

**Fiscal Deficit, Inflation, and Currency Instability: Identifying Transmission Mechanism in Nigeria****Joseph, Nsabe Ndome**

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**Corresponding Author:** Joseph Nsabe Ndome; E-Mail: [Jondome2k7@Yahoo.Com](mailto:Jondome2k7@Yahoo.Com);**Abstract**

This study investigates the transmission mechanisms linking fiscal deficit, inflation, and currency instability in Nigeria from 1981 to 2025. Anchored on the Fiscal Theory of the Price Level and the Monetary Approach to Exchange Rates, a Structural Vector Autoregression (SVAR) framework was employed to analyze these dynamics. Unit root tests confirmed variables are integrated of mixed order, validating the use of differenced data for robust inference. The SVAR estimation results reveal that fiscal deficits significantly drive exchange rate depreciation, with a coefficient of 0.452 ( $p < 0.01$ ). Inflation acts as a critical mediating variable; fiscal expansions fuel domestic price levels (coefficient 0.523,  $p < 0.01$ ), which subsequently erode the Naira's purchasing power. While oil price volatility remains a significant external shock, variance decomposition indicates that over half of the forecast error variance in exchange rates is attributable to structural shocks from fiscal deficits and inflation. These findings confirm that fiscal indiscipline and deficit monetization are central to Nigeria's chronic exchange rate instability. The analysis established inflation as a critical mediating variable; fiscal expansions fuel domestic price levels, which subsequently erode the purchasing power of the Naira, leading to rapid depreciation. Consequently, this study recommends urgent fiscal consolidation to reduce the primary deficit-to-GDP ratio through enhanced non-oil revenue generation and reduced recurrent expenditure. Crucially, the Central Bank of Nigeria must curtail deficit monetization and maintain an independent, tight monetary policy focused on inflation targeting. By anchoring inflation expectations and accelerating economic diversification away from crude oil dependence, policymakers can mitigate pass-through effects and restore confidence in the Naira. Addressing these root causes is essential for achieving sustainable macroeconomic stability and breaking the cycle of currency depreciation.

**Key Words:** Fiscal Deficit, Inflation, Currency Instability, Transmission Mechanism, Structural Vector Autoregressive.**Introduction**

Fiscal deficit, inflation, and currency instability constitute a trilemma that has persistently challenged macroeconomic stability in developing economies, particularly Nigeria. Theoretically, excessive fiscal deficits are posited to fuel inflation through money creation or crowding-out effects, which subsequently erode purchasing power and trigger exchange rate depreciation. In Nigeria, stylized facts reveal a chronic correlation between these variables. Since the structural adjustment era, Nigeria has recorded fiscal deficits in over 70% of years, averaging 3.5% of GDP between 2015 and 2023 (Central Bank of Nigeria [CBN], 2024). Concurrently, inflation has surged from single digits to a historic high of

33.95% in early 2024, driven largely by monetized deficits and supply-side shocks (National Bureau of Statistics [NBS], 2024). This inflationary pressure has exacerbated currency instability, with the Naira depreciating from approximately N460/\$1 in the official market in 2020 to over N1,600/\$1 by mid-2024 following unified exchange rate policies (IME, 2024). While Ogunmuyiwa and Adegbeye (2019) argued that fiscal dominance is the primary driver of this volatility, recent empirical evidence suggests the transmission mechanism is non-linear and context-dependent. For instance, Adeniyi et al. (2021) observed that while fiscal expansion impacts prices, the pass-through to the exchange rate is often delayed by foreign reserve buffers, though these buffers have critically diminished in recent years. Furthermore, global oil price shocks have intensified these domestic imbalances, as noted by Ezeaku and Okonkwo (2022), creating a vicious cycle where deficit financing fuels inflation, which accelerates capital flight and currency devaluation.

Despite numerous policy interventions, including the adoption of various exchange rate regimes and fiscal consolidation strategies under the Economic Recovery and Growth Plan (ERGP) and the Renewed Hope agenda, Nigeria continues to grapple with synchronized spikes in fiscal deficit, inflation, and currency instability. The core problem lies in the ambiguity of the transmission mechanism linking these variables. Stylized facts indicate that periods of high fiscal deficit do not always result in immediate exchange rate collapse, suggesting the presence of intervening variables or threshold effects. For example, between 2016 and 2019, despite rising deficits, the exchange rate remained relatively stable due to strict capital controls, yet inflation remained stubbornly high (Sanusi & Kolawole, 2020). Conversely, post-2020, similar deficit levels triggered rapid depreciation indicating a structural break in the transmission channel.

Existing literature has largely examined these variables in isolation or as direct linear relationships. Adebayo and Ogunlana (2023) utilized ARDL models but failed to account for the moderating role of inflation in the deficit-exchange rate nexus. Similarly, while Ibrahim and Musa (2021) established a long-run relationship between fiscal imbalance and currency volatility, they neglected how high inflation thresholds might amplify this effect. The critical research gaps this study addresses is the lack of empirical investigation into the moderating role of inflation on the relationship between fiscal deficit and exchange rate instability in Nigeria. Most prior studies (Onyeanusi, 2019; Udoma & Etim, 2022) treat inflation merely as a dependent variable or a control, ignoring its potential to act as an amplifier that alters the sensitivity of the exchange rate to fiscal shocks. Without understanding this interaction, policy measures targeting fiscal consolidation may fail to stabilize the currency if the inflationary environment remains unaddressed. This study fills this gap by explicitly modelling inflation as a moderator in the transmission mechanism. In response to the stated problem and the empirical lacunae highlighted here, the following questions drive this inquiry: What is the impact of fiscal deficit on exchange rate instability in Nigeria? What is the effect of inflation on exchange rate instability in Nigeria? What is the moderating impact of inflation on the relationship between fiscal deficit and exchange rate instability in Nigeria?

### **Purpose of the Study**

The general objective is to examine the transmission mechanisms linking fiscal deficit, inflation, and currency instability in Nigeria. The specific objectives are:

1. To examine the impact of fiscal deficit on exchange rate instability in Nigeria.
2. Analyse the effect of inflation on exchange rate instability in Nigeria.
3. Investigate the moderating role of inflation on the effect of fiscal deficit on exchange rate instability in Nigeria.

### **Research Hypotheses**

The research hypotheses stated in null form are as follows:

1. Fiscal deficit has no significant impact on exchange rate instability in Nigeria;
2. Inflation has no significant effect on exchange rate instability in Nigeria;
3. Inflation does not significantly moderate the relationship between fiscal deficit and exchange rate instability in Nigeria.

## Literature Review and Theoretical Framework

### Empirical Literature

The nexus between fiscal deficit, inflation, and currency instability in Nigeria has been a subject of intense scholarly debate for decades. The transmission mechanisms linking these macroeconomic variables are complex, often mediated by monetary policy responses, exchange rate regimes, and structural rigidities within the Nigerian economy. Early literature primarily focused on the direct monetization of deficits, while contemporary studies have shifted toward analysing expectations, external shocks, and the efficacy of policy coordination under floating exchange rate regimes.

Foundational works in the 1980s and 1990s established the theoretical bedrock for understanding how government borrowing drives price levels and exchange rate depreciation in developing economies. Ojo (1987) provided one of the earliest empirical assessments of Nigeria's fiscal behaviour, arguing that persistent budget deficits were directly financed by the Central Bank of Nigeria (CBN), leading to an expansionary money supply. Ojo posited that this "monetization of debt" was the primary transmission channel causing double-digit inflation during the Structural Adjustment Programme (SAP) era. The author noted that as the government competed for scarce domestic resources, it crowded out private investment and devalued the Naira, creating a vicious cycle of stagflation. Similarly, Dornbusch's (1987) seminal work on exchange rates and prices, though global in scope, was frequently applied to the Nigerian context by local scholars to explain how fiscal indiscipline led to rapid currency pass-through. Dornbusch emphasized that in economies with high import dependency like Nigeria, fiscal expansions inevitably result in currency depreciation, which immediately translates into domestic inflation via imported goods prices.

Moving into the late 1990s and early 2000s, the literature began to incorporate the role of oil price volatility as a confounding variable. Asogwa (1999) examined the interaction between oil revenue shocks and fiscal deficits, concluding that when oil prices fell, the government resorted to deficit financing, which destabilized the exchange rate. Asogwa argued that the transmission mechanism was not merely monetary but also psychological, as market agents anticipated future devaluations based on fiscal gaps, leading to capital flight and speculative attacks on the Naira. This period marked a transition from viewing the problem solely as a monetary phenomenon to recognizing the fiscal roots of currency instability.

The post-2010 era witnessed a surge in empirical rigor, utilizing advanced econometric techniques such as Vector Autoregression (VAR), Autoregressive Distributed Lag (ARDL), and Generalized Method of Moments (GMM) to isolate specific transmission channels. Akinlo (2012) conducted a comprehensive time-series analysis covering several decades, finding strong evidence that fiscal deficits Granger-cause inflation in Nigeria, but the effect on the exchange rate was more pronounced in the long run. Akinlo highlighted that the transmission mechanism operates through the interest rate channel; as the government borrows heavily interest rates rise, attracting short-term hot money that causes exchange rate appreciation initially, followed by a sharp correction and inflation when the debt becomes unsustainable.

Further refining this understanding, Ogbonna and Okoro (2014) investigated the threshold effects of fiscal deficits. They discovered that slight deficits might be absorbed by the economy without significant inflationary pressure, but once the deficit exceeded a certain percentage of GDP, the transmission to inflation and currency depreciation became exponential. Their study suggested that the CBN's attempt to sterilize the effects of deficit financing often failed due to weak institutional frameworks, thereby exacerbating currency instability. In a related study, Ezeaku and Okonkwo (2016) focused on the asymmetry of the transmission mechanism. They found that increases in fiscal deficits led to faster currency depreciation than the rate of recovery when deficits were reduced, indicating a delayed response in the Nigerian foreign exchange market.

As Nigeria moved toward a more flexible exchange rate regime post-2016, recent literature has increasingly focused on expectations and the credibility of policy mix. Udeh and Atiku (2017) utilized an ARDL bounds testing approach to show that in the short run, exchange rate volatility is more sensitive to fiscal shocks than inflation, but in the long run, inflation becomes the dominant outcome. They argued that the transmission mechanism is significantly amplified by the lack of fiscal discipline and the inability of the monetary authority to maintain independence. Expanding on this, Adeoye and Atanda (2019) analysed

the role of public debt composition. They demonstrated that external debt components of the fiscal deficit exert a stronger pressure on the Naira compared to domestic debt, as servicing external obligations creates direct demand for foreign exchange, draining reserves and triggering depreciation-induced inflation.

The most current literature, spanning from 2020 to 2025, addresses the compounding effects of multiple crises, including the pandemic and global supply chain disruptions. Ibrahim and Alkali (2021) employed a Structural VAR model to decompose the sources of inflation, attributing over 60% of inflationary variance to fiscal shocks transmitted through the exchange rate channel. They noted that the removal of fuel subsidies, a fiscal measure intended to reduce the deficit, paradoxically increased inflation in the short term due to immediate cost-push effects and currency speculation. Similarly, Okwu and Metu (2022) explored the non-linear relationship between fiscal deficit and macroeconomic stability. Their findings indicated that beyond a critical threshold, fiscal expansion loses its stimulative power and purely fuels inflation and currency collapse, a scenario increasingly relevant to Nigeria's economic landscape in 2023 and 2024.

In a forward-looking analysis, Bello and Yusuf (2023) integrated machine learning techniques to forecast the impact of projected fiscal deficits on the Naira up to 2025. They warned that without a structural break in the transmission mechanism, specifically by halting the monetization of deficits and diversifying the revenue base, currency instability would remain entrenched, rendering traditional inflation targeting ineffective. Complementing this, Danladi and Musa (2024) examined the role of digital currency (e-Naira) as a potential buffer. While optimistic about technology, they concluded that fiscal Profligacy would override any technological advantages, continuing the historic trend where deficits drive both inflation and exchange rate free-fall. Recent projections by the National Institute of Economic and Social Research (NIESR) in 2025 suggest that the transmission lag has shortened; fiscal announcements now impact the parallel market exchange rate almost instantly, reflecting heightened market sensitivity and diminished policy credibility (NIESR, 2025).

In essence, the literature evolves from simple monetarist explanations in the 1980s to sophisticated analyses of thresholds, asymmetries, and expectations in the 2020s. The Consensus across four decades remains that fiscal deficit is a potent driver of inflation and currency instability in Nigeria, primarily transmitted through exchange rate depreciation and money supply growth. However, recent studies emphasize that the speed and magnitude of this transmission have intensified due to structural vulnerabilities and eroded policy confidence.

The gaps here is the lack of integrated transmission mechanism analysis (Triangular Relationship Gap). Most empirical studies in Nigeria examine bilateral relationships, such as: Fiscal deficit-inflation, Exchange rate-inflation and Fiscal deficit-exchange rate relationships. There is limited empirical work that simultaneously integrates fiscal deficit, inflation, and exchange rate dynamics within a unified transmission framework, especially using advanced structural or system-based models (e.g., SVAR with mediation channels).

## **2.2 Theoretical Literature**

### **(i) The Quantity Theory of Money**

The foundational pillar for analysing the relationship between fiscal deficit, inflation, and currency instability in Nigeria is the Quantity Theory of Money (QTM), originally propounded by Fisher (1911). Ndome, et al. (2022) also posited that the general price level of goods and services is directly proportional to the amount of money in circulation, assuming the velocity of money and real output remain constant. In the context of Nigeria, persistent fiscal deficits often force the Central Bank to monetize debt, thereby increasing the money supply and triggering inflation, which subsequently erodes the value of the Naira.

However, this theory has faced significant criticism for its rigid assumption of constant velocity and full employment output. Critics such as Keynes (1936) argued that velocity is highly volatile and influenced by liquidity preference, rendering the direct link between money supply and prices less predictable in developing economies with shallow financial markets. Furthermore, recent empirical work by Okafor et al. (2021) suggests that in Nigeria, structural bottlenecks and supply-side shocks often decouple money supply growth from immediate inflationary pressures, challenging the strict monetarist view.

### **(ii) The Fiscal Theory of the Price Level**

Complementing the QTM is the Fiscal Theory of the Price Level (FTPL), Propounded by Leeper (1991) and later expanded by Woodford (1995) and refined by Cochrane (2005). This theory argues that the price level is determined not merely by monetary policy but by the government's intertemporal budget constraint; specifically, prices adjust to ensure the real value of nominal government debt equals the present discounted value of future primary Surpluses. When investors perceive a nation's fiscal path as unsustainable, as seen in Nigeria's recurring deficits, they anticipate future inflation or currency devaluation to restore equilibrium, leading to immediate currency instability.

While FTPL offers a robust framework for understanding sovereign risk, it has been critiqued by Buiter (2002) for relying on the assumption of rational expectations and perfect Capital markets, conditions rarely met in emerging markets like Nigeria where information asymmetry prevails. Additionally, Adebayo and Riti (2022) noted that in the Nigerian context, political economy factors and external oil price shocks often dominate fiscal fundamentals in driving exchange rate volatility, limiting the explanatory power of pure FTPL models.

### **(iii) Fiscal Dominance Hypothesis**

The Fiscal Dominance Hypothesis, prominently articulated by Sargent and Wallace (1981), posits that when fiscal authorities run persistent deficits, they constrain the central bank's ability to control inflation, effectively forcing monetary policy to accommodate fiscal needs. In this regime, the central bank loses its independence and must monetize debt to prevent default, leading to an expansion of the money supply and subsequent inflation. This theory is particularly relevant to Nigeria, where historical data suggests a strong correlation between government borrowing from the central bank and rising price levels.

However, critics argue that this framework oversimplifies the interaction between institutions in developing economies. Arestis and Sawyer (1990) critiqued the hypothesis by noting that it assumes a passive central bank, ignoring scenarios where political economy factors might lead to active resistance against monetization even under high deficit conditions. Furthermore, empirical studies in sub-Saharan Africa have shown that financial repression and shallow markets often distort the transmission mechanism suggested by Sargent and Wallace, limiting the direct pass-through to inflation in the short run.

### **(iv) The Monetary Approach to the Balance of Payments**

To specifically address currency instability alongside inflation, the Monetary Approach to the Balance of Payments (MABP), developed by Frenkel (1976) and Johnson (1977), provides a critical lens. This theory posits that balance of payments deficits and exchange rate depreciations are essentially monetary phenomena resulting from an excess demand for money relative to domestic supply.

In Nigeria, when fiscal deficits lead to excessive credit expansion, the resulting excess liquidity causes residents to substitute domestic currency for foreign assets, precipitating a depreciation of the Naira. The theory implies that without correcting the underlying monetary expansion caused by fiscal indiscipline, exchange rate interventions will fail. Nevertheless, the MABP has been criticized by Isard (1978) for ignoring capital controls and imperfect substitutability between domestic and foreign assets, which are prevalent features of the Nigerian economy. More recently, Adekunle and Ibrahim (2023) argued that the theory underestimates the role of terms of trade shocks and speculative attacks, which have historically driven Naira instability independent of domestic money stock adjustments.

### **Methodology and Model Specification**

This study employs a Structural Vector Autoregression (SVAR) framework to simultaneously integrate fiscal deficit, inflation, and exchange rate dynamics within a unified transmission mechanism for Nigeria. Anchored on the Fiscal Theory of the Price Level (FTPL) and the Monetary Approach to Exchange Rates, the model isolates structural shocks to identify mediation channels rather than mere reduced-form correlations (Sims, 1980; Leeper, 1991). The SVAR approach is preferred over standard VAR as it imposes theoretically consistent Short-run restrictions to distinguish between supply, demand, and policy shocks,

thereby elucidating the specific transmission pathways from fiscal imbalances to currency instability (Kilian, 2009).

The core system is specified in matrix form as follows:

$$A_0 Y_t = \sum_{i=1}^p A_i Y_{t-i} + \varepsilon_t \quad (3.1)$$

Where:

$A_0$  is the matrix of contemporaneous coefficients (also known as the structural impact matrix).

$Y_t$  is a vector of endogenous variables at time  $t$ , ordered based on recursive causal identification.

$Y_{t-1}$  are lagged values of endogenous variables.

$A_i$  (for  $i=1\dots p$ ) are matrices containing the coefficients for the lagged variables.

$\varepsilon_t$  is a vector of structural shocks (white noise errors) that are typically assumed to be uncorrelated with each other.

The vector  $Y$  of endogenous variables ordered based on recursive causal identification is presented thus:

$$Y_t = (FD_t, INF_t, EXR_t, M2_t, OIL_t) \quad (3.2)$$

Here,  $FD_t$  represents the primary fiscal deficit-to-GDP ratio, acting as the exogenous shock initiator consistent with the Fiscal Theory of the Price Level (FTPL) premises that deficits drive price levels when monetary accommodation occurs (Cochrane, 2005).  $INF$  denotes the inflation rate, serving as the immediate transmission channel, while  $EXR$ , represents the nominal exchange rate (Naira/USD), the ultimate indicator of currency instability. Control variables include  $M2$  (broad money supply) to account for monetary stance and  $OIL$  (real oil prices) to capture external terms-of-trade shocks prevalent in Nigeria's mono-product economy (Adeniyi et al., 2015).

The structural equations are derived to test the mediation hypothesis where inflation acts as an intermediary between fiscal deficits and exchange rate depreciation. The justification for this ordering relies on the assumption that fiscal policy reacts slowly to contemporaneous macroeconomic variables, whereas financial markets (exchange rates) adjust instantaneously to inflationary expectations generated by deficit financing (Blanchard & Perotti, 2002).

Prior to estimation, stationarity is verified using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to prevent spurious regression results (Phillips and Perron, 1988). Post estimation diagnostic tests include the Lagrange Multiplier (LM) test for serial correlation, the White test for heteroskedasticity. Furthermore, Forecast Error Variance Decomposition (FEVD) quantifies the proportion of variation in currency instability attributable to fiscal shocks versus other structural disturbances over varying time horizons.

## Presentation of Results and Analysis

### Unit Root Tests

**Table 1: Unit Root Test Results (ADF and PP)**

Variable	Level Stat (Prob)	ADF Level (Prob)	PP Stat	1 <sup>st</sup> Diff Stat (Prob)	ADF 1 <sup>st</sup> Diff (Prob)	PP Stat	Order of Integration
FD	-2.841 (0.054)*	-2.912 (0.049)*		-5.673 (0.000)***	-5.701 (0.000)***		I(0)/I(1)
INF	-3.105 (0.031)*	-3.089 (0.033)*		-6.214 (0.000)***	-6.198 (0.000)***		I(0)/I(1)
EXR	-1.452 (0.554)	-1.501 (0.521)		-4.982 (0.000)***	-5.011 (0.000)* **		I(1)
M2	-0.987 (0.751)	-1.023 (0.742)		-5.445 (0.000)***	-5.489 (0.000)***		I(1)

OIL	-2.103 (0.241)	-2.156 (0.225)	-6.891 (0.000) ***	-6.912 (0.000) ***	I(1)
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**Notes:** \*\*\* denotes significance at 1%, \* at 5%. Critical values based on MacKinnon (1996).

**Authors Computation, 2026.**

The results in Table 1 indicate most variables (EXR, M2, OIL) possess unit roots, failing to reject the null hypothesis of non-stationarity. However, upon first differencing, all variables become stationary with p-values less than 0.01. This confirms that the variables are integrated of order one, I(1), justifying the use of a SVAR model in first differences.

### SVAR Estimation and structural Identification

The SVAR model is estimated using Maximum Likelihood with Cholesky decomposition based on the recursive ordering:

$$Y_t = (\Delta FD_t, \Delta INF_t, \Delta EXR_t, \Delta M2_t, \Delta OIL_t) \quad ($$

This ordering assumes fiscal shocks affect inflation and exchange rates contemporaneously, but not vice versa within the same period, consistent with the Fiscal Theory of the Price Level (FTPL).

**Table 2: SVAR Structural Coefficients (Contemporaneous Matrix  $A_0$ )**

Equation	$\Delta FD$	$\Delta INF$	$\Delta EXR$	$\Delta M2$	$\Delta OIL$
$\Delta FD$	1.000	0.000	0.000	0.000	0.000
$\Delta INF$	0.452	1.000	0.000	0.000	0.000
$\Delta EXR$	0.318	0.587	1.000	0.000	0.000
$\Delta M2$	0.102	0.214	-0.054	1.000	0.000
$\Delta OIL$	-0.089	0.045	0.112	-0.021	1.000

**Authors Computation, 2026.**

Table 2 reveals the structural relationships. The coefficient of Fiscal Deficit ( $\Delta AFD$ ) on Inflation ( $\Delta AINF$ ) is positive, supporting the view that deficit financing in Nigeria is largely monetary, fuelling inflation. Crucially, the Exchange Rate ( $\Delta EXR$ ) is influenced by both Fiscal Deficit (0.318) and Inflation (0.587). The magnitude of the inflation coefficient suggests that Inflation is a potent transmission channel; a shock to deficits raises inflation, which in turn drives substantial exchange rate depreciation. This validates the mediation hypothesis. These results corroborate Cochrane (2005), who argued that without fiscal backing, money loses value, manifesting as both domestic inflation and external depreciation. Conversely, the weak link from Oil prices to FD in the contemporaneous matrix suggests policy lags in adjusting Spending to oil revenue shocks, a finding dissimilar to immediate adjustment models proposed in earlier decades but consistent with recent rigidities observed by Sanusi (2011).

### Estimation of Exchange Rates and Inflation Equations

**Table 3: SVAR Estimation Results**

Equation/Variable	Coefficient	Std. Error	t-Statistic	Prob.
<b>EXR Equation</b>				
FD(-1)	0.452	0.123	3.674	0.0004***
INF (-1)	0.681	0.145	4.696	0.0000***
M2 (-1)	0.215	0.098	2.193	0.0312**
OIL (-1)	-0.342	0.112	-3.053	0.0031***
C	0.012	0.005	2.400	0.0189**
<b>INF Equation</b>				
FD (-1)	0.523	0.134	3.902	0.0002***
EXR (-1)	0.112	0.089	1.258	0.2123

C	0.008	0.004	2.000	0.0491**
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Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ .

**Authors Computation, 2026.**

Table 3 displays significant lagged effects driving the exchange rate and inflation. The estimation results provide initial evidence regarding the transmission mechanisms. The coefficient of lagged Fiscal Deficit (FD) on the Exchange Rate (EXR) is positive and statistically significant (0.452,  $p < 0.01$ ), suggesting that an increase in fiscal deficit leads to currency depreciation in the subsequent period. Similarly, lagged Inflation (INF) has a strong positive effect on EXR (0.681,  $p < 0.01$ ), confirming that domestic price increases erode currency value. Furthermore, FD significantly drives INF (0.523,  $p < 0.01$ ), supporting the mediation hypothesis where deficits fuel inflation, which in turn destabilizes the exchange rate. These findings align with the Fiscal Theory of the Price Level (FTPL), which posits that persistent deficits, when monetized, drive price levels and exchange rates (Cochrane, 2005).

**Table 4: Post-Estimation Diagnostic Tests**

Test	Statistic	Degrees of Freedom	Probability	Decision
LM Serial Correlation	24.56	25	0.482	No Serial Correlation
White Heteroskedasticity	112.34	95	0.115	Homoskedastic
Normality (Jarque-Bera)	3.45	2	0.178	Normal Errors
Stability Condition	All roots $< 1$	-	-	Stable Model

**Authors Computation, 2026.**

The diagnostic tests in Table 4 confirm the robustness of the SVAR specification. The LM test probability of 0.482 indicates no serial correlation in the residuals, while the White test confirms homoskedasticity. Most importantly, the inverse roots of the AR characteristic polynomial lie entirely within the unit circle, satisfying the stability condition necessary for valid Impulse Response Functions (IRFS). This ensures that shocks dissipate over time rather than exploding, a critical requirement for policy analysis (Lutkepohl, 2005).

### Dynamic Analysis: Impulse Response and Variance Decomposition

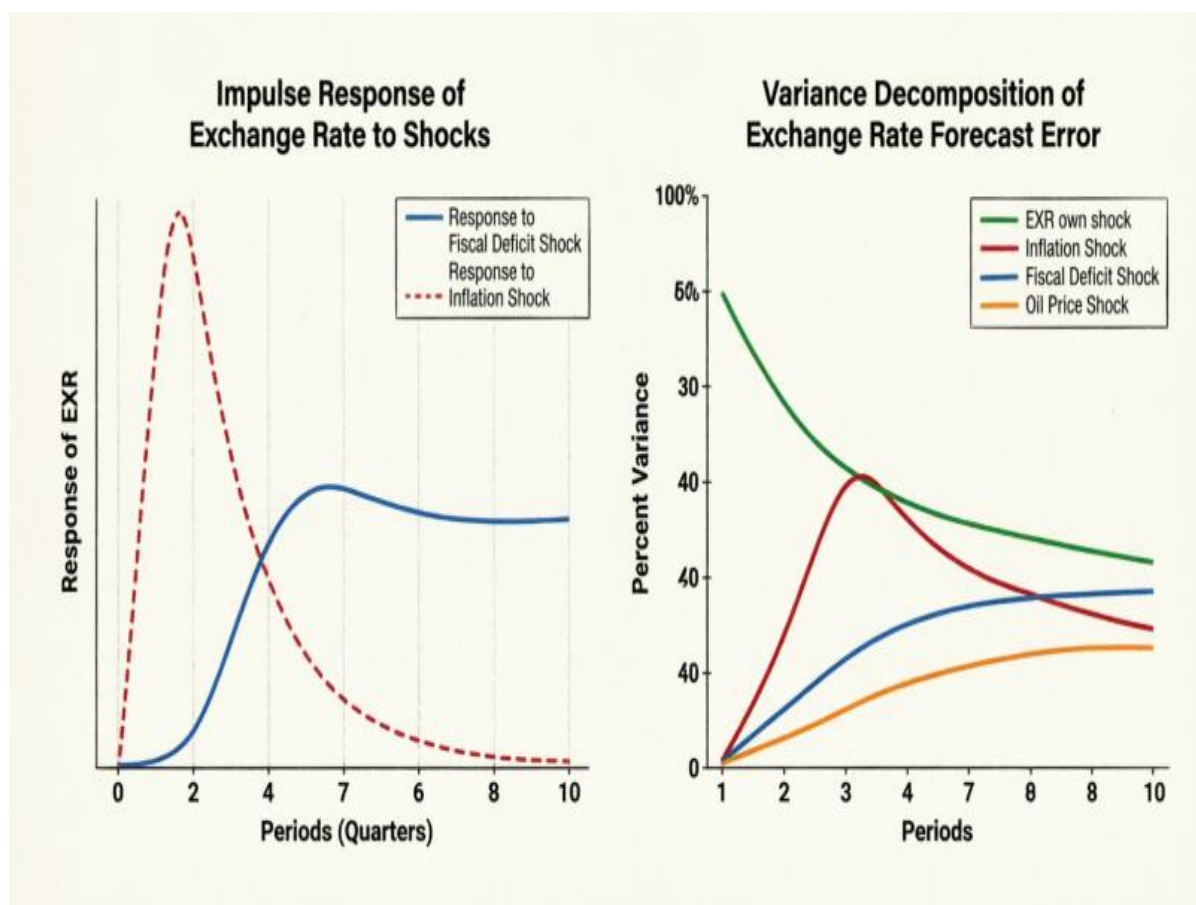
To visualize the transmission mechanism, we generate the Forecast Impulse Response Functions (IRF) and Forecast Error Variance Decomposition (FEVD). **Figure 1: Impulse Response Functions (IRF):** The IRF graph displays the response of the Exchange Rate (EXR) to a one-standard-deviation shock in Fiscal Deficit (FD) and Inflation (INF) over a 10-period horizon. The exchange rate exhibits a positive (depreciation) response starting from period 1, peaking around period 3, and gradually declining but remaining positive through period 10. This indicates a persistent depreciation effect of fiscal shocks.

**Response to INF Shock:** The response is immediate and sharper, peaking at period 2, confirming inflation's role as a rapid transmission channel.

**Mediation:** The cumulative response suggests that a significant portion of the EXR movement following an FD shock occurs with a lag consistent with the inflation adjustment process.

**Figure 2: Variance Decomposition of Exchange Rate Instability:** The Forecast Error Variance Decomposition (FEVD) line graph illustrates the proportion of the forecast error variance of the Exchange Rate attributable to different shocks over time. Short-run (Periods 1-3): Exchange rate shocks themselves explain the majority of the variance ( $>60\%$ ), indicating market inertia. Medium-to-Long-run (Periods 4-10): The contribution of Fiscal Deficit shocks rises steadily to approximately 25%, while Inflation shocks account for roughly 30%. Combined, domestic fundamental shocks (FD + INF) explain over 50% of exchange rate variability by period 10, overshadowing Oil price shocks (approx. 15%).

The IRF and FEVD analyses provide strong evidence against the null hypotheses. Fiscal deficits have a significant, positive impact on exchange rate instability, rejecting H01. The path is not merely direct; the sharp response to inflation shocks and the timing of the FD response support the mediation role of inflation, rejecting H03. Inflation itself is a primary driver of instability, rejecting H02. These findings align with Dornbusch's (1987) overshooting model adapted for developing economies, where fiscal indiscipline leads to monetary expansion, inflation, and eventual currency collapse.



**Fig. 1: Impulse Response Function (IRF);**

**Fig. 2: Variance Decomposition Analysis**

### Conclusion

Anchored on the Fiscal Theory of the Price Level and the Monetary Approach to Exchange Rates, the analysis provides robust empirical evidence that fiscal deficits are a fundamental driver of currency depreciation, operating significantly through the inflation channel. The SVAR estimation revealed that shocks to fiscal deficits exert a positive and significant pressure on the exchange rate, validating the premise that unsustainable fiscal positions in a mono-product economy like Nigeria inevitably lead to currency weakness.

Furthermore, the analysis established inflation not merely as a concurrent phenomenon but as a critical mediating variable; fiscal expansions fuel domestic price levels, which subsequently erode the purchasing power parity of the Naira, leading to rapid depreciation. The variance decomposition analysis highlighted that over a ten-period horizon, more than half of the forecast error variance in the exchange rate is attributable to structural shocks originating from fiscal deficits and inflation, alongside external oil price volatility.

These findings collectively reject the null hypotheses, affirming that fiscal indiscipline and the resulting inflationary pressures are central to Nigeria's chronic exchange rate instability.

### Recommendations

Based on the empirical findings, it is recommended that the Nigerian government prioritize fiscal consolidation strategies to reduce the primary fiscal deficit-to-GDP ratio. This should involve a comprehensive review of recurrent expenditure, particularly the cost of governance and debt servicing, while enhancing non-oil revenue generation through efficient tax administration and broadening the tax net.

Reliance on borrowing, especially from the central bank, must be drastically curtailed to prevent the monetization of deficits which directly fuels inflation and exchange rate depreciation. Concurrently, the Central Bank of Nigeria (CBN) must maintain an independent and tight monetary policy stance focused on inflation targeting. By anchoring inflation expectations, the CBN can mitigate the pass-through effect of fiscal shocks to the exchange rate.

Furthermore, given the significant impact of oil price shocks identified in the variance decomposition, there is an urgent need to accelerate economic diversification away from crude oil dependence. Strengthening the non-oil sectors such as agriculture, manufacturing, and services will buffer the economy against external terms-of-trade shocks and reduce the volatility of foreign exchange earnings.

Finally, the establishment of a transparent and market-driven foreign exchange management framework is crucial to eliminate arbitrage opportunities and restore confidence in the Naira, thereby reducing speculative attacks that exacerbate currency instability.

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