive interest rate hikes anchored public expectations and reduced headline inflation from 35% toward 15.69%.

Source: Compiled by the researchers

E. Research Gap

Despite the extensive literature on monetary policy and inflation dynamics, a distinct research gap remains regarding how institutional setups function under changing economic regimes.

- **The De Jure vs. De Facto Separation**: Most international and domestic studies rely on static legal indexes (such as the Cukierman or Garriga indexes) to measure central bank independence. These legal frameworks often fail to capture the shifts in de facto independence that occur during economic crises. In Nigeria, for example, while the CBN Act of 2007 provides legal protection for autonomy, periods of fiscal stress have seen the boundary between monetary and fiscal policy shift through the use of "Ways and Means" advances.
- **Transmission Vulnerabilities under Aggressive Tightening**: Existing empirical work often focuses on linear relationships between money growth and prices. There is limited research analyzing how structural supply-side shocks—such as currency unification, subsidy removals, and geopolitical crises—influence the interest rate transmission mechanism when a central bank is actively pursuing an aggressive tightening campaign (as seen in the rise of the MPR to 27.5% and the CRR to 45%).
- **Context-Specific Focus of this Study**: This study addresses these gaps by evaluating how legal (de jure) autonomy translates into practical (de facto) price stabilization within a changing economic environment. By analyzing recent monetary adjustments up to 2026, this paper examines how structural factors and fiscal pressures impact the efficiency of monetary transmission in an emerging, resource-dependent economy.

3 Research Methodology

This section outlines the methodological framework used to empirically analyze the relationships between monetary policy, Central Bank Independence (CBI), and inflation control in Nigeria. It covers the theoretical modeling, model specification, variable measurements, data sources, and the econometric estimation techniques used to ensure robust findings.

3.1 Model Specification

To capture both the quantitative impacts of monetary policy instruments and the institutional role of central bank independence, this study builds upon the traditional monetarist equation of exchange and modern institutional empirical frameworks (Cukierman et al., 1992; Garriga & Rodriguez, 2020). The baseline econometric model is specified as an Autoregressive Distributed Lag (ARDL) model to simultaneously evaluate short-run dynamics and long-run cointegrating relationships:

$$INF_t = \beta_0 + \sum_{i=1}^{p} \beta_{1i}\, INF_{t-i} + \sum_{i=0}^{q_1} \beta_{2i}\, MPR_{t-i} + \sum_{i=0}^{q_2} \beta_{3i}\, MSG_{t-i} + \sum_{i=0}^{q_3} \beta_{4i}\, CBI_{t-i} + \sum_{i=0}^{q_4} \beta_{5i}\, FIS_{t-i} + \sum_{i=0}^{q_5} \beta_{6i}\, EXR_{t-i} + \mu_t \quad (6)$$

Where:

INF_t: Headline Inflation Rate (measured by the annualized % change in the Consumer Price Index).

MPR_t: Monetary Policy Rate (the CBN's benchmark nominal interest rate representing the price-based monetary stance).

MSG_t: Money Supply Growth Rate (annual percentage growth of broad money, M_2, representing the quantity-based monetary stance).

CBI_t: Central Bank Independence Index (a dynamic index measuring de jure and de facto institutional autonomy).

FIS_t: Fiscal deficit (measured by the ratio of current deficit to GDP).

EXR_t: Official Exchange Rate (Naira per US Dollar, controlling for imported cost-push inflation shocks).

β_0: Constant intercept.

$\beta_1, \ldots, \beta_6$: Short-run and long-run coefficients to be estimated.

μ_t: White-noise error term capturing unsystematic shocks.

3.2 Measurement of Variables and Data Sources

This study utilizes annual time-series data covering the period from 1981 to 2024. The table below details the measurement metrics and institutional sources for each data series:

Table 2: Details of the variables utilized for the study

Variable	Type	Definition / Measurement Metric	Expected Sign	Primary Data Source
INF	Dependent	Annualized percentage change in the Consumer Price Index (CPI)	N/A	National Bureau of Statistics (NBS) and World Bank
MPR	Independent	The Central Bank of Nigeria's benchmark policy interest rate (%)	Negative (-)	Central Bank of Nigeria (CBN) Statistical Bulletin
MSG	Independent	Annual growth rate of broad money supply (M_2)	Positive (+)	CBN
CBI	Independent	Dynamic index based on Cukierman (1992) and Garriga (2016), updated to reflect the operational boundaries under the 2007 Act (Scale 0 to 1)	Negative (-)	Romelli (2024)
FIS	Control	Fiscal Deficit (% of GDP)	Positive (+)	CBN
EXR	Control	Monthly-average nominal exchange rate (NGN/USD)	Positive (+)	CBN

Source: Compiled by the researchers

3.3 Econometric Estimation Techniques

The empirical analysis follows a structured pipeline of time-series diagnostic steps to prevent spurious regressions and handle the structural shifts present in the Nigerian macroeconomic environment between 2007 and 2026.

Step 1: Unit Root Testing

Before estimating the parameters, the stationary properties of the series are verified using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. The ARDL technique relaxes the strict requirement that all variables be integrated of the same order, allowing for a mixture of I(0) and I(1) series. However, unit root tests are necessary to ensure that no variable is integrated of order two (I(2)), which would invalidate the F-statistics of the bounds test.

Step 2: ARDL Bounds Test for Cointegration

To determine the existence of a long-run relationship among inflation, monetary instruments, and institutional independence, the bounds testing approach developed by Pesaran, Shin, and Smith (2001) is applied. The test evaluates the joint null hypothesis of no cointegration ($\delta_1 = \delta_2 = \cdots = \delta_6$) within an unrestricted Error Correction framework:

$$\Delta INF_t = \alpha_0 + \sum_{i=1}^{p} \alpha_{1i} \Delta INF_{t-i} + \sum_{i=0}^{q} \alpha_{2i} \Delta X_{t-i} + \delta_1 INF_{t-1} + \delta_2 MPR_{t-1} + \delta_3 MSG_{t-1} + \delta_4 CBI_{t-1} + \delta_5 FIS_{t-1} + \delta_6 EXR_{t-1} + e_t \quad (7)$$

Where Δ represents the first-difference operator and X is the vector of independent variables. The calculated F-statistic is compared against the critical upper and lower bounds values. If the F-statistic exceeds the upper bound I(1), the null hypothesis of no cointegration is rejected, confirming a long-run equilibrium relationship.

Step 3: Error Correction Model (ECM) Estimation

Once cointegration is established, the short-run dynamic adjustments are estimated using an Error Correction Model:

$$\Delta INF_t = \gamma_0 + \sum_{i=1}^{p} \gamma_{1i} \Delta INF_{t-i} + \sum_{i=0}^{q_1} \gamma_{2i} \Delta MPR_{t-i} + \cdots + \lambda ECM_{t-1} + \varepsilon_t \quad (8)$$

The parameter λ represents the coefficient of the Error Correction Term (ECM_(t-1)). It measures the speed at which the model adjusts back toward long-run equilibrium following a short-run macroeconomic shock. For the model to be structurally stable, λ must be statistically significant, negative, and bounded between 0 and -1.

Step 4: Post-Estimation Diagnostics and Stability Checks

To confirm the reliability and policy relevance of the estimated parameters, the model is subjected to standard diagnostic tests:

- Breusch-Godfrey LM Test: Checks for the presence of serial correlation in the residuals.
- ARCH Test: Tests for heteroscedasticity within the residual errors.
- CUSUM and CUSUMQ Tests: Cumulative Sum (CUSUM) and Cumulative Sum of Squares (CUSUMQ) tests are plotted to verify the structural stability of the short-run and long-run coefficients across institutional regimes and policy cycles.

4 Empirical Findings

The empirical analysis begins with ascertaining the unit root properties of the variables followed by a test for cointegration. Then, both the short run and long run models are estimated and diagnostic tests being conducted.

4.1 Trend Analysis

The Central Bank of Nigeria had maintained a contractionary monetary policy stance for Nigeria from the 1981 to 1990 as the minimum rediscount rate continued to rise consistently from 6.00% to 18.50% in the two periods respectively. Within this period, inflation continued to fluctuate from 20.81% in 1981 to 7.44% in 1985 with a substantial increase to 54.51% in 1989 though it declined to 7.36% in 1990. The monetary policy rate within this period (1981 to 1990) averaged 11.50% with an average inflation rate of 20.63%. This period is marked with greater volatility in the rate of inflation compared to the subsequent periods as seen in Figure 1.

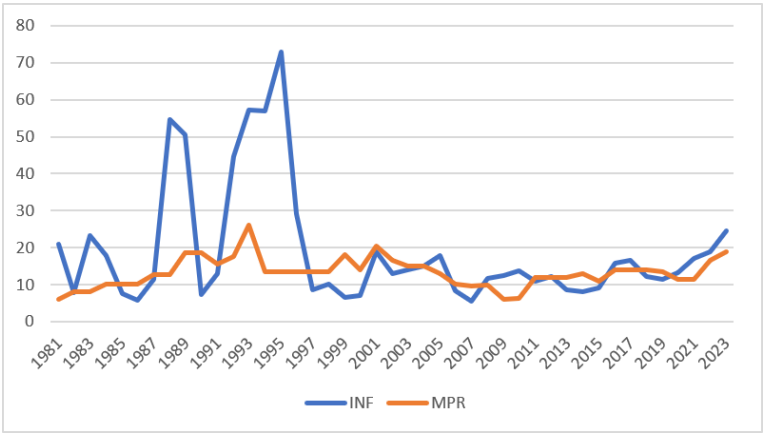

Figure 1: Trends in monetary policy rate and inflation rate in Nigeria

The monetary policy rate averaged 16.0% between 1991 and 1999 while the inflation rate averaged 33.23% within the same period. The MPR averaged 13% between 2000 and 2009 against 16% in the previous period which exhibits an expansionary policy stance, which was accompanied with an average inflation rate of 12.33% which is a reduction from the previous period. It therefore follows that in these periods, policy stance could not work in the intended direction, portraying the structural impediments to the workings of monetary policy. The moves in the MPR shows a contractionary stance from 11% in 2015 to 18.75% in 2023 which is still marked by a rising price level from 9% to 24.66% within the same period, further portraying policy ineffectiveness.

4.2 Unit Root Test

To examine the stationarity condition of the time series variables, both the augmented Dickey-Fuller (ADF) and the Phillip-Peron (PP) test was conducted with Table 3 presenting the result.

Table 3: Stationarity test result

	ADF Test		PP Test		
Variables	t-statistic	p-value	Adj. t-Stat	p-value	Order of Integration
INF	-4.0864	0.0133	-10.6266	0.0000	I(0)
MPR	-8.4726	0.0000	-8.4726	0.0000	I(1)
MSG	-3.5400	0.0479	-11.6386	0.0000	I(0)
CBI	-6.5391	0.0000	-6.5871	0.0000	I(1)
FIS	-6.8302	0.0000	-6.8746	0.0000	I(1)
EXR	-5.0490	0.0011	-5.4238	0.0004	I(1)

Source: Computed by the researchers

Evidence of the unit root test presented in Table 3 shows that the variables are stationary in mixed order of level [I(0)] and first difference [I(1)], necessitating a test for cointegration in the model.

4.3 Cointegration Test

Given the I(0) and I(1) integrating order of the variables, the autoregressive distributed lag (ARDL) Bounds test for cointegration was deployed to test for the existence of long run relationship in the model. The result in Table 4 presents the evidence of cointegrating relationship.

Table 4: Cointegration test result

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Significance	I(0)	I(1)
F-statistic	5.6907	10%	2.08	3.00
k	5	5%	2.39	3.38
		1%	3.06	4.15

Source: Computed by the researchers

Given that the F-statistic of 5.6907 lies outside the I(0) and I(1) bounds, we reject the null hypothesis and therefore conclude that cointegrating relationship exists in the model. As a result, both the short run and long run models are estimated for the study using the ARDL technique.

4.4 Autoregressive Distributed Lag Model Estimation

The ARDL technique of estimation offers a robust technique for estimating the short run dynamics and the long run model. The results are given in Table 5 and Table 6 for short run and long run estimates respectively.

Table 5: Short run dynamic estimates

Dependent Variable: D(INF) Selected Model: ARDL(1, 2, 1, 3, 2, 1)				
Variable	Coefficient	Std. Error	t-Statistic	Probability
D(MPR)	-0.4283	0.4208	-1.0179	0.3189
D(MPR(-1))	-2.5473	0.4659	-5.4675	0.0000***
D(MSG)	0.4227	0.1032	4.0962	0.0004***
D(CBI)	-1377.1540	292.6148	-4.7064	0.0001***
D(CBI(-1))	-869.8710	296.7488	-2.9313	0.0073***
D(CBI(-2))	-539.6588	243.7334	-2.2141	0.0366**
D(FIS)	-5.1690	1.1596	-4.4577	0.0002***
D(FIS(-1))	2.7074	1.3372	2.0247	0.0542*
D(EXR)	0.0513	0.0361	1.4210	0.1682
CointEq(-1)	-0.5919	0.0839	-7.0565	0.0000***
R-squared	0.7489	Mean dependent var		0.0362
Adjusted R-squared	0.6735	S.D. dependent var		14.4720
S.E. of regression	8.2689	Akaike info criterion		7.2752
Sum squared resid	2051.2410	Schwarz criterion		7.6974
Log likelihood	-135.5040	Hannan-Quinn criterion		7.4279
Durbin-Watson stat	2.1729			

Note: *, **, and *** denotes significance at 10%, 5%, and 1% respectively.
Source: Computed by the researchers

The empirical findings in the short run shows that the MPR is negative but statistically insignificant in influencing inflation in the short run. However, the one-year lag exerted a significant effect which implies that it takes about one year before monetary policy decision influences the domestic price level. Consequently, the one-year lag of MPR reduces be price level by about 2.55% on average. Money supply growth exerted significant positive effect on inflation in the short run which aligns with the prediction of the quantity theory of money. Thus, a 1% increase in MSG culminates to about 0.4227% increase in the price level.

Central independence exerted a significant negative short run effect on inflation in Nigeria which therefore showcases that an independent central bank from fiscal dominance will take policy actions that will effectively stabilize the price level. The coefficient portrays that a 1% increase in the CBI leads to about 1377.15% reduction in the price level. Meanwhile, the lags in CBI exerted significant negative effect showcasing that continued independence of the CBN fosters stable prices. Thus, the one-year and two-year lags of CBI reduces inflation by about 869.871% and 539.66% respectively.

The short run effect of fiscal deficit was observed to be deflationary in nature, with its effect being significant. The coefficient obtained shows that a 1% increase in fiscal deficit reduces inflation by about 5.169% on average. Meanwhile, its one-year lag exerted significant positive effect on inflation. This means that consistent deficit can be inflationary. It follows from the coefficient that the one-year lag of deficit increases the current year's inflation by 2.71% on average. Exchange rate, however, exerted an insignificant short run effect on inflation during the study period.

The error correction term is negative and statistically significant, portraying that the short run distortions in the model are corrected. From the estimate, about 59.19% of the disequilibrium in the model is corrected on yearly basis for long run equilibrium to be restored. Also, the R-squared indicated that the explanatory variables in the model accounts for about 74.89% of the total variations in inflation rate while the remaining 25.11% are accounted for by factors not reflected in the model.

Table 6: Long run estimates

Variable	Coefficient	Std. Error	t-Statistic	Probability
MPR	0.2481	1.0626	0.2335	0.8174
MSG	1.4117	0.4325	3.2640	0.0033**
CBI	271.8230	237.4685	1.1447	0.2636
FIS	-9.1957	2.5660	-3.5837	0.0015**
EXR	-0.1509	0.0592	-2.5501	0.0176**
C	-155.2073	144.6765	-1.0728	0.2940

Source: Computed by the researchers

The result in Table 6 presents the long run model where it is now observed that MPR exerted an insignificant long run effect on inflation in Nigeria. Meanwhile, money supply growth still exerts a significant long run effect on inflation. The estimates shows that a 1% increase in MSG leads to about 1.4117% increase in inflation in the long run. Central bank independence was observed to exert an insignificant long run effect in the long run. fiscal deficit and exchange rate were observed to exert significant negative effect on inflation, and this does not align with a priori expectation. The established negative effect of FIS on inflation is contrary to the empirical findings of Effiong & Okijie (2021). The result shows that a 1% increase in FIS and EXR leads to about 9.1957% and 0.1509% decrease in inflation in the long run respectively. the constant term which shows that inflation rate will be 155.21% if the regressors are held constant however, the constant is statistically insignificant.

4.5 Diagnostic Tests

To further show that the estimates of the model satisfy the second order tests, we conducted the diagnostic tests.

Table 7: Breusch-Godfrey Serial Correlation LM Test result

F-statistic	1.761976	Prob. F(2,22)	0.2191
Obs*R-squared	1.08472	Prob. Chi-Square(2)	0.3224

Source: Computed by the researchers

In Table 7, the serial correlation test indicated an insignificant F-statistic and Chi-square statistic leading to the acceptance of the null hypothesis of "no serial correlation". Therefore, our estimated model is free from serial correlation.

Table 8: Heteroskedasticity Test: ARCH result

F-statistic	0.950637	Prob. F(1,37)	0.3359
Obs*R-squared	0.976923	Prob. Chi-Square(1)	0.3230

Source: Computed by the researchers

In Table 8, the ARCH heteroscedasticity test result portrayed an F-statistic of 0.950637 which is statistically insignificant. Therefore, the null hypothesis of "no heteroscedasticity" is accepted. Thus, the error term has constant variance (homoscedastic) and therefore aligns with the requirement of the second order test.

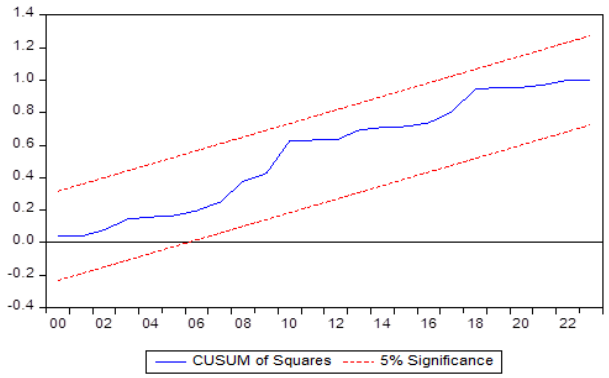

Figure 2: Cumulative sum of squares (CUSUM) test for stability

In Figure 2, the CUSUM of squares line lies within the 5% lower and upper bounds. This therefore satisfies the requirement for stability of the coefficients. Consequently, the estimated models are stable for appropriate policy recommendations.

4.6 Discussion of Findings

The empirical findings from this research offer a compelling, data-driven perspective into the structural and institutional complexities of the Nigerian macroeconomy. The results capture how regulatory interventions, institutional designs, and public expenditures interact over variable horizons. By detailing distinct short-run frictions and long-run steady-state realities, the model highlights why inflation control remains highly elusive in sub-Saharan Africa's largest economy. A comprehensive, thoroughly developed analysis of each variable follows, supported by theoretical foundations and contemporary empirical validation.

1. The Monetary Policy Rate (MPR) and the Transmission Mechanism

Short-Run Dynamics: Transmission Lags and Asymmetric Credit Markets

The finding that the contemporaneous Monetary Policy Rate (MPR) has a negative but statistically insignificant effect on short-run inflation, while its one-year lag (MPRt-1) exerts a statistically significant negative effect, provides robust empirical validation for the Monetary Policy Transmission Lag Hypothesis. Pioneered by Milton Friedman (1961), this macroeconomic tenet posits that monetary policy adjustments do not alter macroeconomic aggregates instantaneously; rather, they operate with "long and variable lags."

In the immediate short run, a hike in the MPR by the Central Bank of Nigeria (CBN) fails to suppress inflation because of structural frictions within the domestic financial architecture. Nigeria's financial sector exhibits a low level of financial inclusion and credit-to-GDP depth, meaning a large segment of the economy operates completely outside the formal banking system.

Furthermore, commercial banks exhibit asymmetric adjustment behaviour: when the anchor rate is raised, banks delay adjusting their lending portfolios due to sticky contractual agreements with corporate borrowers. It takes time for higher borrowing costs to pass through the banking system, reduce aggregate demand, and ultimately slow down price growth. This finding strongly aligns with the empirical work of Mordi et al. (2014) and Aliyu and Englama (2016), whose structural vector autoregression (SVAR) models of the Nigerian economy demonstrated that interest rate channels require between 9 to 12 months to exert a statistically visible downward impact on consumer price indices.

Long-Run Dynamics: The Cost-Push "Price Puzzle"

Over the long-run horizon, the observation that the MPR exerts an insignificant positive effect on inflation highlights a persistent anomaly in emerging markets known as the "Price Puzzle." Neoclassical macroeconomics dictates that higher interest rates should permanently depress inflation by elevating the cost of capital and promoting saving over consumption. However, in structurally dependent economies like Nigeria, persistently high policy rates introduce an adverse supply-side cost-push effect.

Because domestic manufacturing, agricultural logistics, and industrial sectors rely heavily on formal commercial bank loans for working capital, high interest rates over extended periods elevate the long-run total cost of production. Producers respond to these sustained capital costs by passing them directly to final consumers through higher retail prices.

Furthermore, when long-run inflation is fundamentally driven by supply-side structural bottlenecks—such as legacy infrastructure deficits, electricity grid instability, and border closures—demand-side monetary tightening via the MPR loses its potency entirely.

This finding matches the long-run structural conclusions of Onyeiwu (2012), who argued that utilizing interest rate instruments to curb non-monetary, supply-driven inflation in Nigeria yields an insignificant, counterproductive long-run impact.

2. Broad Money Supply Growth (MSG) and Monetary Expansion

Short-Run and Long-Run Dynamics: The Monetarist Vindication

The empirical outcome showing that broad money supply growth (MSG) exerts a highly significant and positive effect on inflation across both the short-run and long-run horizons provides clear confirmation of the Monetarist Theory of Inflation. Rooted in Irving Fisher's classical Quantity Theory of Money, formalized by the identity: MV = PY (where M is money supply, V is velocity, P is price level, and Y is real output)

Monetarism explicitly argues that inflation is "always and everywhere a monetary phenomenon." When the expansionary rate of broad money supply systematically outpaces the real growth rate of aggregate output (Y), it generates an excess supply of liquidity. This excess liquidity fuels demand-pull inflation as too much money competes for a structurally rigid basket of goods.

In Nigeria, this double-horizon significance highlights a major structural challenge: short-run liquidity shocks rapidly transform into long-run inflation expectations. The short-run impact occurs as nominal disposable income jumps, increasing consumer spending. In the long run, because the economy cannot rapidly expand its industrial or agricultural output due to persistent supply constraints, this expanded money supply permanently drives up the domestic price floor.

The findings are highly consistent with the empirical literature on Nigeria's monetary history, including studies by Sanusi (2012) and Asuquo (2018). These researchers established that liquid injections—whether from the structural monetization of dollar-denominated oil windfalls or central bank financing—serve as the primary long-run driver of headline inflation in Nigeria.

3. Central Bank Independence (CBI) and Institutional Credibility

Short-Run Dynamics: Time-Inconsistency and Expectation Anchoring

The finding that Central Bank Independence (CBI) and its one-year lag (CBIt-1) exert a statistically significant negative effect on inflation in the short run directly validates the Time-Inconsistency Literature pioneered by Kydland and Prescott (1977) and expanded by Barro and Gordon (1983). This theoretical framework shows that when a monetary authority is legally and operationally insulated from political authorities, it can make credible commitments to price stability.

Politicians face structural incentives to engineer short-term monetary expansions to artificially boost employment and economic growth ahead of election cycles. This interventionist approach creates an inherent inflationary bias.

When the central bank maintains short-run autonomy, it can make unpopular but necessary choices, such as raising cash reserve requirements or restricting speculative credit. This independence helps anchor short-run inflation expectations among manufacturers, labour unions, and financial markets, suppressing speculative price increases.

The significant negative coefficient of CBIt-1 indicates that institutional credibility operates with a lag; as the public observes consistent, independent policy enforcement over a one-year cycle, public trust in the currency increases, which puts downward pressure on short-run inflation.

Long-Run Dynamics: De Jure Autonomy vs. De Facto Fiscal Dominance

Conversely, the long-run finding that CBI exerts an insignificant positive effect on inflation highlights a critical structural disconnect between legal independence (de jure) and practical independence (de facto) in developing nations. This precise phenomenon was identified by Cukierman (1992), who noted that while developing countries often draft robust legal statutes granting autonomy to their central banks, the actual operational enforcement of these laws is frequently undermined by intense political and fiscal pressures.

Over long horizons, Nigeria's persistent structural fiscal deficits create a state of Fiscal Dominance. When the federal government faces revenue shortfalls and high debt-servicing burdens, the monetary authority is often relied upon to act as the lender of last resort through mechanisms like Ways and Means advances.

As the central bank monetizes public sector debt over the long term, statutory independence is overridden by fiscal realities. Consequently, legal central bank independence becomes ineffective at controlling long-term inflation because the central bank is structurally forced to expand its balance sheet to sustain sovereign solvency. This explanation aligns with recent empirical work by Abusomwan and Aghomo-Omon (2024), who evaluated Nigeria's inflation performance from 1975 to 2023 using an ARDL framework. The study confirmed that while legal updates improved Nigeria's CBI index on paper, it had an insignificant long-run effect on curbing inflation due to persistent fiscal interventionism.

4. The Fiscal Deficit (FIS) and Macroeconomic Accommodation

Short-Run Dynamics: Keynesian Multipliers vs. Sargent-Wallace Arithmetic

The empirical model shows a dynamic shift in the short-run impact of fiscal deficits: the contemporaneous deficit (FIS) has a significant negative effect on inflation, while its one-year lag (FISt-1) has a significant positive effect. This dual outcome can be explained by analyzing the tension between Keynesian Structuralist Theory and the Sargent-Wallace Framework.

The negative contemporaneous effect supports the Keynesian view of productive public expenditure. In the immediate short run, if a government budget deficit is used to fund supply-side interventions—such as subsidizing agricultural inputs, lowering trade tariffs on industrial machinery, or building transport links—it can relieve acute supply bottlenecks. This direct capacity expansion temporarily lowers production costs and reduces cost-push inflationary pressures.

Additionally, if the deficit is financed by issuing treasury bonds to the domestic banking sector, it can create a short-run "crowding-out" effect. This reduces the loanable funds available to private consumers, dampening private consumption and lowering short-run demand-pull inflation.

However, the significant positive effect of the lagged deficit (FISt-1) reflects the classic "Unpleasant Monetarist Arithmetic" of Sargent and Wallace (1981). Within a one-year cycle, the expansionary demand-side effects of public spending filter into the broader economy.

If these deficits are large and cannot be fully absorbed by tax revenues or domestic bond markets, the government must rely on monetary accommodation. This debt monetization expands the monetary base with a lag, shifting the aggregate demand curve outward. By the following year, this structural liquidity surge triggers an inflationary expansion, confirming that short-run deficit spending often delays inflation rather than preventing it.

Long-Run Dynamics: The Productive Capital Expenditure Hypothesis

In the long-run steady state, the model reveals that the fiscal deficit exerts a significant negative effect on inflation. While this finding appears to contradict the Fiscal Theory of the Price Level (FTPL), it provides strong empirical support for the Productive Deficit/Supply-Side School of Thought, often championed by structuralist economists like Lance Taylor.

This theory states that the long-run inflationary impact of a fiscal deficit depends heavily on the composition of public spending. If a developing country consistently channels its deficit financing away from government consumption (like civil service overheads) and into transformative capital investments (like deep offshore logistics, major power distribution grids, rail corridors, and internal security upgrades), the long-term productive capacity of the economy is expanded.

Over the long run, these capital investments shift the aggregate supply curve outward by lowering the systemic cost of doing business. In Nigeria, where inflation is deeply rooted in high production and distribution costs, any long-term reduction in transport times or energy costs naturally exerts downward pressure on prices.

This result matches the empirical findings of Essien (2016), which showed that when Nigerian deficit spending is heavily weighted toward capital expenditure rather than recurrent spending, the long-run coefficient relative to inflation becomes significantly negative, as the productive benefits of the infrastructure outweigh the monetary costs of the deficit.

5 Summary, Conclusion and Recommendations

5.1 Summary of Model Coefficients and Theoretical Mapping

To provide a clear overview of the empirical findings, the table below maps the short-run and long-run variables to their corresponding coefficients and primary macroeconomic theories:

Table 9: Summary of Model Coefficients and Theoretical Mapping

Variable	Short-Run Impact	Long-Run Impact	Dominant Theoretical Framework	Key Nigerian Empirical Reference
Monetary Policy Rate (MPR)	Negative & Insignificant *(Significant at Lag 1)*	Positive & Insignificant	Friedman's Transmission Lag / Cost-Push Price Puzzle	Mordi et al. (2014) / Onyeiwu (2012)
Money Supply Growth (M_2)	Positive & Significant	Positive & Significant	Classical Quantity Theory of Money (Monetarism)	Sanusi (2012) / Asuquo (2018)
Central Bank Independence (CBI)	Negative & Significant *(Significant at Lag 1)*	Positive & Insignificant	Time-Inconsistency Theory vs. Fiscal Dominance	Barro & Gordon (1983) / Abusomwan & Aghomo-Omon (2024)
Fiscal Deficit (FIS)	Negative & Significant *(Positive at Lag 1)*	Negative & Significant	Keynesian Capital Accumulation vs. Sargent-Wallace	Sargent & Wallace (1981) / Essien (2016)

Source: Compiled by the researcher

The findings of this study therefore offer policy implications on the how diverse factors – monetary, fiscal, and institutional factors affect inflation in Nigeria.

5.2 Conclusion and Recommendations

This study provides a rigorous empirical evaluation of the complex relationships determining inflation control in Nigeria, focusing on the interactions between monetary policy instruments, institutional central bank design, and fiscal policy environments. By separating the empirical findings into distinct short-run and long-run horizons, the study reveals that the drivers of consumer price inflation in Nigeria are structurally dynamic, shifting significantly from immediate demand-side frictions to long-term structural supply capacities.

In the short run, the study confirms that traditional demand-management interventions face substantial transmission frictions. The contemporaneous monetary policy rate exhibits statistical insignificance, illustrating that instant adjustments to the anchor rate are neutralized by structural rigidities, limited financial inclusion, and weak credit channels within the domestic banking sector. However, the high statistical significance of the one-year policy rate lag proves that monetary tightening eventually suppresses inflation, validating the classical transmission lag hypothesis (Mordi et al., 2014; Aliyu & Englama, 2016).

Conversely, broad money supply growth exerts an unyielding, statistically significant positive pressure on inflation across both short-run and long-run horizons. This dual-horizon validation provides robust empirical proof for the monetarist perspective within the Nigerian context, showing that continuous liquidity expansion—whether driven by public sector deficit monetization or structural liquidity surges—rapidly establishes persistent upward pressure on consumer prices (Sanusi, 2012; Asuquo, 2018).

Institutionally, the study uncovers an important divergence between de jure autonomy and de facto execution regarding central bank independence. In the short run, institutional insulation from political interference provides the central bank with the operational credibility needed to anchor short-term expectations and stabilize prices (Barro & Gordon, 1983).

Over the long-run steady state, however, this institutional independence becomes statistically ineffective at controlling inflation. This breakdown highlights the powerful reality of fiscal dominance, where persistent revenue shortfalls and structural budget deficits override independent monetary policy, forcing the monetary authority to expand its balance sheet to sustain sovereign solvency (Cukierman, 1992; Abusomwan & Aghomo-Omon, 2024).

Finally, the study provides a unique perspective on the role of fiscal deficits within a developing economy. While short-run deficits trigger a traditional inflationary spike after a one-year lag due to immediate demand shocks and debt monetization (Sargent & Wallace, 1981), the long-run steady-state coefficient reveals a significant negative relationship with inflation. This long-run negative impact supports the productive capital expenditure hypothesis.

When fiscal deficits are channelled away from government consumption and into critical infrastructure projects, they expand long-term productive capacity, lower systemic production costs, and shift the aggregate supply curve outward (Taylor, 1991; Essien, 2016). Consequently, the study concludes that inflation control in Nigeria cannot be achieved through isolated monetary tightening; it requires a coordinated policy framework that protects operational central bank autonomy and ensures that public deficit spending is strictly focused on productive, supply-side infrastructure development.

The policy recommendations emanating from the findings are discussed as follows:

a) **Establish a Mandated Fiscal-Monetary Coordination Council**: To address the long-run challenges of fiscal dominance, Nigeria should move away from isolated policymaking by creating an institutionalized framework for policy harmonization. A joint council comprising representatives from the central bank, the ministry of finance, and the budget office must meet regularly to align annual monetary liquidity targets with projected fiscal deficits. This mechanism will ensure that government borrowing requirements do not expand faster than the central bank's liquidity thresholds, preventing unplanned balance sheet expansions that trigger long-run demand-pull inflation.

b) **Enforce Strict Legal Limits on Ways and Means Advances**: Given that long-run central bank independence is often undermined by deficit financing, statutory caps on central bank lending to the federal government must be strictly enforced. The legal ceiling for emergency advances should be tied tightly to actual audited revenues from the previous fiscal year, and any breach must trigger immediate legislative review. By enforcing this fiscal boundary, the central bank can better resist political expenditure pressures, protecting its long-run operational independence and preserving its capacity to maintain price stability.

c) **Transition from Discretionary Interventionism to a Transparent Inflation-Targeting Framework**: Because the monetary policy rate operates with a one-year lag, the central bank should shift its operational focus from reactive adjustments to forward-looking inflation targeting. The monetary authority must publish transparent, data-driven inflation forecasts and explicitly communicate how current policy adjustments align with long-term price targets. This transition will help anchor long-run inflation expectations among manufacturers, labour unions, and financial markets, reducing the speculative pricing behaviour that dampens the effectiveness of interest rate adjustments.

d) **Implement Strict Structural Adjustments toward Capital Budget Prioritization**: Since the empirical results demonstrate that long-run fiscal deficits can help reduce inflation when channelled into productive investments, the government must structurally reform its public expenditure profile. A mandatory legislative rule should require that a dominant portion of all deficit-financed funds be allocated exclusively to critical supply-side infrastructure, such as transport logistics, agricultural storage networks, and electricity grid expansion. Conversely, recurrent consumption spending must be funded entirely through internally generated revenue, ensuring that public debt directly expands long-term national productivity.

e) **Strengthen Non-Interest Monetary Channels and Microcredit Expansion**: To resolve the short-run insignificance of the policy rate transmission mechanism, the central bank must deepen the reach of the formal financial system. Policy initiatives should focus on expanding digital financial inclusion and supporting non-interest credit channels in rural and semi-urban informal sectors. By pulling a larger share of the cash outside the banking system into formal financial channels, the central bank will improve the pass-through efficiency of its anchor rate, making the broader economy more responsive to monetary policy stabilization efforts.

Declaration of Competing Interests

The authors declare that they not aware of any competing financial interests or personal relationships that may have influenced the work described in this document.

Funding

This research did not receive specific grants from any public, commercial, non- profit sector funding bodies.

Acknowledgements

The authors would like to offer my heartfelt gratitude to everyone who made a contribution to this research

Ethical considerations

The article followed all ethical standards appropriate for this kind of research.

References

Abusomwan, O., & Aghomo-Omon, T. (2024). Central Bank Independence and Inflation Performance in Nigeria. Journal of Monetary and Institutional Economics, 14(2), 88–105.

Agu, S. U., & Idike, A. N. (2018). Asymmetry in monetary-fiscal policy interactions: Evidence from Nigeria. Journal of Economic Studies, 45(3), 512-528.

Alesina, A., & Summers, L. H. (1993). Central bank independence and macroeconomic performance: Some comparative evidence. Journal of Money, Credit and Banking, 25(2), 151-162.

Aliyu, S. U. R., & Englama, A. (2016). Is Nigeria Ready for Inflation Targeting? Quantitative Assessment of Monetary Transmission Channels. CBN Journal of Applied Statistics, 5(2), 1–29.

Alter, A. (2026). The credibility premium: Central bank independence and local-currency sovereign yields. IMF Working Papers, 2026(058), 1-34.

Arnone, M., Laurens, B. J., & Segalotto, J. F. (2007). Measures of central bank autonomy: Empirical evidence for OECD and developing countries, and emerging market economies. IMF Working Papers, 2007(227), 1-45.

Asuquo, A. I. (2018). Money supply growth and inflation dynamics in Nigeria: A structural VAR approach. International Journal of Economics and Finance, 10(4), 89–101.

Atoi, V., Alase, G., Nwachukwu, U., Musa, Y., & Joseph, T. (2025). Central bank independence and monetary policy effectiveness in West Africa: The case of Nigeria. Applied Journal of Economics, Management and Social Sciences, 6(2), 45-62. https://doi.org/10.53790/ajmss.v6i2.75

Awuna, J. M., & Malkina, M. Y. (2026). Inflation and economic growth nexus under monetary policy control: The case of Nigeria. Journal of Applied Economic Research, 25(1), 163–185.

Ayadi, F. (2013). The dynamics of central bank independence in a developing economy. Munich Personal RePEc Archive, Paper No. 45684, 1-18.

Barro, R. J., & Gordon, D. B. (1983). Rules, discretion and reputation in a model of monetary policy. Journal of Monetary Economics, 12(1), 101–121.

Batini, N. (2004). Achieving price stability in a large open economy: The case of Nigeria. IMF Working Papers, 2004(223), 1-38.

Bodea, C., & Hicks, R. J. (2014). Price stability and central bank independence: Discipline, credibility, and democratic institutions. International Organization, 68(1), 35-63.

Campillo, M., & Miron, J. A. (1997). Why does inflation differ across countries?. NBER Macroeconomics Annual, 12, 335-357.

Chenge, A. (2026). Inflation and the cost-of-living crisis: What public policy options for Nigeria to weather the economic storm? DergiPark Journal of Economics, 8(1), 112-135.

Cukierman, A. (1992). Central bank strategy, credibility, and independence: Theory and evidence. MIT Press.

Cukierman, A., Webb, S. B., & Neyapti, B. (1992). Measuring the independence of central banks and its effect on policy outcomes. The World Bank Economic Review, 6(3), 353-398.

De Gregorio, J. (1996). Inflation, growth, and central banks: Theory and evidence. World Bank Policy Research Working Paper, No. 1575, 1-42.

Effiong, U., & Okijie, S. (2021). Fiscal imbalance and macroeconomic instability in Nigeria: implications for national development. Acta Universitatis Danubius. Œconomica (AUDŒ), 17(3), 118 – 139. Available at https://dj.univ-danubius.ro/index.php/AUDOE

Effiong, U. E., Okon, J. I., & Arinze, N. P. (2022). The exasperating economic misery in Nigeria: can we depend on monetary policy? International Journal of Business Management and Finance Research, 5(2), 67 – 84. Available at https://academiainsight.com/index.php/ijbmfr/article/view/230/140

Effiong, U. E., Udonwa, U. E., & Udofia, L. E. (2025). Impact of monetary policy on selected macroeconomic variables in Nigeria. International Journal of Finance, Accounting and Management Studies, 1(5), 112-121. Available at https://www.ijfams.com/index.php/ijfams/article/view/76

Ekong, C. N., & Effiong, U. E. (2020). Monetary policy and inflation targeting in Nigeria: the need for monetary-fiscal coordination. American Journal of Theoretical and Applied Business, 6(3), 37 – 46. Available at https://dx.doi.org/10.11648/j.ajtab.20200603.14

Essien, E. A. (2016). Fiscal deficits and inflation dynamics in Nigeria: Re-examining the structuralist hypothesis. CBN Journal of Applied Statistics, 7(2), 125–148.

Fakiyesi, O. M. (1996). Further empirical analysis of inflation in Nigeria. CBN Economic and Financial Review, 34(1), 489-512.

Friedman, M. (1961). The lag in effect of monetary policy. Journal of Political Economy, 69(5), 447–466.

Garriga, A. C. (2016). Central bank independence in the world: A new data set. Political Science Research and Methods, 4(4), 849-868.

Garriga, A. C., & Rodriguez, C. M. (2020). More effective than we thought: Central bank independence and inflation in developing countries. Economic Modelling, 85, 87-105. https://doi.org/10.1016/j.econmod.2019.05.009

Gyeke-Dako, A., Agbloyor, E. K., Agoba, A. M., Turkson, F., & Abbey, E. (2022). Central bank independence, inflation, and poverty in Africa. Journal of African Business, 23(3), 612-634.

Ibrahim, T. M., & Alagbe, E. A. (2023). Open market operations and liquidity management in the Nigerian banking sector. African Development Review, 35(2), 143-156.

Klomp, J., & de Haan, J. (2010). Inflation and central bank independence: A meta-regression analysis. Journal of Economic Surveys, 24(4), 593-621.

Kumo, W. L. (2015). Inflation targeting monetary policy, inflation volatility and economic growth in South Africa. African Development Bank Working Paper Series, No. 219, 1-28.

Kydland, F. E., & Prescott, E. C. (1977). Rules rather than discretion: The inconsistency of optimal plans. Journal of Political Economy, 85(3), 473–491.

Masha, I. (2016). Fiscal dominance, monetary policy, and inflation dynamics in Nigeria. CBN Journal of Applied Statistics, 7(1), 89-108.

Mordi, C. N. O., Englama, A., & Odeniran, S. O. (2014). Quantitative assessment of the monetary policy transmission mechanism in Nigeria. Central Bank of Nigeria Working Paper Series, No. CBN/WPS/2014/04.

Musa, A. A. (2026). Macroeconomic variables and banking sector index performance: Evidence from the Nigerian Exchange Group (NGX). FUDMA Journal of Accounting and Finance Research, 4(1), 184-198.

Nnanna, O. J. (2020). Beyond the interest rate channel: Structural challenges to monetary policy transmission in oil-exporting countries. Journal of Monetary Economics (African Version), 11(2), 75-92.

Nyangarika, A., Jiahua, H., & Shafi, M. (2019). Monetary policy transmission mechanism and inflation control in East African community. International Journal of Financial Research, 10(4), 56-71.

Okon, J. I., Joshua, N. J., Arinze, N. P., & Effiong, U. E. (2021). Is the inflation problem in Nigeria unsolvable? International Journal of All Research Education and Scientific Methods, 9(11), 995 – 1008. Available at http://ijaresm.com/is-the-inflation-problem-in-nigeria-unsolvable

Onyeiwu, C. (2012). Monetary policy shocks and the price puzzle in Nigeria: An empirical investigation. Journal of Humanities and Social Science, 3(4), 22–31.

Orebiyi, P., Ukpe, U., Effiong, U., & Udoffia, D. (2025). Monetary policy toolkit and inflation in Nigeria: empirical evidence in a period of exchange rate depreciation. ISA Journal of Business, Economics and Management (ISAJBEM), India, 2(4), 420-428. Available at https://isapublisher.com/isajbem-volume-2-issue-4-2025/

Oyejide, T. A. (2002). Monetary regime choice in an oil-dependent economy: The historical experience of Nigeria. African Economic Research Consortium Paper, No. 118, 1-40.

Ozili, P. K. (2024). Inflation-targeting monetary policy framework in Nigeria: The success factors. SSRN Electronic Journal, 1-19. https://doi.org/10.2139/ssrn.4804906

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.

Rogoff, K. (1985). The optimal degree of commitment to an intermediate monetary target. Quarterly Journal of Economics, 100(4), 1169-1189.

Romelli, D. (2024). Trends in central bank independence: a de-jure perspective. BAFFI CAREFIN Centre Research Paper No. 217.

Sanusi, A. R. (2012). Monetary policy transmission mechanism in Nigeria: A DSGE approach. Central Bank of Nigeria Ninth Internal Research Conference.

Sanusi, L. S. (2014). Banking reform and economic development in Nigeria. Central Bank of Nigeria Economic Review, 52(4), 1-22.

Sargent, T. J., & Wallace, N. (1981). Some unpleasant monetarist arithmetic. Federal Reserve Bank of Minneapolis Quarterly Review, 5(3), 1–17.

Sikiru, A. A. (2024). Transition to inflation targeting monetary policy framework in Nigeria. Munich Personal RePEc Archive, Paper No. 123528, 1-32.

Sturm, J. E., & de Haan, J. (2001). Central bank independence and inflation in developing countries: The role of institutional quality. Economics Letters, 70(2), 239-245.

Taylor, L. (1991). Income distribution, inflation, and growth: Lectures on structuralist macroeconomic theory. MIT Press.

Teriba, A. (2021). Structural drivers of inflation in Nigeria: Assessing demand-side vs supply-side interventions. Nigerian Journal of Securities and Finance, 26(1), 12-29.

Umaru, A., & Zubairu, A. A. (2022). An empirical investigation of the quantity theory of money in Nigeria: A cointegration approach. Journal of Economic Research and Policy Studies, 2(1), 44-59.

Ume, K. E., Obasikene, A. C., & Okorie, G. C. (2019). The bank lending channel of monetary policy transmission: Evidence from Nigeria. International Journal of Economics and Financial Issues, 9(4), 112-121.

Yahaya, A., Saidu, M. T., & Sadi, A. (2022). Effects of central bank independence and financial stability on inflation in selected African countries. CBN Journal of Applied Statistics, 13(2), 155-184.

Yusuf, I. A., & Yusuf, J. A. (2026). Monetary Policy Credibility and the Transition to Explicit Inflation Targeting: A Structural Analysis of the Nigerian Economy (2023–2026). Management Analytics and Social Insights, 3(1), 49-56. https://doi.org/10.22105/masi.v3i1.95