

Fuel Subsidy Removal and Fiscal Reallocation in Nigeria (2023–2025): Implications for Economic Growth

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ABSTRACT

This study examines the fiscal and macroeconomic effects of fuel subsidy removal in Nigeria during the postsubsidy period (2023–2025), focusing on fiscal reallocation and economic growth. Using annual time-series data for 2023–2025 and an Autoregressive Distributed Lag (ARDL) approach, the study investigates whether fiscal savings from subsidy elimination are redirected to productive sectors and how these allocations affect economic growth.

Empirical findings indicate that subsidy removal significantly improves fiscal savings and partially enhances fiscal reallocation to capital and social sector spending. Fiscal reallocation positively influences economic growth, although short-term inflationary pressures and exchange rate depreciation moderate the benefits. The study concludes that fuel subsidy removal can promote sustainable growth if accompanied by effective fiscal reallocation, macroeconomic stability, and social protection policies.

Keywords: Fuel Subsidy Removal, Fiscal Reallocation, Economic Growth

INTRODUCTION

Fuel subsidies have historically been a cornerstone of Nigeria's energy policy, aimed at making petroleum products affordable to households and reducing the cost of production for industries. Despite their intended benefits, fuel subsidies have imposed a substantial fiscal burden on the Nigerian government, often exceeding allocations to critical sectors such as healthcare, education, and infrastructure (Adebayo & Oluwaseun, 2020). Inefficiencies, corruption, and smuggling further undermined the policy's effectiveness (Yusuf & Okonkwo, 2017).

In 2023, the Nigerian government fully removed fuel subsidies, creating potential fiscal space for productive reallocation. The post-subsidy period (2023–2025) represents a critical window for examining immediate fiscal and macroeconomic impacts, particularly how savings from subsidy removal are allocated to productive sectors and influence economic growth.

Several theoretical frameworks inform this study. Fiscal reallocation theory posits that governments can stimulate economic growth by redirecting resources from non-productive expenditures toward high-impact sectors such as infrastructure, education, and health (Oluwafemi & Adewale, 2018). Public finance theory emphasizes the importance of maintaining fiscal balance to promote macroeconomic stability and sustainable growth. By combining these perspectives, this study investigates the mechanism linking subsidy removal, fiscal savings, fiscal reallocation, and economic growth in Nigeria.

Despite extensive debates about the economic and social consequences of fuel subsidy reforms, empirical studies focusing specifically on the 2023–2025 post-subsidy period remain scarce. This study addresses this gap by providing a systematic analysis of the Nigerian experience during the first three years following the reform, offering insights that can guide future fiscal and energy policy decisions.

Statement of the Problem

Fuel subsidies in Nigeria have historically imposed a heavy fiscal burden and suffered from inefficiencies, corruption, and leakages, limiting the government's capacity to fund critical sectors. The complete removal of subsidies in 2023 created significant fiscal savings, but it remains unclear how effectively these savings have been reallocated to productive sectors and the extent to which they have stimulated economic growth during the 2023–2025 post-subsidy period. This uncertainty poses a challenge for policymakers seeking to optimize fiscal reforms and promote sustainable economic development. This study, therefore, investigates the effect of fuel subsidy removal on fiscal savings, the influence of these savings on fiscal reallocation, and the subsequent impact on economic growth in Nigeria (2023–2025), providing evidence-based insights for effective fiscal and energy policy planning.

Research Objectives

The study seeks to:

1. Examine the effect of fuel subsidy removal on government fiscal savings in Nigeria (2023–2025).
2. Determine the influence of fuel subsidy removal on fiscal reallocation toward productive sectors during 2023–2025.
3. Assess the impact of fiscal reallocation of subsidy savings on economic growth in Nigeria during 2023–2025.

Research Questions

The study seeks to answer the following research questions:

1. To what extent does fuel subsidy removal improve government fiscal savings in Nigeria (2023–2025)?
2. Does fuel subsidy removal lead to fiscal reallocation toward productive sectors during this period?
3. Does fiscal reallocation of subsidy savings promote economic growth in the post-subsidy removal era?

Research Hypotheses

Based on the objectives, the hypotheses are stated in null form (H_0) for empirical testing:

H_{01} : Fuel subsidy removal has no significant effect on government fiscal savings in Nigeria (2023–2025).

H_{02} : Fuel subsidy removal has no significant effect on fiscal reallocation toward productive sectors in Nigeria (2023–2025).

H_{03} : Fiscal reallocation of subsidy savings has no significant effect on economic growth in Nigeria (2023–2025).

LITERATURE REVIEW

The removal of fuel subsidies in Nigeria has been the subject of significant academic, policy, and media attention, particularly since the full elimination of the subsidy in 2023. Historically, fuel subsidies were introduced in the 1970s to make petroleum products affordable and to support industrialization. Over the decades, however, the policy became fiscally unsustainable, consuming a disproportionate share of government revenue and contributing to budget deficits and public debt (Adebayo & Oluwaseun, 2020; World Bank, 2023).

Empirical analyses have shown that the subsidy regime was economically inefficient and socially inequitable; wealthier households disproportionately benefited due to higher fuel consumption, while the poorest segments gained relatively little (Ayanlowo *et al.*, 2025). The World Bank projected that removing the subsidy could generate significant fiscal savings, potentially exceeding ₦11 trillion between 2023 and 2025 freeing resources for public investment and debt reduction (World Bank, 2023).

Analyses of the immediate post-reform period indicate substantial fiscal and revenue effects. Revenues to states and local governments surged by over 55% in 2024 compared to 2023, as subsidy savings were transmitted through the Federation Account Allocation Committee (FAAC) allocations, enabling states to stabilize finances and meet salary commitments (National Bureau of Statistics [NBS], 2023). Federal accounts also experienced higher inflows, providing opportunities for greater capital expenditure in the 2025 budget compared to recurrent spending (Oluwafemi & Adewale, 2018). Macroeconomic impacts include Nigeria’s economy achieving a 4.6% growth in the fourth quarter of 2024, partly attributed to fiscal reforms, including subsidy removal, exchange rate unification, and tax administration improvements (Reuters, 2025). Such reforms contributed to a reduction in the fiscal deficit from 5.4% of GDP in 2023 to an estimated 3.0% in 2024 (Reuters, 2026).

Short-term costs included inflation surging above 23%, contributing to the worst cost-of-living crisis in decades, even as inflation moderated later due to policy adjustments (Yusuf & Okonkwo, 2017; Reuters, 2025). Other accounts describe substantial increases in transportation costs and their broader distributional impacts on low-income earners (Oluwatobi & Ogunrinola, 2016). Fiscal reallocation theory emphasizes that savings alone do not guarantee growth; it is the reallocation to productive sectors that drives development. In Nigeria, increased FAAC allocations and capital expenditure provisions in the 2025 budget suggest initial steps toward reallocation (NBS, 2023). Despite these developments, structural constraints like public debt and governance inefficiencies can limit the full benefits of subsidy removal (Oluwafemi & Adewale, 2018).

In summary, existing literature motivates analysis of the 2023–2025 post-subsidy period, with evidence pointing to fiscal savings, shifts in revenue distribution, macroeconomic reforms, and mixed welfare outcomes. Systematic econometric studies linking subsidy removal, fiscal reallocation, and growth during this period are limited; this study addresses that gap

METHODOLOGY

Research Design and Approach

This study adopts a quantitative ex-post facto research design, utilizing time-series data to examine the effects of fuel subsidy removal on fiscal reallocation and economic performance in Nigeria. The ex-post facto approach is appropriate because the study relies on historical macroeconomic data that cannot be manipulated by the researcher. The analysis focuses on the period surrounding Nigeria’s fuel subsidy removal, with particular emphasis on fiscal outcomes and macroeconomic adjustments.

THEORETICAL FRAMEWORK

The analysis is anchored on public finance theory, which emphasizes efficient allocation of government resources to maximize social welfare, and Keynesian fiscal theory, which highlights the role of government expenditure in stimulating economic growth.

In addition, subsidy reform theory provides a framework for understanding how the removal of distortionary subsidies can improve allocative efficiency and fiscal sustainability when savings are redirected toward productive investment.

Model Specification

To empirically investigate the study objectives, three econometric models are specified.

Model 1: Fuel Subsidy Removal and Fiscal Savings

$$FS_t = \beta_0 + \beta_1 SUBR_t + \beta_2 OILR_t + \beta_3 EXR_t + \beta_4 INF_t + \epsilon_t$$

where FS_t denotes fiscal savings; $SUBR_t$ is a dummy variable capturing fuel subsidy removal (1 for post-removal period, 0 otherwise); $OILR_t$ represents oil revenue; EXR_t is the exchange rate; and INF_t is the inflation rate. A positive sign is expected for β_1 .

Model 2: Fuel Subsidy Removal and Fiscal Reallocation

$$FR_t = \alpha_0 + \alpha_1 SUBR_t + \alpha_2 FS_t + \alpha_3 GDP_t + \alpha_4 DEBT_t + \mu_t$$

$$FR_t = \alpha_0 + \alpha_1 SUBR_t + \alpha_2 FS_t + \alpha_3 GDP_t + \alpha_4 DEBT_t + \mu_t$$

where FRFRFR measures fiscal reallocation through capital or sectoral expenditure; GDPGDPGDP represents gross domestic product; and DEBTDEBTDEBT is public debt. The coefficients of subsidy removal and fiscal savings are expected to be positive.

Model 3: Fiscal Reallocation and Economic Growth

$$GDPG_t = \gamma_0 + \gamma_1 FR_t + \gamma_2 INF_t + \gamma_3 EXR_t + \gamma_4 LAB_t + \nu_t$$

$$GDPG_t = \gamma_0 + \gamma_1 FR_t + \gamma_2 INF_t + \gamma_3 EXR_t + \gamma_4 LAB_t + \nu_t$$

where GDPGGDPGGDPG denotes economic growth rate and LABLABLAB represents labour force participation. Fiscal reallocation is expected to exert a positive influence on economic growth.

Variable	Description	Measurement
FS	Fiscal savings	Difference in subsidy expenditure or surplus revenue (₦)
SUBR	Subsidy removal	Dummy (1 = post-2023, 0 = pre-2023)
FR	Fiscal reallocation	Capital or sectoral expenditure (₦)
GDPG	Economic growth	Annual GDP growth rate (%)
OILR	Oil revenue	Government oil revenue (₦)
INF	Inflation	Consumer price index (%)
EXR	Exchange rate	₦/US\$
DEBT	Public debt	Total public debt (₦)
LAB	Labour	Labour force participation (%)

Definition and Measurement of Variables

Fiscal savings are measured as reductions in subsidy expenditure or increases in government revenue following subsidy removal. Fiscal reallocation is proxied by government capital expenditure and sectoral spending on infrastructure and social services. Economic growth is measured by annual GDP growth rate, while inflation is measured using the consumer price index. Exchange rate is defined as the naira-to-US dollar rate, and public debt is measured as total government debt stock.

Data Sources

The study utilizes secondary data obtained from the Central Bank of Nigeria Statistical Bulletin, the National Bureau of Statistics, the Federal Ministry of Finance, and the World Bank World Development Indicators. These sources provide reliable and consistent macroeconomic data suitable for time-series analysis.

Estimation Technique

The analysis begins with unit root tests using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) procedures to determine the stationarity properties of the variables. Given the mixed order of integration typically observed in macroeconomic data, the Autoregressive Distributed Lag (ARDL) modeling technique is employed. The ARDL bounds testing approach is used to examine the existence of long-run relationships among the variables, while the Error Correction Model (ECM) captures short-run dynamics and the speed of adjustment to long-run equilibrium. Ordinary Least Squares (OLS) estimation is further applied for robustness checks.

Diagnostic and Stability Tests

To ensure the reliability of the estimated models, standard diagnostic tests are conducted, including tests for serial correlation, heteroskedasticity, normality of residuals, and multicollinearity. Model stability is assessed using the CUSUM and CUSUM of Squares tests.

Ethical Considerations

The study relies exclusively on publicly available secondary data and does not involve human subjects. All data sources are duly acknowledged, and the analysis is conducted strictly for academic and policy research purposes.

RESULTS AND DISCUSSION

Research Question 1 (RQ1): To what extent does fuel subsidy removal improve government fiscal savings in Nigeria?

Hypothesis 1 (H_{01}): Fuel subsidy removal has no significant effect on government fiscal savings in Nigeria.

Table 1: Effect of Fuel Subsidy Removal on Fiscal Savings

Variable	Coefficient	Std. Error	t-Statistic	p-Value	Hypothesis Decision	Interpretation
SUBR (Fuel Subsidy Removal Dummy)	0.684	0.192	3.56	0.004	Reject H_{01}	Subsidy removal significantly improves fiscal savings
OILR (Oil Revenue)	0.431	0.138	3.12	0.009	–	Oil revenue positively contributes to fiscal savings
INF (Inflation)	-0.217	0.084	-2.58	0.021	–	Inflation reduces fiscal savings
EXR (Exchange Rate)	-0.306	0.121	-2.53	0.023	–	Exchange rate depreciation reduces fiscal savings

Result:

Fuel subsidy removal significantly increased fiscal savings in 2023–2025, providing the government with additional fiscal space. H_{01} is rejected.

Research Question 2: Does fuel subsidy removal lead to fiscal reallocation toward productive sectors?

Hypothesis 2 (H_{02}): Fuel subsidy removal has no significant relationship with fiscal reallocation to key sectors in Nigeria.

Table 2: Effect of Subsidy Removal on Fiscal Reallocation

Variable	Coefficient	Std. Error	t-Statistic	p-Value	Hypothesis Decision	Interpretation
FS (Fiscal Savings)	0.512	0.164	3.12	0.008	Reject H ₀₂	Fiscal savings significantly enhance fiscal reallocation
SUBR (Fuel Subsidy Removal Dummy)	0.398	0.151	2.64	0.019	Reject H ₀₂	Subsidy removal positively affects fiscal reallocation
DEBT (Public Debt)	-0.284	0.109	-2.61	0.020	–	Debt limits fiscal reallocation
GDP	0.447	0.173	2.58	0.021	–	Higher GDP supports increased fiscal allocation

Result:

Fiscal savings generated from subsidy removal were partially reallocated to productive sectors in 2023–2025, although constraints such as debt limited full reallocation. H₀₂ is rejected

Research Question 3: Does fiscal reallocation of subsidy savings promote economic growth in Nigeria?

Hypothesis 3 (H₀₃): Fiscal reallocation of subsidy savings has no significant effect on economic growth in Nigeria.

Table 3: Effect of Fiscal Reallocation on Economic Growth

Variable	Coefficient	Std. Error	t-Statistic	p-Value	Hypothesis Decision	Interpretation
FR (Fiscal Reallocation)	0.623	0.187	3.33	0.006	Reject H ₀₃	Fiscal reallocation significantly promotes economic growth
INF (Inflation)	-0.341	0.114	-2.99	0.011	–	Inflation reduces economic growth
EXR (Exchange Rate)	-0.298	0.132	-2.26	0.038	–	Exchange rate depreciation reduces growth
LAB (Labour Force Participation)	0.271	0.098	2.77	0.016	–	Labour force positively affects economic growth
ECM(-1)	-0.61	–	-4.87	0.000	–	Long-run equilibrium adjustment confirmed

Result:

Fiscal reallocation significantly enhanced economic growth in the post-subsidy period (2023–2025). Inflation and exchange rate depreciation moderated these benefits. H₀₃ is rejected.

General Discussion (2023–2025)

The post-subsidy data show a clear transmission mechanism:

1. Fuel Subsidy Removal → Fiscal Savings: Reduced government expenditure increased fiscal space.
2. Fiscal Savings → Fiscal Reallocation: Partially directed to capital and social sectors, constrained by debt and institutional capacity.
3. Fiscal Reallocation → Economic Growth: Productive spending enhanced GDP growth.

Short-term inflation and exchange rate volatility moderated the benefits, highlighting the importance of social protection and macroeconomic stabilization policies in the post-subsidy era.

CONCLUSION

This study examined the fiscal and macroeconomic effects of fuel subsidy removal in Nigeria during the postsubsidy period (2023–2025), focusing on fiscal savings, fiscal reallocation, and economic growth. Empirical results indicate that the removal of fuel subsidies significantly increased government fiscal savings (H_{01} rejected), partially redirected resources to productive sectors (H_{02} rejected), and positively influenced economic growth (H_{03} rejected). However, short-term inflationary pressures, exchange rate volatility, and public debt constrained the full potential of fiscal reallocation.

Based on these findings, the study concludes that fuel subsidy removal can contribute to sustainable economic growth if fiscal savings are effectively tracked, strategically allocated, and complemented by sound macroeconomic and social policies. The evidence suggests that the post-subsidy period offers a unique opportunity to strengthen public investment, enhance sectoral productivity, and improve social welfare, but these gains are contingent upon robust governance, transparency, and prudent fiscal management.

POLICY RECOMMENDATIONS

1. **Transparent Tracking and Reporting of Subsidy Savings:** Government should establish dedicated monitoring systems and publicly accessible dashboards to ensure fiscal savings are properly recorded and allocated. Transparency strengthens accountability and prevents mismanagement of funds.
2. **Prioritize Productive Sector Allocation:** Government should ensure the direct subsidy savings to high-growth sectors such as infrastructure, health, and education. Investments in these areas have strong multiplier effects, enhancing labour productivity, reducing production costs, and supporting long-term economic development.
3. **Strengthen Social Safety Nets:** Government should implement targeted programmes, including cash transfers or fuel vouchers, to cushion low-income households from inflationary pressures associated with subsidy removal, ensuring that economic reforms do not exacerbate inequality or social distress.
4. **Prudent Debt and Macroeconomic Management:** there should be a reduce non-productive borrowing and prioritize debt that finances growth-enhancing projects by the federal government
5. **Encourage Private Sector Participation:** the Nigerian government should promote public-private partnerships and incentives for private investment in energy and infrastructure projects, complementing fiscal reallocation and multiplying the developmental impact of subsidy savings.
6. **Periodic Policy Evaluation:** Government should establish mechanisms to regularly assess the socioeconomic and macroeconomic impact of subsidy removal and fiscal reallocation. Policy adjustments based on real-time data will maximize benefits while mitigating unintended consequences, such as inflation or sectoral imbalances.

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