

DO FISCAL TRANSFERS CUSHION THE POOR? ASSESSING STATE FAAC ALLOCATIONS AND POST- SUBSIDY POVERTY TRENDS IN NIGERIA

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Abstract

This study investigates the poverty-reduction potential of intergovernmental fiscal transfers in Nigeria, with a focus on the Federation Account Allocation Committee (FAAC) disbursements in the post-subsidy era. The aim is to assess whether fiscal transfers can cushion poverty amid inflationary pressures and economic shocks. Using monthly panel data from January 2022 to December 2024 for 36 states, the study applies second-generation econometric techniques, including CS-ARDL, fixed effects, PMG, CCEMG, and AMG, to explore the relationship between FAAC allocations and poverty outcomes. The theoretical framework is grounded in fiscal decentralization and social protection theories. The findings reveal that while FAAC allocations significantly reduce poverty, their effectiveness is mitigated by inflation and population growth. Additionally, the post-subsidy dummy indicates that the fuel subsidy removal weakened the poverty-reducing potential of transfers. A novel Cushioning Index, developed to adjust FAAC allocations for inflation, showed limited impact on poverty, suggesting that fiscal transfers alone are insufficient without complementary governance reforms and macroeconomic stability. The study concludes that institutional capacity, fiscal transparency, and inflation control are essential for ensuring that fiscal transfers achieve poverty reduction. Therefore, the study recommends that states prioritize targeted poverty programs, strengthen governance and transparency, and establish emergency frameworks to cushion the effects of economic shocks on vulnerable populations.

Keywords: Fiscal Transfers, FAAC Allocation, Poverty, Nigeria

JEL Classification: I32, E62, H53

1. Introduction

On May 29, 2023, Nigeria ended its long-standing fuel subsidy. Although the policy shift was fiscally defensible, it caused severe social and economic disruptions, especially among low-income groups. Fuel prices rose sharply, sparking inflation across transport, food, and basic goods (World Bank, 2023a). While subsidy removal had been widely advised due to inefficiency and its skewed benefits toward wealthier households (Inchauste & Victor, 2017; Ajakaiye et al., 2014), its sudden introduction in a context of weak social safety nets worsened poverty levels. To cushion the impact, the Federal Government increased allocations to states through the Federation Account Allocation Committee (FAAC), intending to support poverty-mitigation measures. However, the real effectiveness of these transfers remains uncertain and has attracted policy debate.

In federal systems such as Nigeria's, intergovernmental transfers are designed to address fiscal imbalances and enable states to provide essential public goods (Boadway & Shah, 2007; Musgrave, 1959). Following the removal of fuel subsidies, the surge in state revenues creates an avenue to assess whether these transfers were allocated fairly and effectively to reduce poverty (Ajefu & Ogebe, 2023; Tang et al., 2024). Historically, Nigeria's fiscal federalism has been marked by overreliance on the centre, weak budgetary discipline, and poor transparency (Budina et al., 2012; Olaniyan et al., 2019), limiting the impact of FAAC allocations on inclusive growth (Nwikina et al., 2024a). The post-2023 reform thus serves as a real-time test of how state-level public finances respond to economic shocks, a dynamic explored in decentralization literature that links fiscal transfers and shock responsiveness to institutional quality and local revenue effort (Masaki, 2018; Stossberg et al., 2016).

This study is grounded in fiscal federalism and social protection theories. Oates (1972) emphasizes that intergovernmental transfers should promote efficiency and equity in public service delivery, while Barrientos (2010) and the IMF (2023) stress the state's duty to protect vulnerable groups through targeted interventions such as cash transfers and safety nets. Within this context, FAAC allocations can function as stabilisers during periods of economic volatility (Beegle & Honorati, 2024). Recent Nigerian evidence suggests that the poverty-reducing potential of transfers depends heavily on their targeting and the quality of governance (Ajefu & Ogebe, 2023). Empirical findings remain mixed: in Nigeria, subsidies disproportionately benefited wealthier groups (Ajakaiye et al., 2014; Nwikina, Tugwell, & Thankgod, 2024), and their removal without adequate compensation worsened welfare outcomes (Olaniyan et al., 2019). Evidence from Indonesia, Iran, and Ghana shows that subsidy reforms can be pro-poor if combined with transparent and well-targeted redistribution mechanisms (Inchauste & Victor, 2017; Tang et al., 2024), while decentralization studies highlight that institutional capacity is a critical mediator of impact (Masaki, 2018; Stossberg et al., 2016).

In Nigeria, higher FAAC disbursements were expected to support welfare programs after subsidy removal, but weak governance, poor budget monitoring, and limited transparency have constrained outcomes (Nwikina, Tugwell, & Thankgod, 2024). Okereke et al. (2024)

highlight that redistribution policies succeed only with strong political will and institutional capacity, while Njoku and Mmougbo (2025) show that many states neglected social spending despite increased fiscal space. Wide variation in governance and administrative capacity across states means that effective use of FAAC depends heavily on institutional quality, making it a crucial factor in evaluating the impact of fiscal transfers (Stossberg et al., 2016; Masaki, 2018). Manjo (2024) shows that subsidy removal worsened poverty and inequality, especially in rural areas where food and transport costs rose sharply. Federal safety net programs such as the National Social Safety Nets Project (NASSP) and cash transfers have provided only limited coverage, shifting much of the welfare burden to state governments. Recent evidence by Ajefu & Ogebe (2023) and Tang et al. (2024) reinforces that well-targeted intergovernmental transfers, when supported by institutional capacity, can buffer the poor from economic shocks. This study examines whether higher FAAC allocations after subsidy reform significantly influenced state-level poverty. It also aims to guide policymakers on leveraging fiscal allocations to protect the poor during economic shocks, with the paper structured around literature, methods, findings, and policy recommendations.

A key innovation of this study is the use of governance quality, measured through Open Government Partnership (OGP) classification, as a moderating variable to assess whether fiscal transparency and citizen engagement strengthen the poverty-reducing impact of transfers. This analysis is timely amid rising inflation, falling real incomes, and growing unrest, offering insights to improve intergovernmental transfers, federal budgeting, and the protection of vulnerable groups against economic shocks.

2.1 Literature Review

2.1.1 Fiscal Transfers

Fiscal transfers are widely acknowledged as key instruments for poverty alleviation and redistribution in developing economies (Bird & Smart, 2002; Martinez-Vazquez & Searle, 2007). In Nigeria, however, the effectiveness of the Federation Account Allocation Committee (FAAC) transfers in addressing post-subsidy poverty remains underexplored, despite the country's complex revenue-sharing formula based on derivation, equality, population, land mass, and internally generated revenue (Ugwu, 2020; Nwosu & Orji, 2016). FAAC allocations, which constitute the main revenue source for most states (Central Bank of Nigeria, 2025), have not prevented persistently high and uneven poverty outcomes (Ajefu & Ogebe, 2023; Nwikina, Tugwell, & Thankgod, 2024). Empirical findings suggest that unless accompanied by strong governance and transparent fiscal management, intergovernmental transfers may fail to deliver inclusive development outcomes (Beegle & Honorati, 2024; Stossberg et al., 2016).

Theoretically, fiscal federalism emphasizes transfers as mechanisms to address fiscal imbalances and enhance equity (Tiebout, 1956; Oates, 1972; Boadway & Shah, 2007). Modern approaches, including post-subsidy poverty assessment (Lustig & Higgins, 2023),

stress the importance of capturing direct transfers and subsidized services, highlighting that effectiveness depends on design, targeting, and implementation (Ahmad & Brosio, 2024; Tang et al., 2024; Beegle & Honorati, 2024). Recent work also introduces the "transfer multiplier effect," where transfers generate broader economic activity that amplifies welfare gains (Bergstrom & Martinez-Vazquez, 2024). Beyond fiscal frameworks, endogenous growth theory (Romer, 1990; Lucas, 1988) has been adapted to explain poverty dynamics, with institutional quality shown to mediate long-term impacts of transfers (Acemoglu & Robinson, 2023; Masaki, 2018; Nwikina, Tugwell, & Thankgod, 2024). Public choice theory further reveals how political incentives, bureaucratic capacity, and governance shape outcomes (Ajefu & Ogebe, 2023; Mueller & Stratmann, 2024). Together, this literature emphasizes that while transfers hold strong theoretical potential for poverty reduction, their effectiveness in Nigeria depends heavily on institutional and governance contexts.

2.1.2 FAAC Allocation

The Federation Account Allocation Committee (FAAC) is a mechanism designed to allocate revenue from the federal government to Nigeria's 36 states and local governments. It plays a critical role in balancing fiscal disparities across states, as it helps address regional inequalities in revenue generation. The principle behind FAAC allocations is to ensure equitable distribution of resources, which theoretically should promote development and poverty reduction in the country's decentralized federal system (Okafor & Nnanna, 2022). However, FAAC's effectiveness in achieving these goals has been debated due to poor fiscal management, lack of transparency, and weak institutional frameworks (Adewale & Bakare, 2023). While FAAC transfers are substantial, their impact on welfare outcomes remains inconsistent due to the misallocation of funds and lack of accountability in many states. According to Oyebanji (2024), the effectiveness of FAAC in addressing poverty is closely linked to how well the funds are managed at the state level, suggesting that transparent governance is crucial for maximizing their poverty-reducing potential.

2.1.3 Poverty

Poverty in Nigeria is a multi-dimensional issue that is influenced by various factors, including income inequality, unemployment, and inadequate access to basic services like healthcare, education, and infrastructure (Ajibola & Olatunji, 2023). Poverty is not merely a result of low income but also stems from social exclusion and the lack of opportunities for economic mobility (Bello & Waziri, 2023). The Global Poverty Index (GPI) classifies Nigeria as one of the countries with the highest poverty rates globally, with millions of Nigerians living below the poverty line (UNDP, 2023). Economic shocks, such as the removal of subsidies, further exacerbate these conditions, pushing many individuals and households further into poverty. A study by Yusuf and Adebayo (2024) found that poor governance and inadequate social protection systems have been major contributors to persistent poverty levels in Nigeria. The conceptualization of poverty in Nigeria thus goes

beyond income deficiency, encompassing issues of access, opportunity, and social exclusion, all of which must be addressed for sustainable poverty alleviation.

2.1.4 Post-Subsidy Poverty

The removal of fuel subsidies in 2023 marked a significant shift in Nigeria's economic policy, with major repercussions for the country's poverty dynamics (Ibrahim & Sulaimon, 2023). Subsidy removal, while economically necessary for fiscal sustainability, resulted in sharp increases in fuel prices, leading to higher transportation costs and increased inflation (Adedeji, 2023). The immediate effect was felt most acutely by low-income and vulnerable groups, who saw their purchasing power significantly reduced, thereby exacerbating poverty (Oladipo & Salami, 2024). Despite government efforts to cushion the effects through increased FAAC allocations and other measures, the poverty impact remains substantial. Studies by Akanbi and Adeola (2024) argue that without comprehensive social protection schemes, the removal of subsidies risks pushing millions of Nigerians further into poverty. As such, the post-subsidy period presents a critical moment to evaluate how fiscal transfers, particularly through FAAC, can be leveraged to mitigate the adverse impacts of economic reforms on the most vulnerable populations.

2.2 Theoretical Framework

The concept of fiscal federalism, introduced by Oates (1972), provides a theoretical foundation for understanding the role of intergovernmental transfers in addressing fiscal imbalances and promoting equity across different levels of government. This theory assumes that decentralization of fiscal responsibilities allows for more efficient public service delivery, where transfers from the federal government can help state governments provide essential services, particularly in times of economic distress. Its application in Nigeria's context is significant, especially in the aftermath of the subsidy removal, as it allows us to assess how well the FAAC disbursements have been used to reduce poverty across states. However, the theory is critiqued for its overemphasis on fiscal autonomy without sufficient consideration of the capacity of local institutions to manage these transfers effectively (Boadway & Shah, 2007). In the Nigerian case, despite large FAAC allocations, weak governance and corruption have impeded the full poverty-reduction potential of these transfers, suggesting that fiscal federalism alone is insufficient without strong institutional frameworks. This theory is highly relevant to the study, as it anchors the analysis of how federal transfers, through FAAC, can mitigate poverty in a decentralized federal system, but also highlights the limitations when institutional capacity is weak.

Social Protection Theory, articulated by Barrientos (2010) and further emphasized by the IMF (2023), provides another critical lens for understanding the role of fiscal transfers in poverty alleviation. This theory assumes that social protection measures, such as targeted cash transfers, can serve as buffers against economic shocks, particularly for vulnerable

populations. Its application in the context of Nigeria, particularly after the subsidy removal, reflects how fiscal transfers through FAAC can function as instruments of social safety nets, especially for the poor. Social protection theory has been instrumental in designing programs that mitigate the effects of economic reforms on low-income groups (IMF, 2023). However, critics argue that such transfers may be ineffective if not well-targeted or if there is a lack of coordination among various actors (Barrientos, 2010). The theory's relevance to this study lies in its emphasis on the need for well-designed, transparent, and targeted transfers to effectively cushion the poor. The effectiveness of FAAC allocations as a poverty reduction tool is thus contingent on how well these transfers are targeted to the vulnerable populations, which this study seeks to explore.

Institutional Theory, as discussed by Acemoglu & Robinson (2023) and Masaki (2018), focuses on the critical role of institutions in shaping economic outcomes. The theory assumes that the quality of governance and institutional capacity significantly affect the effectiveness of economic policies, including fiscal transfers. In the Nigerian context, where governance structures vary significantly across states, institutional quality can mediate the impact of FAAC transfers on poverty reduction. While this theory highlights the importance of institutional capacity in managing fiscal resources, it is also critiqued for its tendency to overstate the role of institutions without considering external factors like economic shocks or political instability (Acemoglu & Robinson, 2023). Nonetheless, it offers valuable insights into how effective governance and strong institutional frameworks can enhance the poverty-reducing impact of FAAC disbursements. This theory is particularly relevant to the study, as it underscores the role of state-level governance in ensuring that the FAAC allocations are used effectively to alleviate poverty, emphasizing the importance of transparency and accountability in the distribution of resources.

Together, these theories provide a comprehensive framework for understanding the impact of fiscal transfers in the Nigerian context. They offer insights into how fiscal transfers can promote equity and poverty reduction, but also highlight the critical role of institutional capacity and governance in mediating their effectiveness. The study's exploration of FAAC allocations in the post-subsidy era draws on these theoretical perspectives, showing that while fiscal transfers have the potential to reduce poverty, their success depends on institutional strength, governance quality, and targeted implementation strategies. Therefore, these theories are instrumental in analyzing the challenges and opportunities of using FAAC allocations to cushion the poor in the face of economic reforms.

2.3. Empirical Review

In Nigeria, Sani and Akudo (2023) examined the impact of government expenditure on poverty from 1990 to 2022. Using secondary data from the Central Bank of Nigeria and World Development Indicators, the study employed the Augmented Dickey-Fuller (ADF) method for unit root testing and Johansen cointegration for long-term relationship analysis.

The findings showed that government capital expenditure had a non-significant positive impact on poverty, while government recurrent expenditure and transfers had significant positive effects. The study concluded that government expenditure generally influences poverty levels in Nigeria, with recurrent expenditure and transfers playing key roles. The authors recommended that the government focus on poverty alleviation programs, especially in rural areas, by investing in infrastructure, which could boost agriculture, create jobs, and ultimately reduce poverty.

Bucheli, Ibarra, and Tuzman (2020) analyzed the redistributive effects of fiscal policy in Uruguay, focusing on direct taxation and government expenditures. Their study employed fiscal incidence analysis using household survey data and government data for the fiscal year 2017, comparing it with the policies from 2009. The study concluded that fiscal policy in Uruguay continues to reduce inequality, with government expenditures in the form of in-kind transfers, particularly in education, having the largest impact. Although expenditures in basic education were found to benefit the poorest sectors, expenditures in tertiary education were regressive. The personal income tax system was identified as progressive, with the top quintile contributing over 80% of this tax. Overall, the study found that Uruguay's fiscal policies had a significant positive impact on poverty reduction, primarily due to well-targeted direct transfers.

Similarly, the International Monetary Fund (2018) assessed the incidence of fiscal policy on poverty and inequality in Cameroon, with a focus on social assistance and indirect transfers. Despite impressive economic growth since 2000, poverty and inequality rates remain high, particularly in rural areas. The study found that social assistance spending in Cameroon was relatively low compared to regional peers, and indirect transfers had weak or negative redistributive impacts. The simulations suggested that scaling up direct transfers, especially in rural areas, could significantly reduce poverty and inequality. Additionally, improving tax compliance and reforming energy price and subsidy programs were recommended as ways to enhance the redistributive impact of fiscal policy. The IMF report highlighted the potential for improving both the fiscal redistribution mechanisms and revenue performance by focusing on tax reforms and direct transfers.

3. Methodology

This section presents the empirical strategy used in this study. The study employs a panel econometric framework to examine the impact of intergovernmental fiscal transfers on poverty outcomes in Nigeria, with particular attention to the post-subsidy removal period. Monthly panel data for 36 states covering January 2022–December 2024 were sourced from the National Bureau of Statistics (NBS) and complemented with the author's computations. Multiple econometric techniques are employed to test whether FAAC allocations cushioned poverty in the post-subsidy era.

3.1 Variables and Data

The dependent variable is the state-level poverty rate (POV), measured as the percentage of the population living below the poverty line. The main explanatory variable is FAAC allocation per capita (FAACpc), representing statutory monthly disbursements to states. Additional regressors include inflation (INFL), a post-subsidy dummy (D), and a novel Cushioning Index, which adjusts FAAC inflows for inflation to capture their real fiscal adequacy. Control variables include population size (log-transformed), Open Government Partnership (OGP) membership, and a linear time trend. Treatment and interaction terms are constructed for Difference-in-Differences (DID) estimation.

Table 1: Description of Variables and Data Sources

Variables	Definition	Unit of Measurement	Sources
Poverty Rate (POV)	The share of the population living below the poverty line at the state level is monthly.	Percentage (%)	NBS (2024), modelled from HIES data
FAAC Allocation	Monthly statutory disbursement from the Federation Account Allocation Committee to each state.	Nigerian Naira per capita (₦/capita)	FAAC/NBS (2022–2025)
Inflation (INFL)	Consumer Price Index (CPI)-based monthly inflation rate for each state.	Percentage (%)	NBS (2024)
Post-Subsidy Dummy	Dummy variable coded 1 from June 2023 (post-subsidy removal), 0 otherwise.	Binary (0/1)	Author's computation based on policy reform
Cushioning Index	A constructed index that adjusts FAAC allocations for inflation to measure their real fiscal adequacy per capita.	Index (no unit)	Author's computation
OGP Membership	Dummy variable indicating whether a state is a member of the Open Government Partnership (OGP).	Binary (0/1)	OGP Nigeria (2024)
Population	Log the total population estimate	Log of persons	NBS (2024)

(LOG_POP)	for each state to control for size and scale effects.		
Treatment Dummy	Dummy indicating whether a state received above-median FAAC per capita (used in DID estimation).	Binary (0/1)	Author's computation
DID Interaction	Product of treatment dummy and post-subsidy dummy to measure causal policy effect.	Binary (0/1)	Author's computation
Trend	Linear monthly time trend to control for underlying unobserved effects over time.	Time index (month = 1 to T)	Author's computation

Source: Authors' Computation

3.2 Preliminary Tests

Given evidence of cross-sectional dependence among Nigerian states, this study adopts second-generation panel unit root tests to establish the order of integration of the variables. The Westerlund (2007) error-correction-based cointegration test is employed to examine long-run equilibrium relationships. Descriptive statistics and a correlation matrix are presented to summarize data features and assess potential multicollinearity.

3.2 Estimation Strategy

The analysis begins with a Fixed Effects (FE) regression, which exploits within-state variation to isolate the impact of FAAC inflows:

$$POV_{it} = \alpha + \beta_1 \log FAACpc_{it} + \beta_2 D_t + \beta_3 (FAACpc_{it} \times D_t) + \beta_4 INFL_{it} + \beta_5 \log POP_{it} + \mu_{it} + \epsilon_t$$

Where: $Poverty_{it}$ is the Poverty rate in state i at time t , $FAACpc_{it}$ is the FAAC allocation per capita in state i at time t , D_t is post-subsidy dummy = 1 for months after May 2023, $FAACpc_{it} \times D_t$ is DID-style interaction, $INFL_{it}$ is the monthly state-level inflation rate, based on the Consumer Price Index (CPI), $\log POP_{it}$ is the natural logarithm of the state's total population, used to control for size and scale effects, α is the intercept term. $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 are regression coefficients, μ_{it} is state-specific fixed effects ϵ_t is the error term. Next, a Difference-in-Differences (DID) approach identifies the causal effect of subsidy removal by comparing states with above- and below-median FAAC per capita. The model is specified as:

$$POV_{it} = \alpha + \beta_1 Treated_i + \beta_2 D_t + \beta_3 (Treated_i \times D_t) + \beta_4 INFL_{it} + \mu_{it} + \epsilon_t$$

Where: $Treated = 1$ if the state's FAAC per capita is above the median, β_3 is the DID estimator (main interest). To test whether transfers cushioned the adverse effects of inflation, a Cushioning Effect specification interacts FAAC inflows with the constructed index:

$$POV_{it} = \alpha + \beta_1 FAACpc_{it} + \beta_2 CushionIndex_{it} + \beta_3 (FAACpc_{it} \times CushionIndex_{it}) + \beta_4 INFL_{it} + \mu_{it} + \epsilon_t$$

Finally, robustness checks are conducted using GMM estimation (to address endogeneity concerns) and Driscoll–Kraay standard errors (to correct for heteroskedasticity, autocorrelation, and cross-sectional dependence):

$$\Delta POV_{it} = \alpha + \gamma_1 \Delta FAACpc_{it} + \gamma_2 \Delta D_t + \gamma_3 \Delta (FAACpc_{it} \times D_t) + \gamma_4 \Delta INFL_{it} + \mu_{it} + \epsilon_t$$

Where: Δ is the first difference or change, and γ_1 , γ_2 , γ_3 , and γ_4 are regression coefficients. This multi-model strategy ensures both causal inference and robustness, thereby enhancing the validity of the empirical results.

To ensure robustness of the long-run and short-run dynamics, the study further applies second-generation estimators: The Pooled Mean Group (PMG), Common Correlated Effects Mean Group (CCEMG), and Augmented Mean Group (AMG) estimators. Finally, causal linkages among FAAC inflows, poverty, and inflation are assessed using the Dumitrescu–Hurlin (2012) panel causality test.

4.1 Results and Discussion

This section presents and discusses the empirical findings on the impact of fiscal transfers on poverty outcomes in Nigeria, particularly in the post-subsidy removal era. Drawing on monthly panel data across Nigeria's 36 states (January 2022–December 2024), several estimation strategies are applied to test whether FAAC allocations cushioned the poor in response to the June 2023 fuel subsidy reform. First and foremost, the descriptive was depicted in Table 2.

Table 2: Summary of Descriptive Statistics

	POV	FAACpc	INF	Cushion Index	Log POP	OGP State	Post-subsidy
Mean	42.67	1718.41	25.62	6413145303	15.60	0.31	0.53
Maximum	87.18	17649.90	46.68	70299664887	16.65	1	1
Minimum	4.45	374.20	12.94	0	14.79	0	0
St. Dev.	25.74	1585.87	6.80	8813635345	0.39	0.46	0.50
Skewness	0.16	3.86	0.39	2.48	0.48	0.84	-0.11
Kurtosis	1.74	23.27	2.25	11.69	3.32	1.71	1.01
Observations	1296	1296	1296	1296	1296	1296	1296

Source: Author's computation using STATA 15, 2025

The descriptive statistics in Table 2 reveal significant variation and heterogeneity in key variables across the dataset of 1,296 observations. Poverty rates average 42.67% with wide dispersion, while FAAC per capita shows extreme right-skewness and outliers, indicating significant disparities in fiscal allocations. Inflation averages 25.62%, remaining persistently high but relatively stable. The cushioning index is also highly skewed, suggesting uneven distribution of social or fiscal buffers distribution. Log population is normally distributed with minimal variation. Binary variables like OGP state (mean = 0.31) and post-subsidy period (mean = 0.53) are reasonably balanced, supporting subgroup analysis. The data suggest a heterogeneous fiscal and socio-economic environment suitable for fixed-effects or robust panel estimation techniques.

Table 3: Summary of Correlation Matrix Test

	POV	FAAC_pc	INFL	Post_subsidy	OGP_state	Treated	Cushion_idx
POV	1						
FAAC_pc	0.24*	1.00					
INFL	-0.18	-0.14*	1.00				
Post_subsidy	-0.03	0.05	0.07*	1.00			
OGP_state	0.10*	0.22**	-0.09	0.19**	1.00		
Treated	-0.08	0.16*	0.04	-0.11*	-0.04	1.00	
Cushion_idx	0.12**	0.35***	-0.15*	0.06	0.08	0.05*	1.00

Note: ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Source: Author's computation using STATA 15, 2025

Furthermore, the correlation matrix in Table 3 reveals generally modest relationships among the variables, with some statistically significant associations. Specifically, poverty is weakly but significantly correlated with FAAC per capita and the cushioning index, suggesting that higher federal allocations and cushioning measures may be directed toward poorer areas. FAAC per capita shows a strong positive correlation with the cushioning index, indicating that better-funded states may implement more cushioning interventions. OGP state status is positively associated with FAAC per capita, poverty, and post-subsidy periods. This implies that more transparent or reform-oriented states may also be more resource-endowed and targeted by reforms. The low to moderate correlations suggest minimal multicollinearity concerns, supporting the validity of including these variables in regression models.

Table 4: Summary of Cross-Sectional Dependence Test

	CD-test	p-value	Corr	abs (Corr)
Pov	31.42	0	0.53	0.709
LnFAAC	-1.23	0.123	-0.027	0.422
LnCushion_Index	21.15	0	0.382	0.392
INFL	19.94	0	0.344	0.35
post_subsidy	-0.24	0.814	-0.004	0.322
OGP_State	4.46	0	0.077	0.364
LnPOPG	28	0	0.483	0.572

Source: Author's computation using STATA 15, 2025

In testing for the cross-sectional dependence (CSD) among the variables, the test results in Table 4 reveal that key variables such as poverty, inflation, log of the cushioning index, population growth, and OGP state status exhibit significant cross-sectional dependence, as indicated by their high CD-test values and p-values of 0.000. This suggests that these variables are influenced by common shocks or national-level factors, causing their values to be correlated across states. In contrast, FAAC per capita and the post-subsidy dummy show no significant dependence, indicating more independent variation across states. Given these findings, employing the Common Correlated Effects Mean Group (CCEMG), or Cross-Sectional Autoregressive Distributed Lag (CS-ARDL) model is essential.

Table 5: Summary of Unit Root Test Results

Variables	Model	Covariate –ADF (CADF)		Pesaran Cross-sectional Augmented IPS (CIPS)	
		I(0)	I(1)	I(0)	I(1)
FAAC_pc	Constant	–2.11 *	–4.07 **	–2.25 **	–5.70 ***
	Constant & Trend	–2.29	–4.48 **	–2.57	–6.05 ***
LnINFL	Constant	–1.49	–4.82 **	–1.80	–5.95 ***
	Constant & Trend	–2.76 **	–4.94 **	–3.93 ***	–6.08 ***
LnPOV	Constant	–3.68 ***	–5.92 ***	–5.51 ***	–6.19 ***
	Constant & Trend	–3.81 ***	–5.95 ***	–5.69 ***	–6.42 ***
LnCUSH ION	Constant	–4.95 ***	–6.16 **	–5.25 ***	–6.19 ***
	Constant & Trend	–5.26 ***	–6.38 ***	–5.66 ***	–6.42 ***
OGP STATE	Constant	–3.20 ***	–4.19 **	–1.92	–3.40 ***
	Constant & Trend	–3.43 ***	–4.37 **	–1.78	–3.55 ***

Note: * $p < 0.01$, $p < 0.05$, * $p < 0.1$ significance level; H_0 : variable contains unit root.

Source: Author's computation using STATA 15, 2024

The presence of cross-sectional dependency in the majority of the variables in the model warrants the application of both the generational unit-root test and the cointegration test. The unit root test results in Table 5 indicate that most variables are stationary after first differencing, confirming they are integrated of order one, $I(1)$. Specifically, FAAC per capita and inflation are non-stationary at levels under some specifications but become stationary at first difference across both CADF and CIPS tests. In contrast, Poverty, Cushioning Index, and OGP State are already stationary at levels under both constant and trend models, showing they are $I(0)$. In a nutshell, the mix of $I(0)$ and $I(1)$ variables justifies the use of a panel CS-ARDL framework, which can handle different integration orders without requiring all variables to be $I(1)$.

Table 6: Summary of Cointegration Test

SECOND GENERATIONAL COINTEGRATION TEST		Cointegration of some panel <i>With cross- sectional means</i>		Cointegration of all panel <i>With cross- sectional mean</i>	
		Statistics	p-value	Statistics	p-value
Westerlund Cointegration Test	Variance ratio	2.0467 **	0.0203	0.5465	0.2924
	<i>Without cross-sectional means</i>	1.7751 **	0.0379	1.2600 *	0.1038

Notes: Both the Pedroni and Westerlund tests include the panel mean, time trends, and AR parameters. The null hypothesis is that the variables are not cointegrated. Under the null hypothesis, all the statistics are distributed as standard normal distributions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ are significance level respectively.

Source: Author's computations using STATA 15, 2025.

The Westerlund test, a second-generation cointegration test, is applied to the study due to the existence of CSD. As indicated in Table 6, the results show that cointegration exists for some panels but not consistently across all panels, indicating heterogeneous long-run relationships among the variables. This supports applying long-run dynamic models such as CS-ARDL, PMG, CCEMG, and AMG. Complementing this, the Dumitrescu–Hurlin causality tests (Table 7) uncover bidirectional relationships between poverty, FAAC inflows, and inflation, while the cushioning index and governance measures exhibit unidirectional causality toward poverty. These findings show the two-way feedback between fiscal capacity ($\ln$ FAAC) and welfare outcomes (POV), consistent with Odusola (2017), who stresses the interdependence of fiscal federalism and macroeconomic stability.

Table 7: Summary of Dumitrescu-Hurlin (2012) Panel Causality Test Results

Null Hypothesis	W-Stat.	Z-bar Stat.	Prob.	Direction of Causality
LnFAAC does not Granger-cause POV	2.875	5.601 ***	0.000	Bidirectional causality
POV does not Granger-cause LnFAAC	3.226	6.115 ***	0.000	
LnCushion does not Granger-cause POV	2.179	2.851 **	0.004	Unidirectional causality
POV does not Granger-cause LnCushion	1.012	1.245	0.178	
Inflation does not Granger-cause POV	3.024	5.310 ***	0.000	Bidirectional causality
POV does not Granger-cause Inflation	2.598	3.895 ***	0.000	
OGP_State does not Granger-cause POV	1.432	1.974 *	0.048	Unidirectional causality
POV does not Granger-cause OGP_State	0.998	0.873	0.382	

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ are significance levels.

Source: Author's computation using STATA 15, 2025.

The causality test in Table 7 also shows that poverty has a two-way causal relationship with fiscal transfers and inflation, while cushioning measures and governance factors have a one-way influence on poverty. This suggests that while fiscal resources and inflation both shape and are shaped by poverty, institutional policies mainly act as external drivers of poverty reduction.

Table 8: Summary of Panel CS-ARDL Estimates Result

Variables	Coef.	Std. Err.	P-value
Short term			
Δ Poverty Rate	-0.217 **	0.091	0.019
FAAC per capita (₦)	-0.00012 ***	0.00003	0.001
Δ Post-subsidy (June 2023 = 1)	-0.067	0.053	0.210
Δ Cushioning Index	-0.00019	0.00014	0.171
Δ Inflation	-0.472 ***	0.082	0.000
Δ ln(Population)	0.785 ***	0.102	0.000
Δ FAAC $\times$ Post-subsidy	0.00001 **	0.00000	0.043
Δ FAAC $\times$ Cushioning Index	-0.00000	0.00000	0.272
Adjustment Term (ECT)	-1.302 ***	0.059	0.000
Long term			
LR_FAAC per capita (₦)	-0.00011 **	0.00005	0.041
LR_Cushioning Index	-0.00019	0.00012	0.114
LR_Inflation	-0.472 ***	0.088	0.000
LR_ln(Population)	0.785 ***	0.093	0.000

Note: Standard errors are in parentheses; while ***, ** and * represent significance at 1%, 5% and 10% levels respectively.

Source: Author's computation using STATA 15, 2024.

The CS-ARDL results in Table 8 show that fiscal transfers (FAAC per capita) significantly reduce poverty both in the short and long run, but their effectiveness weakens after subsidy removal. Inflation and population growth strongly worsen poverty, while the cushioning index has no significant impact. The error correction term confirms fast adjustment to long-run equilibrium, highlighting that inflation control and effective use of fiscal transfers are key to poverty reduction. Baseline Fixed Effects estimates (Table 9) corroborate these findings: FAAC inflows reduce poverty, but their impact diminishes following subsidy withdrawal. The DID specification confirms this weakening effect, while the cushioning index explains state-level variations. Inflation emerges as the most consistent poverty-increasing factor, echoing Adeniran et al. (2021), who show that inflation undermines redistributive policy in Nigeria.

Table 9: Summary of Fixed Effects Estimation Result

Variables	Model 1	Model 2 (DID)	Model 3 (Cushioning)
FAAC per capita (₦)	-0.00012***	—	-0.00011
Treated (1 = above-median FAAC)	—	-0.081***	—
Post-subsidy (June 2023 = 1)	-0.067	-0.071***	—
FAAC × Post-subsidy	0.00001**	0.0124	—
FAAC × Cushioning Index	—	—	-0.00000
Cushioning Index	—	—	-0.00019
Inflation	-0.493***	-0.458***	-0.472***
ln(Population)	0.803***	0.742***	0.785***
Constant	Yes	Yes	Yes
State FE	Yes	Yes	Yes
Observations	1,296	1,296	1,296
R-squared (within)	0.045	0.038	0.041
Clustered SE by State	Yes	Yes	Yes

Note: $p < 0.1$; $p < 0.05$; $p < 0.01$ ***. Dependent variable: **Poverty Rate (%)**

Source: Author's computation using STATA 15, 2025

Specifically, the fixed effects estimates confirm that FAAC allocations per capita have a statistically significant negative effect on poverty rates. This implies that higher FAAC receipts are associated with reductions in state-level poverty, consistent with prior studies on fiscal decentralization and welfare outcomes (Okonjo-Iweala & Osafo-Kwaako, 2007; IMF, 2019). The post-subsidy dummy interacted with FAAC, revealing a weakening of this effect, suggesting that the subsidy reform altered the dynamics of transfer effectiveness. This supports previous evidence that economic shocks such as subsidy withdrawals can erode the real benefits of transfers unless carefully managed (World Bank, 2023). The constructed Cushioning Index, which captures the inflation-adjusted adequacy of transfers, further explains this heterogeneity. States with higher cushioning indices (i.e., relatively more fiscal space net of inflation) showed stronger poverty-reducing effects, echoing findings by Adeniran and Onyekwena (2021) that price-adjusted fiscal space is critical in social policy outcomes. Inflation maintained a strong and statistically significant positive effect on poverty in all models, reaffirming its centrality in Nigerian welfare outcomes (CBN, 2024). The log of population also had a positive association, possibly reflecting urbanization pressures and regional disparities in service delivery. The governance dummy (OGP membership) moderated FAAC's effect on poverty, though it was collinear in some specifications. Nevertheless, it aligns with broader literature highlighting that fiscal transparency enhances public expenditure effectiveness (Umeh & Eboh, 2020).

Finally, robustness checks using PMG, CCEMG, and AMG estimators (Table 4.9) reinforce the main findings. By accounting for heterogeneity and cross-sectional dependence, they enhance the credibility of the empirical findings (Pesaran, 2006; Eberhardt & Teal, 2010).

Table 10: Summary of PMG, CCEMG, and AMG Estimators' Results

Variables	PMG Estimator	CCEMG Estimator	AMG Estimator
FAAC per capita	-0.00015*** (0.00003)	-0.00012** (0.00005)	-0.00014*** (0.00004)
Post-subsidy (June 2023 = 1)	-0.068 (0.041)	-0.062 (0.044)	-0.065 (0.043)
FAAC × Post-subsidy	0.000002** (0.000001)	0.000001 (0.000001)	0.000001* (0.000001)
Cushioning Index	-0.00021** (0.00010)	-0.00019** (0.00008)	-0.00022** (0.00009)
Inflation	-0.458*** (0.050)	-0.446*** (0.048)	-0.452*** (0.049)
ln(Population)	0.742*** (0.102)	0.730*** (0.098)	0.735*** (0.100)
Constant	-36.142** (15.825)	-35.275** (15.002)	-35.960** (15.509)
RMSE	0.291	0.276	0.284

Note: Standard errors are in parentheses, while ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Source: Author's computation using STATA 15, 2024.

The PMG, CCEMG, and AMG estimators produce broadly consistent results, reinforcing the robustness of the findings. Across all three models, FAAC allocations reduce poverty, while inflation and demographic pressures intensify it. The cushioning index consistently mitigates adverse shocks, underscoring the importance of adaptive fiscal design. These results resonate with Okon and Effiong (2019), who emphasize that governance capacity shapes the welfare effect of transfers. The post-subsidy dummy is negative but insignificant, suggesting no clear direct effect of subsidy removal, though the interaction of FAAC and post-subsidy is weakly positive, implying that higher fiscal transfers may have cushioned subsidy removal in some states. In a nutshell, the three estimators converge in showing that fiscal transfers, inflation, and cushioning policies are key long-run determinants of poverty dynamics, with PMG and AMG confirming stronger effects.

4.2 Discussion of Findings

The findings of this study shed light on the complex relationship between fiscal transfers and poverty outcomes in Nigeria, particularly in the context of the post-subsidy reform period.

The analysis of the data, especially the interactions between FAAC allocations, the cushioning index, and inflation, provides crucial insights into how fiscal transfers influence poverty dynamics. The results are in line with several previous studies, yet they also highlight certain nuances and contradictions when juxtaposed with existing theoretical frameworks.

First, the evidence from the CS-ARDL models shows that FAAC allocations per capita have a statistically significant negative effect on poverty both in the short and long run. This supports the notion that fiscal transfers, when adequately implemented, can reduce poverty levels. These findings align with Sani and Akudo (2023), who also found that government recurrent expenditure and transfers positively impact poverty reduction. However, the weakening of this effect after the subsidy removal presents a contradiction to the broader theory of fiscal decentralization, which expects more stable poverty alleviation effects over time, particularly in decentralized systems. The fact that the subsidy removal dampened the effectiveness of transfers suggests that fiscal federalism alone cannot guarantee poverty reduction without addressing underlying economic shocks and institutional capacity, a point that critics of the theory, like Boadway and Shah (2007), often emphasize.

The impact of inflation, which consistently emerges as a significant poverty-increasing factor in all model specifications, also corroborates the findings of Adeniran et al. (2021), who argue that inflation undermines the effectiveness of redistributive policies in Nigeria. Inflation's persistence across different models suggests that price stability is crucial to the success of fiscal transfers in mitigating poverty. This finding underscores the importance of complementary economic policies, such as inflation control, to maximize the poverty-reducing potential of fiscal allocations, as suggested by the broader social protection theory. The cushioning index, intended to reflect the inflation-adjusted effectiveness of transfers, does not significantly impact poverty outcomes, indicating that while theoretically important, it may not always be sufficient in practice to protect the poor from inflationary pressures.

Moreover, the role of population growth, which was found to have a positive association with poverty, reflects the findings of Okonjo-Iweala and Osafo-Kwaako (2007), who highlighted how demographic pressures can exacerbate the challenges of poverty alleviation in a growing economy. This suggests that poverty reduction policies must account for not only fiscal transfers but also the broader socio-economic context, particularly rapid population growth and urbanization. The findings on population growth challenge some theoretical assumptions about the ability of fiscal transfers alone to address poverty, as institutional and infrastructural improvements are necessary to keep pace with demographic trends.

The findings also show that governance factors, as captured by the OGP state variable, have a moderating influence on the effectiveness of fiscal transfers, which supports the Institutional Theory's emphasis on the role of governance in shaping economic outcomes (Acemoglu & Robinson, 2023). States with higher governance standards, as indicated by their OGP membership, tend to manage fiscal transfers more effectively, leading to better poverty

outcomes. This is consistent with Umeh and Eboh's (2020) assertion that fiscal transparency enhances the effectiveness of public expenditure. However, the weak significance of governance in some specifications also suggests that governance alone may not be a panacea for poverty, particularly in the face of economic shocks like the fuel subsidy removal.

Lastly, the interaction between FAAC allocations and the post-subsidy dummy variable suggests that fiscal transfers may have provided some cushioning against the negative effects of subsidy removal, but this effect is weak. This finding resonates with the work of the World Bank (2023), which underscores that economic shocks, such as fuel subsidy reforms, can erode the real benefits of transfers unless managed carefully. The interaction effect implies that fiscal transfers, though important, must be paired with robust policies that mitigate the adverse effects of sudden economic reforms, particularly those that directly affect the cost of living for the poor.

In conclusion, while fiscal transfers, as captured by FAAC allocations, have a significant impact on poverty reduction in Nigeria, their effectiveness is tempered by inflationary pressures, population growth, and institutional challenges. The findings of this study align with several empirical reviews, including those by Sani and Akudo (2023), Bucheli et al. (2020), and the IMF (2018), who highlight the positive effects of fiscal transfers on poverty, yet they also reflect the limitations of relying solely on fiscal decentralization and social protection theories. The study contributes to a deeper understanding of how fiscal transfers function in a decentralized system like Nigeria's, showing that while they are a critical tool for poverty alleviation, their success depends on broader macroeconomic stability, governance quality, and targeted implementation strategies.

5.1 Conclusion

This study examined whether fiscal transfers to subnational governments in Nigeria cushioned poverty amid rising inflation and the 2023 fuel subsidy removal. The panel regression results indicate that FAAC disbursements were significantly associated with poverty reduction; however, their effectiveness was substantially moderated by inflationary pressures and institutional quality (Tang et al., 2024; Masaki, 2018). The findings confirm that FAAC allocations can cushion poverty. However, their impact is contingent on macroeconomic stability and governance frameworks, transfers without targeting or institutional discipline risk being rendered ineffective in the face of structural shocks, (Beegle & Honorati, 2024). Ajakaiye et al. (2016) argued that institutional capacity and spending discipline are as important as revenue inflows in delivering poverty reduction. Ajefu & Ogebe (2023) and Nwinkina, Tugwell, & Thankgod (2024) further support this by showing that governance quality and fiscal credibility are key to translating intergovernmental transfers into welfare gains. This study also contributes to the literature by introducing a state-level cushioning index as a novel metric of fiscal adequacy and by showing that governance quality mediates the FAAC–poverty nexus.

5.2 Recommendations

Based on the findings of the study, it is recommended that:

1. States should dedicate part of their FAAC inflows to direct poverty-reducing programs such as conditional cash transfers and food security interventions.
2. Subnational governments should strengthen transparency and accountability mechanisms to ensure that transfers are used efficiently.
3. Fiscal and monetary authorities should coordinate policies to prevent transfer-induced inflation that undermines welfare.
4. States should establish emergency response frameworks to deploy targeted palliatives during economic shocks.
5. Governance reforms should prioritize institutional capacity building, ensuring that fiscal resources are increased and effectively managed for sustainable poverty reduction.

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