The Nexus Between Fiscal Policy and Income Inequality in Nigeria

Braimoh, E. O., Abari-Ogunsona, T. A., Salami, S. O.

Lagos State University, OJO, Faculty of Social Sciences, Department of Economics

ABSTRACTS

This study examines the relationship that exists between fiscal policy and income inequality in Nigeria, spanning from 1990 to 2024, focusing on how government expenditure, taxation, GDP, inflation, and external debt affect the poverty rate. The study adopted pre-estimation, estimation and post-estimation techniques. Going by the results, it can be deduced that the regression results show that government expenditure and health investment play a significant role in poverty reduction, while taxation and external debt exhibit delayed and mixed effects. The ARDL and bounds test confirm that there is both a short-run and long-run relationship among the variables, emphasising that fiscal policy, particularly, should be targeted at social spending, which can significantly reduce the poverty rate. However, issues such as inflation, debt sustainability, and inefficient and effectiveness tax systems in Nigeria continue to undermine equity goals. The study concludes that policy makers should aim at improving public expenditure in an efficient and effective manner, enhancing progressive taxation, and reinforcing stakeholders' capacity to ensure more inclusive, resilient and sustainable economic development.

Keywords: fiscal policy, fiscal inequality, Auto-regressive distributed lag, Government Expenditure, Inflation rate.

INTRODUCTION

Income inequality remains a persistent and consistent issue facing the Nigerian economy, despite the oil revenues and market structures that drive economic growth. These reforms have often failed to improve the living standards of the majority, especially in rural areas where poverty touches about 75.5% of the population, compared to 41.3% in urban areas. As of 2024, many Nigerians (54%) live below the poverty line (World Bank, 2025). Inequality deprives people of access to education, basic needs and social amenities. Around 79.5% of adults without adequate education live in poverty, compared to just 25.4% of those with tertiary education (Dejusticia, 2024).

To address these issues, the Nigerian government and institutions have implemented various fiscal measures, including increased spending on health, education, and infrastructure, as well as social programs like cash transfers and youth employment initiatives (NSIP, 2024; Ekong et al., 2021). However, these efforts have been marred by poor implementation and planning, weak institutions, and governance challenges (Umezurike & Adam, 2023).

More so, the tax system remains narrow, relying heavily on regressive indirect taxes like VAT, while progressive taxation is underutilised (IMF, 2023). Macroeconomic indicators instability, such as inflation rate and exchange rate fluctuations, further erodes disposable incomes and disrupts pro-poor spending (FT, 2024; Reuters, 2025).

While fiscal policy plays a significant role in reducing income inequality through equitable taxation and inclusive and resilient spending, its impact on Nigeria's economic system has been mixed. This study, therefore, aims to examine the effect of fiscal policy on income inequality in Nigeria from 2000 to 2024, focusing on how taxation and public expenditure have influenced income distribution.

LITERATURE REVIEW

Conceptual Review

Fiscal Policy

Fiscal policy involves the use of government spending and taxation to manage, control, regulate, and maintain the overall economy and promote social welfare (IMF, 2023). It targets growth and development, income redistribution through public investment and progressive taxes. In Nigeria, however, institutional weaknesses, poor implementation, poor management, poor policy, lack of integrity, and governance issues hinder its effectiveness and efficiency in reducing inequality (Okoro & Zhang, 2022; IntechOpen, 2023).

Government Expenditure on Social Services and Income Inequality

Spending on education, housing, roads, water, electricity, and healthcare helps combat income inequality by improving social service outcomes among the marginalization (Adekunle et al., 2023). However, in Nigeria, poor targeting, weak institutions, lack of stability in policy development, and corruption often reduce the impact of social programs (Lawal & Huang, 2024).

Public Debt and Borrowing

Public debt is used to finance products or investments for the economy and societal development. However, if well-managed, well-financed, and well-used, it supports and promotes growth and inclusion development; unsustainable borrowing can lead to harm to the masses through cuts in social spending (Olawale & Smith, 2023; Ibrahim & Lawal, 2022).

Public Investment in Infrastructure and Poverty Headcount Ratio

Infrastructure development (e.g., roads, electricity, water) reduces poverty by boosting productivity, investment and service needs, especially in marginalization areas (DAWN Commission, 2024). These improvements help lower the poverty per capita by enhancing livelihoods and economic inclusion.

Theoretical Framework

Keynesian Theory of Fiscal Policy

Keynesian theory postulated active government intervention to manage and control aggregate demand. During recessions, fiscal policy plays a vital role in stimulating the economy and can reduce the inflation rate. In Nigeria, the theory supports expansionary policies like infrastructure development and social spending, though effectiveness and efficiency depend on how fiscal policy management and policy execution are structured.

Wagner's Law of Increasing State Activities

Wagner's Law also emphasised that as economies improve, government expenditure also increases due to rising public demand for goods and services. In Nigeria, expanding public spending must grow well as the population's needs. However, efficiency and equity in resource allocation remain essential to prevent misuse and promote inclusive development.

Musgrave's Theory of Public Finance

Musgrave outlines three fiscal functions: allocation (public goods), distribution (equity), and stabilisation (economic balance). In Nigeria's context of poverty and instability, the theory supports targeted spending and tax reforms. But success hinges on institutional strength, transparency, and fiscal discipline.

Fiscal Theory on Income Distribution

This theory emphasises using taxation and spending to influence income distribution. Progressive taxes and pro-poor spending promote equity, while regressive taxes and poor targeting worsen inequality. For Nigeria, it underlines the need for fair tax reforms, efficient spending, and inclusive fiscal planning to reduce structural disparities.

Empirical Review

A study by Abari-Ogunsona et al. (2025) investigating the impact of microfinance banks on poverty reduction in Nigeria between 1990 and 2024 revealed complex dynamics. Their research indicated that a temporary decrease in poverty was associated with a wider money supply, but sustained inflation had a detrimental long-term effect. Intriguingly, domestic credit directed to the private sector appeared to exacerbate poverty. The authors ultimately concluded that microfinance alone is insufficient for poverty alleviation, advocating instead for an integrated approach of monetary, fiscal, and social policies.

Yakubu (2024) focused on the impacts of excise taxes in Nigeria spanning from 1995-2022. The study revealed that excise taxes on petroleum products and alcohol affect low-income earners. The study called for exemptions on essential goods and higher taxes on luxury items, alongside welfare compensation mechanisms.

Okonkwo (2024) used the ARDL bounds test to investigate the impact of public debt on income inequality in Nigeria from 1986 to 2020. The study revealed that increasing public debt increased inequality through constrained poor management spending. And intensified by exchange rate instability. The study recommends responsible debt management and greater reliance on borrowing.

Oladipo (2024) examines the relationship between capital expenditure and inequality in Nigeria from 1990 to 2021 using the auto-regressive lag model estimate techniques. The study shows that infrastructure development reduced income inequality in the long run. However, corruption and poor maintenance reduce its effectiveness, and the study suggested that investment in infrastructural development alone is insufficient without governance reform.

Giwa (2024) also investigated the impact of education-related fiscal spending on inequality in Nigeria between 1990 to 2022, using an instrumental variables approach. The study revealed that while education expenditure improved enrollment rates, its inequality-reducing effects were uneven due to regional disparities in quality. It recommended a good policy system and ensuring equitable distribution of resources.

Mwanza (2024) conducted a comparative analysis of fiscal policy in African countries, emphasising oil-exporting nations. The study found that countercyclical fiscal strategies more effectively reduced inequality than procyclical ones. For Nigeria, fiscal rigidity and poor reserves constrained redistributive capacity. Social safety nets were more immediately effective than infrastructure in narrowing income gaps.

In addition, Okeke (2024) evaluates the relationship between social services spending and poverty rate in Nigeria from 1991 to 2020. The study employs the pre-estimate, estimate and post-estimate technique. The study concludes that in the long term, investments in education and healthcare reduced poverty; however, in the short term, effects were destabilised by inflation, corruption, and regional disparities. The study recommends decentralisation and performance-based budgeting.

More so, Ahmed (2024) analysed the significant impacts of fiscal consolidation on poverty in Nigeria (2000–2022) using a structural vector auto-regressive model. Although consolidation improves macroeconomic stability, it increases poverty due to cuts in social spending. Over time, investor confidence improved, aiding in poverty reduction. The study emphasised balancing targeted social safety nets.

METHODOLOGY

Research Design

This study adopts a quantitative ex post facto research design to analyse the relationship between fiscal policy variables and income inequality in Nigeria. By relying on historical data, the design facilitates empirical assessment of how past fiscal interventions, particularly in taxation, expenditure, and debt management, have influenced income distribution and poverty over time. The econometric approach provides a rigorous framework for testing both short- and long-run relationships.

Source of Data

The study utilises secondary data obtained from reputable national and international sources to ensure credibility and consistency. The key data sources include:

1. Central Bank of Nigeria (CBN) Statistical Bulletin

2. National Bureau of Statistics (NBS)

3. Federal Ministry of Finance

4. World Bank Development Indicators (WDI)

Method of Data Collection

The study relies solely on secondary time series.

1. Government Expenditure

2. Tax Revenue

3. Gross Domestic Product

4. Inflation rates

5. External Debt Stock

6. Poverty Incidence.

Model Specification

The model is designed to estimate both short-run dynamics and long-run equilibrium relationships between fiscal policy variables and poverty incidence.

Functional Form:

$$POV = \beta_0 + \beta_1 GEX + \beta_2 TAX + \beta_3 GD + \beta_4 INF + \beta_5 BEXDEBT + \varepsilon$$

POV = Poverty Rate

GEX = Government expenditure

TAX = Tax revenue

GDP = Gross Domestic Product

INF = Inflation rate

EXDEBT = External debt stock

Method of Data Analysis

The data will be analysed using both descriptive and inferential econometric methods via EViews software. The analytical procedures include:

1. Descriptive Statistics.
2. Correlation Analysis
3. Ordinary Least Squares (OLS) Regression:
4. Stationarity Tests: The Augmented Dickey-Fuller (ADF)
5. Long-run ARDL model will be estimated.

A corresponding Error Correction Model (ECM) will be specified to capture the short-run.

RESULTS AND INTERPRETATION

Descriptive statistics

Table 4.1 Descriptive statistics

	EXDT	GDP	GEXE	INF	LOG__TAX_	POVR
Mean	9.806303	4.215400	221.7031	16.32588	2.922195	45.97429
Median	9.240120	4.196000	137.1200	10.38478	3.315006	45.00000
Maximum	22.59635	15.33000	594.3300	75.40165	3.818839	58.40000
Minimum	0.676956	-2.035000	0.260000	0.686099	1.300378	31.00000
Std. Dev.	6.283020	3.867833	218.8152	15.08324	0.811827	7.824334
Skewness	0.115698	0.508073	0.621272	2.217683	-0.739039	-0.147752
Kurtosis	2.180020	3.554344	1.883042	8.301234	2.052140	1.967032
Jarque-Bera	1.058620	1.953948	4.070950	69.67269	4.496268	1.683422
Probability	0.589011	0.376449	0.130618	0.000000	0.105596	0.430972
Sum	343.2206	147.5390	7759.610	571.4057	102.2768	1609.100
Sum Sq. Dev.	1342.196	508.6445	1627923.	7735.141	22.40814	2081.487
Observations	35	35	35	35	35	35

The descriptive statistics show varying behaviour across the variables. External debt (EXDT) and government expenditure (GEXE) have high variability, reflecting fiscal volatility over time. GDP has a stable average (4.22) and shows a near-normal distribution with low skewness. Inflation (INF) is highly skewed and leptokurtic, suggesting there is presence of a high inflationary rate. Tax revenue (LOG_TAX) is moderately skewed, while poverty (POVR) shows that the variable is normally distributed.

Test of stationarity

Table 4.2 The Unit Root Test

Variables	Criterion	Statistical value	Critical value	Probability	Order of integration	Remarks
Exdt	SCHWARZ	6.95833	2.954021	0.0000	I(1)	STATIONARY
GDP	SCHWARZ	3.775722	2.9551125	0.0071	I(0)	STATIONARY
GEXE	SCHWARZ	4.74002	2.954021	0.0006	I(1)	STATIONARY
GEXH	SCHWARZ	9.276972	2.954021	0.0000	I(1)	STATIONARY
INF	SCHWARZ	4.204607	2.960411	0.0026	I(1)	STATIONARY
LOG_TAX_	SCHWARZ	3.113977	2.951125	0.00034	I(1)	STATIONARY
POVR	SCHWARZ	1.251908	2.976263	0.05	I(1)	STATIONARY

The stationarity test, using the Schwarz criterion, shows a mix of integration levels among variables. GDP is stationary at level [I(0)], indicating no need for differencing. Other variables—including EXDT, GEXE, INF, LOG_TAX, and POVR—become stationary after first differencing [I(1)]. Since the data include both I(0) and I(1) variables, this mix justifies the application of the ARDL model, which is appropriate for such combinations in time-series analysis.

Regression Analysis

Table 4.3 Ordinary Least Squares caption

Dependent Variable: POVR			
Method: Least Squares			
Date: 07/12/25 Time: 09:58			
Sample: 1990 2024			
Included observations: 35			
			C
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	56.43161	8.153481	6.921167	0.0000
EXDT	0.016953	0.206019	0.082288	0.9350
GDP	0.065686	0.259373	0.253250	0.8019
GEXE	-0.017650	0.008966	-1.968420	0.0586
INF	0.068331	0.068499	0.997541	0.3268
LOG__TAX_	-2.772928	2.807881	-0.987552	0.3315
R-squared	0.681307	Mean dependent var		45.97429
Adjusted R-squared	0.626360	S.D. dependent var		7.824334
S.E. of regression	4.782708	Akaike info criterion		6.122696
Sum squared resid	663.3547	Schwarz criterion		6.389327
Log likelihood	-101.1472	Hannan-Quinn criterion.		6.214737
F-statistic	12.39935	Durbin-Watson stat		0.492469
Prob(F-statistic)	0.000002			

The OLS regression assesses the impact of selected macroeconomic variables on poverty. The R-squared value of 0.681 implies the model explains 68.1% of the variation in poverty. Government expenditure (GEXE) is negatively related to poverty and nearly statistically significant (p = 0.0586), indicating that higher spending may help reduce poverty.

ARDL BOUND TEST

Table 4.5 ARDL short-run and long-run bound test

Table: ARDL Long-Run Form and Bounds Test Summary

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXDT	-0.1510	0.1809	-0.8349	0.4254
GDP	-0.3282	0.5363	-0.6119	0.5557
GEXH	-0.0744	0.0216	-3.4357	0.0074
LOG_TAX	-1.1363	4.0548	-0.2802	0.7856
Constant (C)	65.2323	8.4751	7.6969	0.0000

The bounds test confirms a long-run relationship between poverty and the macro variables, with an F-statistic (5.93) exceeding critical values at 5% and 1% levels. Among the long-run variables, only health expenditure (GEXH) is statistically significant and negatively signed, suggesting that investment in health services is critical for reducing poverty. Other variables (EXDT, GDP, LOG_TAX) are not significant in the long term but show important short-term effects.

CONCLUSION AND RECOMMENDATION

Recommendations

Based on the findings, recommendations to improve poverty reduction in Nigeria must be comprehensive and strategically targeted. Given the significant gap between rural and urban poverty, no approach would be effective. Therefore, policies should be tailored to specific regional needs while also addressing systemic issues such as fiscal management and corruption.

First, the stakeholders should prioritise public-private investment, government should embark on infrastructural development, this includes not just roads and power but also the digital set-up needed for a modern economy for long-term investment that could help to reduce the poverty rate. More so, efficient allocation of resources plays a crucial role in improving the livelihood of the people.

Second, For urban areas, poverty reduction strategies should focus on economic enablement and improving the quality of life. This means investing in skills advancement and vocational training to meet the demands of urban industries. Furthermore, providing support for small and medium-sized enterprises (SMEs) through easier access to credit can help job creation. To reduce the financial strain on urban households, it's essential to invest in public transportation and affordable housing programs.

Third, the tax system should be structured to enhance equity and efficiency; implementing a good tax system through digitalisation, and linking fiscal policy to redistributive spending can help reduce poverty.

Finally, to ensure the success of all these policies, fiscal management must be decentralized, and strong anti-corruption measures must be put in place. Fiscal decentralization would give state and local governments greater independence by enhancing their internally generated revenue (IGR) capacity and binding federal transfers to performance system of measurement. This can be supported by community-driven development programs. To combat corruption, which drains resources from the public, the government should implement digital procurement systems, real-time budget tracking platforms, and encourage citizens' participatory budgeting. Establishing independent fiscal responsibility commissions at the state level would provide an additional level of oversight. These comprehensive and variety of policy recommendations provide a more robust and actionable plan for sustainable poverty reduction in Nigeria.

Conclusion

Among the variables in the study, it should be noted that government health expenditure is a major driver of poverty reduction. This undermines the significant role of investing in human capital as a sustainable development strategy. In addition, external debt and Gross domestic product show a significant positive effect in the short run, suggesting the effectiveness of economic stabilisation tends to reduce poverty through enhanced public investment and employment opportunities. More so, these benefits may dissipate over a specific period of time if not supported by good fiscal and structural reforms.

Government expenditure should offer potential as a fiscal policy tool for poverty alleviation efficiently managed. Tax revenue showed mixed, lagged effects on poverty, suggesting problems in tax equity and resource redistribution.

Overall, the findings highlight the need for a balanced macroeconomic framework that addresses the causes of poverty. Policymakers and stallholders should not only focus on increasing taxes but also on increasing the redistribution of resources.

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