FISCAL POLICY AND INCOME INEQUALITY IN NIGERIA

NWOSU, VICTORIA OGECHI
DEPARTMENT OF FINANCE AND BANKING, UNIVERSITY OF PORT HARCOURT, NIGERIA
vicky.vy2018@gmail.com

&

EBELE PATRICIA IFIONU
DEPARTMENT OF FINANCE AND BANKING, UNIVERSITY OF PORT HARCOURT, NIGERIA
ebele.ifionu@uniport.edu.ng

Abstract
This study analyzed the influence of fiscal policy on income inequality in Nigeria from 1994 to 2023. Specifically, we examined how petroleum profit tax (PPT), company income tax (CIT), custom and excise duty (CED), value-added tax (VAT), government recurrent expenditure (GRE), and government capital expenditure (GCE) affect income inequality. Data utilized in the study were sourced from the Central Bank of Nigeria and World Bank Development Indicators of various issues. The study applied the unit root, Johansen co-integration, and Parsimonious ECM model at the 5% significance level. The study discovered that all the various were stationary at their first difference; thus, requiring the Johansen co-integrating equation that validates the presence of long-run form. The result showed that CIT was positive but insignificant to income equality, PPT and GRE were positive and significant to income inequality, CED was negative and significant to income inequality, VAT and GCE were negative but insignificant to income inequality. The study concluded that the three dimensions of fiscal policy in Nigeria that substantial influence her income inequality are petroleum profit tax, custom and excise duty, and government recurrent expenditure. Amongst others, the study recommended that the Federal Government of Nigeria should to allocate CIT funds towards specific social and economic initiatives that advantage low- and middle-income demographics. The government ought to augment spending in education, healthcare, and skill development initiatives utilising CIT funds, hence broadening economic chances for the underprivileged.

Keywords: *Taxation, Spending, Strategy, Poverty, Gap*

Introduction

Poverty and income inequality are key sustainable development goals (SDGs) that have attracted the global community's attention during the last decade (Adetunji-Babatunde et al., 2012; Aikins and Mclachlan, 2022). As of 2022, nearly 460 million people in Africa live in poverty, with a poverty rate of 43.1%, thus being above the global poverty rate of 42.8% (Aikins & Mclachlan 2022). This is quite a severe circumstance in Nigeria, a country acknowledged as one of the leading centres of poverty in Africa (Oyedeji, 2024). The Nigerian National Bureau of Statistics (NBS) says that 40 percent of the population lives below the national poverty level of 137,430 Naira ($381.75) a year, meaning that at least 4 out of every 10 persons in Nigeria live in abject poverty (Kasuwa, 2024). At the same time, there is a high gap between the rich and the poor, the Gini coefficient is 35.1 as at 2023 (Harmon, 2023).

The fight against poverty and wealth gap has been a key issue in policy shows and there is a reason for this. By 2020, the growing rate of poverty and the gap between the affluent and the impoverished became more expectant globally especially in the time

of the coronavirus pandemic, which sent the world economies into different crises (Aikins & Mclachlan, 2022). Policy strategies for mitigating these economic problems have been an ongoing pursuit especially in emerging countries like Nigeria. Consequently, there is still a debate on the framework of programmes that can be used to reduce poverty, and inequality; this consensus cannot be reached (Usman & Idoko, 2021).

Government policies particularly the fiscal policies aiming at improving the general welfare of the citizens. Fiscal policy as defined by Harmon, in 2023, involves the strategic variation of the government spending and taxation authority to expertly control and guide the economy. Usman and Idoko (2021) expound on this idea by emphasising that the fiscal policy involves the decisions made by the government in terms of allocation of expenditure, taxation policy, and volume of borrowing. The importance of fiscal policy for inclusive economic growth is of the utmost importance. By carefully controlling the taxation and public spending in an economy, financial policy is a good tool to reduce economic inequalities. It works as a means to reduce the poverty level of people by spending on essential social programmes and services.

In addition, through fiscal policy, productive employment opportunities are created: this promotes economic development. The government's fiscal policies have a very large impact on the socio-economic environment. When applied very intelligently, fiscal policy is a tool for both economic stability and the achievement of a more equal and successful society. Consequently, an understanding of and the ability to implement effective fiscal policy is crucial for governments that aspire to improve the lives and welfare of the people. Benedict et al (2022) believe that fiscal policy is a key tool of addressing societal distributive matters. This influence can be seen in its impact on household welfare through the provision of monetary transactions such as taxes and transfers, as well as the provision of in-kind benefits such as free education and healthcare services. On the revenue side, fiscal policy is necessary for establishing good tax bases. This is achieved through decreasing exemptions, combating tax evasion, and tax administration. These solutions do not only allow non-inflationary funding, but also ensure the equal and lasting allocation of financial and goods benefits. Avci and Tonus (2022) underline the importance of fiscal policy as an important tool for delivering inclusive growth. Their argument centres on the numerous impacts of fiscal policies in providing job opportunities, reducing economic inequalities and reducing poverty. The array of fiscal policy instruments is public spending, taxation, and debt administration.

The claim that fiscal policy measures could be such alternative strategies to fight poverty and income inequality has been debated among scholars and policymakers as it is a controversial issue in literature. Numerous studies have examined how fiscal policy influences poverty and inequality, to no conclusion. Research exploring the link between fiscal policies and inequality/poverty in Nigeria has therefore focused solely on the topics of fiscal policy and poverty (Usman & Idoko, 2021; Joy et al., 2021; Ibrahim & Umar, 2021; Omodero, 2019), or fiscal policy and income distribution/inequality (e.g., Obaretin et al., 2017; Anyaduba & Otulugbu, 2019; Selem-Amachree & Ezekwe, 2021). These investigations have shown inconclusive results. Usman and Idoko (2021), Opasina et al. (2016), Joy et al. (2021), Selem-Amachree and Ezekwe (2021), and Ibrahim and Umar (2021) found that poverty level are reduced

by fiscal policy, which includes government policies and taxation. Omodero (2019) found that fiscal policy does not have a significant impact on poverty alleviation.

However, previous studies have shown that fiscal policies, the direct taxation, and government spending have a significant impact on poverty and inequality (Ojo, 2020; Obaretin et al., 2017; Anyaduba and Otulugbu, 2019; Joy et al., 2021; Enami et al., 2019). Nonetheless, varied situations like fiscal shocks, can hinder the ability of fiscal policy to achieve economic growth and development objectives (Franko, 2021). Economies such as Nigeria are prone to exogenous shocks such as oil price fluctuation, economic recession and environmental change, leading to sudden changes in government-proposed expenditure and/or expected revenues. Events like the global financial crisis in 2007/2008 and the recent oil price collapse caused by the Covid-19 pandemic have had a profound effect on the fiscal policies of Nigeria with the recessions, unexpected budget tract modifications with reduction in expenditure on vital sectors of the economy [Benjamin et al., 2021] and in some cases increased government debt.

Literature Review

Conceptual Framework

Fiscal Policy

Fiscal policy which is based on the Keynesian economic theory is considered an important tool to regulate this volatility of the economy and to ensure the welfare of the citizens. Franko (2021) defined fiscal policy as the intentional use of government revenue and spending activities to influence the economic activities. Anyaduba and Otulugbu (2019) regard it as changes in government spending and/or taxation aimed at achieving macroeconomic stability and income growth, employment, and price stability. Gbosi (2015) defines fiscal policy as the influence of the government expenditure and taxation on the macroeconomic activities. The manipulation of the government's income and expenses with the intention of achieving macroeconomic objectives, such as inclusive growth, is known as fiscal policy. It is better known as "spending and taxing policy" or fiscal policy (Benjamin et al. 2021). The components of fiscal policy include taxation, public expenditure, and dealing with budget deficits or surpluses. Moreover, fiscal policy can be divided into two types i.e., expansionary and contractionary. An expansionary fiscal strategy involves adding to government spending and/or lowering taxes to boost aggregate demand and overcome economic problems such as unemployment. A contractionary fiscal strategy is a set of policies designed to reduce government expenditure and/or increase taxation in order to reduce aggregate demand levels and reduce inflationary pressures.

Income Inequality

Income include money made from wages, salaries, interest from savings accounts, dividend income from stock shares, rent income, as well as income from items that are sold for a price higher than the cost of their purchase (Harmon, 2023). Income inequality refers to how income is distributed among a people (Enami et al, 2019). It is a value that can show the inequality in income distribution, highlighting that there are those who earn the majority of the money in a particular country and those who earn little money. The Gini coefficient is the most common way of expressing income disparity. The gini coefficient measures the inequality in a frequency distribution of income levels (Enami et al, 2019). A Gini coefficient of zero is a result of perfect equality, where all the

values are equal (for example, when all people have the same income). A Gini coefficient of 1 (or 100%) implies maximum inequality in values; for example, when an enormous population exists, if one person has all income or consumption and others have none, the Gini coefficient will tend to one (UNU-Wider, 2021). Gini coefficients of income are calculated both with respect to market income and disposable income. The gini coefficient for market income, which is often termed as pre-tax. The Gini coefficient is calculated using pre-tax and pre-transfer income, which measures the degree of disparity in wealth or income independent of considerations of the effect of current taxes and the social expenditures within a nation. The Gini coefficient on disposable income, or income after tax. The Gini coefficient is calculated according to the post-tax and transfer income, which measures income inequality taking into consideration the effect of the current taxes and social expenditures within the country (UNU-Wider, 2021).

Theoretical Framework

The Keynesian Theory

In his work "The General Theory of Employment, Money and Interest" first published in 1936, British economist John M. Keynes, the father of macroeconomics, provided a theoretical framework and practical policy insights to resolve the problems of the Great Depression of the 1930s. Umo (2012) suggests that Keyns won a new view of how macro economics work, when he said the following: (a) Supply does not automatically create its demand, unlike the presumption of Say's Law of the Market. This is because the savings don't necessarily translate into investment, therefore, full employment cannot be guaranteed all the time. Wages and prices did not show as much flexibility as classical economists believed it would. (c) Aggregate supply of an economy represents its GDP which may be either Flat or Upward sloping but not perfectly vertical i.e. as assumed by Classical Economists. (d) Aggregate demand, which is the sum of the consumption, government spending, gross investment, and net exports, is by no means a constant demand curve but a curve which may fluctuate either found of upward or downward. Based on the aforementioned perspectives, Keynes came up with two very essential conclusions: (a) a contemporary economy can be trapped in an underemployment equilibrium position in which aggregate demand and aggregate supply match each other at any level below full employment and (b) through the adjustment of aggregate demand by means of monetary and fiscal policies, the economy can be pushed to achieve full employment.

Moreover, the concept of Keynesian theory showed that financial policy tools such as total tax revenue, government capital expenditure, government recurrent expenditure, domestic debt, and external debt are tools which are necessary to achieve stability in the short run and increase in long-run growth rates in order to aid in boosting the welfare and living standards of the people. This theory promotes the intervention of the government in the economy through economic policy, especially fiscal policy, for the purpose of achieving economic stability. According to Keynesian theory, fiscal policy which includes total tax income, government capital expenditure, government recurrent expenditure, domestic, and external debt positively affects the economic growth thus mitigates unemployment and poverty. For example government investment in educational sector i.e. construction of quality of classrooms and laboratories, provision of teaching and learning resources such as computers, salary payments etc. Agricultural

sector, health sector, transport and communication will provide multiplier effect to economy.

Furthermore, the Keynesian economics mean that market failures, such as uncertainty, play a large role in the individual economic circumstances of the people, especially since the poor are more prone to income shocks. The liberal view charges that institutional rigidities, market distortions and underdevelopment as a whole are the main causes of poverty and not individuals choices. Government intervention is viewed as a way to further economic development and welfare (Davis & Sanchez-Martinez, 2014). In the 1930s, Keynes believed that government stabilisation policy in the form of expansionary fiscal policy would boost output, aggregate demand, investment and employment and so reduce poverty. Government expenditure leads to better infrastructure, healthcare accessibility, agricultural production and higher literacy which leads to economic growth and reduction of poverty. In other words, the Keynesian view is that an increase of government expenditure will lead to a proportional increase in the level of aggregate output in the economy. This, as proposed by Keynes, is the multiplier effect of Government expenditure. $Y = C + I + G + (X - M) (1^n)$.

Where: Y = Output C = Consumption I = Investment G = Government Expenditure X - M = Net Exports (Exports minus Imports) Consequently, expansionary fiscal policy can be utilised to impact the performance of the economy, so that improving the output development and improving the well-being or the living of the people in the country.

Monetarist Theorist

The writings of Milton Friedman, who argued for regulation of the money supply rather than the Keynesian approach to fiscal policies for the stabilisation of aggregate demand, are closest to the notion of monetary stability. Friedman (1948) claimed that the government should issue new currency to correct budget deficit and budget surplus should be used to cancel existing money. The countercyclical variations in the money supply could stabilise the economy, provided that the government helps to adjust its expenditure and taxation rates, to balance the budget at full employment.

Friedman wrote in his book on money stability that "a constant growth of the money stock, independent of the government budget, would be simpler and equally effective for stabilising the economy" (Tavlas, 2015). Friedman's proposition maintains that "this would be the situation." These statements adhered to an established norm of the Chicago School of Economics of emphasising the importance of monetary resources. Before Friedman taught at the University of Chicago, Henry Simons argued for managing the money stock in order to create a stable level of price (Kasper, 2022). Lloyd Mints proposed a specific monetary scheme having a price level index as its stabiliser (Demeulemeester, 2022).

Monetarism derives from the quantity theory of money, which was the basis of classical economic thought on money dating back to at least the 18th century. Shifting nominal aggregate expenditures, which indicate a change in both the volume of output and price level, are explained by the quantity theory as changes in money supply and an increase in velocity of money circulation (ratio of aggregate expenditures to money supply). This theory was created in an attempt to explain the correlation between these two variables. Usually, changes in velocity are often not as significant as

changes in the money supply over a long period of time.

Empirical Review

Onabote, et al. have in Onabote, A. S., Peters, P. B., Uche, G. and Achebe, E. (2023) Effects of Government Sectoral Expenditure on Human Development in Nigeria Using Autoregressive Distributed Lag (ARDL) Bounds Testing Methodology: Annual data covering the years 1986 to 2021. The result has proved the correlation between government sectoral expenditure and human development in Nigeria, both in short and long term, to be negligible. Nevertheless, results from the error correction model have shown that the government sectoral expenditure might affect human development in the long term.

Avci and Tonus (2022) have examined the effect of fiscal policies on inclusive growth in Turkey in the years 2006-2018. The effects of public education, health, transfer spending and indirect taxes on inclusive growth using Autoregressive Distributed Lag (ARDL) Bounds models with annual data. The findings showed that Turkey experienced an inclusive growth in the analysed period, except for the year 2009. Since 2002, Turkish government has claimed to have increased public expenditure on education, healthcare, and social transfers. They also aimed to examine whether public budget expenses on education, health, social transfers, and tax policy as an element of fiscal policy may have an impact on inclusive growth in Turkey. The findings showed health expenditures having a negative effect on inclusive growth. The decreasing impact of indirect taxes on all-round growth was noted by them. They concluded that social transfers can improve inclusive growth. Transfers are better than taxes when it comes to easing the burden of inequality. The results showed that expenditure on education in Turkey affected inclusive growth adversely.

Okere, et al. (2022) applied Autoregressive Distributed Lag (ARDL) Bounds testing methodology in analysing the effects of fiscal policy on development of human resources in Nigeria: 1986-2017. The research showed a positive and significant correlation between fiscal policy and Human Development Index in Nigeria. The findings indicated recurrent expenditure positively correlates the human development index in Nigeria, but capital expenditure abundance of Nigeria show a positive but insignificant correlation with the human development index in Nigeria. The results showed that Tax income had a negative and small correlation with the human development index in Nigeria.

Ikharo-Kadiri (2021) used an Autoregressive Distributed Lag (ARDL) model to determine the effects of tax policy on inclusive growth in Nigeria from 1985 to 2020. The long-run ARDL results showed the structural coefficients of the variables of taxes and their relationship with inclusive growth as measured by HDI. The results showed that the corporate income tax had negative and statistically significant impacts on HDI at the 5% level. The Value Added Tax (VAT) has a negative and statistically significant impact on inclusive growth at a significance level of 1%. The petroleum profit tax has a negative and significant effect on inclusive growth considering a 5% level of significance.

In the same year, Okoh, Edo, Akhigbodemhe and Edeoghon (2021) examined the effect of direct taxes on income redistribution in Nigeria with focus on personal income tax. The research applied across the years 1990 to 2019 with an annualised dataset, as provided by the Federal Inland Revenue Service (FIRS), and in the Central Bank of Nigeria Statistical Bulletin.

The research made use of Fully Modified Least Squares (FMOLS) in data analysis. Empirical findings showed that personal income tax played a significant role in improving income redistribution hence reducing income inequality in Nigeria.

Ezenwobi and Anisiobi (2021) employed the Error Correction Mechanism (ECM) method to analyse the effect of government borrowing on the development of the economy in Nigeria from the period of 1990 to 2020. The findings showed the positive correlation between external debt and economic development and domestic debt and economic development in Nigeria are statistically significant while the rate of interest showed a statistically significant negative correlation with economic development in Nigeria. Nevertheless, inflation was found to be a statistical inconsequential on economic progress in negative in Nigeria.

Obaretin and Uwaifo (2020) focused on the impact of VAT on the HDI in Nigeria between the years 1994 and 2018. The study used a longitudinal approach to research, collecting data from the Federal Inland Revenue Service and the United Nations Data Bank. The result of the applied ARDL regression estimation method showed that there is a positive and significant effect of VAT on HDI in Nigeria. This means that the implementation and collection of VAT has a favourable impact on the human development metrics of the nation within the defined timeframe.

Karimanzira, Maradze, Nyoni and Nyoni (2020) examined the effect of external debt on poverty in Zimbabwe between 1980 and 2013. The Ordinary Least Squares (OLS) estimation method was used to analyse annual variations of per capita family consumption which is used both as the dependent variable and an indicator of poor people. The independent variables used were budget deficit, external debt, private investment and annual GDP growth. The results obtained implies that foreign debt is a catalyst for poverty. The researchers advised the Zimbabwean government to focus on reducing external debt in order to enable capital inflows from foreign entities, and hence, economic growth and poverty alleviation initiatives.

ImIde and Imoughele (2019) made use of error correction model in their study to analyse the impact of fiscal policy on human development index (HDI) in Nigeria from 1999 to 2016. The findings showed that HDI and the select variables of fiscal policy included into the model have a long-term link across the timeline. The analysis showed that the fiscal policy variables including domestic debt and taxation, have direct and significant effect on the Human Development Index (HDI) in Nigeria both in the short and long term-period; on the other hand, total government expenditure had an inverse and inconsequential effect on HDI of Nigeria in the same periods. This revealed that overall government expenditure during the democratic era was not beneficial for the welfare of Nigerians. Moreover, the external debts have an inverse and negligible effect on HDI in the near term, and an inverse and substantial effect on HDI in the long term. This means that there is no benefit in Nigerians gaining from budget deficits financed in this way by external debt.

Akanbi and Oyetade (2019) analysed the influence of external debt on inclusive growth in Nigeria between the period of 1981 and 2016. The research used a generalised linear model, which was used to analyse many variables. The results shown by the regression analysis showed interesting results, as it proved that the crowding-out variable has a negative and significant impact on

inclusive growth. The results underlined a positive and substantial effect on inclusive growth due to the debt relief plan of 2005. These results improve the understanding of the intricate dynamic between external debt and inclusive growth in the context of Nigeria.

Atueyi (2019) analysed the effect of external debt on human capital development in Nigeria from 1986 - 2017 using the error correction mechanism approach. The study showed the negative and significant effect of external debt in the development of human capital in Nigeria, while the effect of debt financing is negative and insignificant, also the effect of gross fixed capital formation is positive but insignificant in the development of human capital in Nigeria.

Akindutire (2019) made use of an ARDL bounds testing methodology to investigate the effects of external debt on poverty alleviation in Nigeria between 2000 and 2017. The results showed that in the short run, external debt, domestic debt, exchange rate, and inflation reduced poverty as shown by negative coefficient. On the other hand, in the long run, the payments of debt service, inflation, and exchange rate were found to have negative impact on poverty, implying decreasing level of poverty. The distributional impact assessment model applied for the study found that the impact of education, health, agriculture and rural development and water resource showed positive marginal impact whereas that of energy, housing and environmental protection showed negative marginal impact. The results emphasise the importance of directed spending of public funds on certain components and sectors to enhance human development in Nigeria and emphasise the importance of public policy on human development outcomes.

Ugondah and Amadi (2019) studied taxation and income inequality disparity issues. The Quasi-Experimental Design research design was used. The data of the study were analysed using Ordinary Least Squares method. Co-integration procedure, unit root tests, and error correction procedures were utilised. The results indicated the corporate income tax is positively correlated with income disparity.

Anyaduba and Otulugbu (2019) investigated the impact of taxation on income inequality (GINI) in Nigeria between the period (1990-2016). Co-integration Models and Error Correction Models were used. Company income tax had a huge impact on the GINI coefficient. On the basis of these findings, they conclude that the corporate income tax was largely responsible for disparity.

Using the ARDL approach, Ideh (2019) investigated the relationship between components of tax revenue and economic development in Nigeria between 2003 and 2017. The findings showed that petroleum profit tax contributed a substantial amount towards the tax revenue and its correlation with the indicators of economic development (real GDP and HDI) turned out to be negative; hence implying that the revenue generated from petroleum profit tax is not effectively and directly raised for the necessary infrastructure that would lead to the development of Nigeria's economy.

Khemais (2018) analysed the correlation between external debt and human development using panel data set of 95 nations that are developing economies from 2002-2015. The Panel Smooth Threshold Regression (PSTR) model made it evident that the link is non-linear and the ideal external debt threshold is found to be 41.7775%. Below this debt threshold, external debt has a positive effect on human growth. A 1% increase in the ratio of a nation's external debt causes the HDI to

increase by 0.02% Even so, exceeding the debt threshold makes external debt detrimental to human development as human development index declines by 0.01% with each 1% increase in the external debt ratio. In the regime of minimum level of foreign debt, countries are encouraged to avoid beyond this limit to capitalise on the leverage effect and alter the composition of imports of items of no need.

The effect of loans from external sources, specifically those from Paris Club, London Club, and Bretton Woods organisations, on poverty reduction in Nigeria between 1981 and 2015 was taken into account by Morris et al. (2018). The estimation methods used include the Stock-Watson Dynamic Least Squares (DOLS), Johansen co-integration and Granger causality. The results from the Johansen cointegration test show that the variables are co-integrated at the 5 percent level of significance. The projected results of co-integration resort to poverty escalation in Nigeria as a result of borrowing from Bretton Woods organisations. Once again, loans from the London Club and managing the public debt show a weak positive effect on poverty alleviation in Nigeria. However, the results showed that there is an inverse correlation between loans received from the Paris Club and poverty reduction. The result of the Granger causality test showed the unidirectional causality between poverty headcount and loan from Paris Club. There is a unidirectional correlation between poverty headcount and loans from London Club. Significantly, it was found out that the indebtedness of Nigeria to the Bretton Wood institutions is contributing to poverty.

Ozigbu (2018) using the error correction method, examined the impact of public debt sustainability on the poverty incidence in Nigeria. The results showed significant positive correlation between the percentage of foreign debt stock to GNI and poverty headcount; a 10 percent increase in the stock of external debt leads to 7.59 percent increase in poverty headcount.

Egungwu (2018) used the Ordinary Least Squares (OLS) econometric technique to analyse the impact of increase in the stock of external debt and its servicing on human capital development from 1986 to 2015. The study showed that both external debt stock and external debt servicing were found to significantly impaired human capital development, external debt stock accounted from the Paris Club and multilateral creditors showed insignificant negative effects, debt from the London Club showed insignificant positive effects whereas debt from bilateral credentials showed a significant positive effect. With regards to debt servicing, all creditors displayed negligible positive (except for the London Club which showed a considerable positive effect).

Methodology

The research has been positivist because it involves gaining knowledge through practical activities followed by reflection on the experiences. The positivism assumes that the researcher works independently of the research subject, which does not affect the former (Sunday & Etugbo, 2023). The concepts of positivism have efficacy as a strong instrument of financial management systems. The research design, which was utilised, was ex post facto. The ex-post facto research design is the study conducted after the occurrences in the past using available data. Judgemental sampling was used for selecting the criteria for sample inclusion and the researchers' used data obtained in the Central Bank of Nigeria statistical bulletin, National Bureau of Statistics, and World Bank factual data which

proved that there were no changes over the stipulated period of time between 1994 and 2023. The analysis was carried out using unit root test, Johansen co integration test and a parsimonious model of error correction test at 5% significant level. The model of the study depicts:

$IEQ = f(CIT, PPT, CED, VAT, GRE, GCE)$ 3.1

$IEQ_t = \delta_0 + \delta_1 CIT_t + \delta_2 PPT_t + \delta_3 CED_t + \delta_4 VAT_t + \delta_5 GRE_t + \delta_6 GCE_t + \epsilon_t$ 3.2

On apriori $\delta_1, \delta_2, \delta_3, \delta_4, \delta_5$, and $\delta_6 < 0$

Where, IEQ = Income inequality (computed using the Gini coefficient), PPT = Petroleum profit tax, CIT = Company income tax, VAT = Value-added tax, CED = Custom and excise duties, GRE = Government recurrent expenditure, GCE = Government capital expenditure, t = Annual time series, δ_1, δ_2, δ_3 and δ_4 = Constant Parameters

Results and Discussion

4.1 Result of Unit Root Test

Variables	T-Stat @ Level	T-Critical @ level	P-value @ level	T-Stat @ 1st Diff.	T-Critical @ 1st Diff.	P-value @ 1st Diff.	Order of Integration
IEQ	-2.438087	-2.967767	0.1407	-5.420532	-2.971853	0.0001	I(1)
PPT	1.570532	-2.981038	0.9990	-4.484565	-2.976263	0.0015	I(1)
CIT	2.016939	-2.976263	0.9998	-6.048278	-2.976263	0.0000	I(1)
VAT	2.228168	-2.967767	0.9999	-4.827566	-2.971853	0.0006	I(1)
CED	1.595426	-2.998064	0.9990	-4.214279	-2.986225	0.0032	I(1)
GRE	-2.595722	-2.967767	0.1053	-5.153188	-2.971853	0.0003	I(1)
GCE	0.891019	-2.967767	0.9939	-5.828488	-2.971853	0.0000	I(1)

Source: E-views 10 Output

The findings in Table 4.1 indicate that all variables were integrated at the first difference. This is due to the fact that, at their various levels of integration, their ADF t-statistics exceeded their t-critical values at the 5% significance level. Their corresponding p-values were below the 5% significance threshold. This study utilises the Johansen cointegration approach to ascertain the existence of a long-run relationship among the variables.

Table 4.2: Result of Johansen Co-integration

Trend assumption: Linear deterministic trend
Series: IEQ PPT CIT CED VAT GRE GCE
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.983816	260.2016	125.6154	0.0000
At most 1 *	0.911331	144.7368	95.75366	0.0000
At most 2 *	0.666192	76.89702	69.81889	0.0122
At most 3	0.450357	46.17570	47.85613	0.0713
At most 4	0.406284	29.41807	29.79707	0.0552
At most 5	0.339739	14.82017	15.49471	0.0630
At most 6	0.107895	3.196792	3.841466	0.0738

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.983816	115.4649	46.23142	0.0000
At most 1 *	0.911331	67.83975	40.07757	0.0000
At most 2	0.666192	30.72132	33.87687	0.1137
At most 3	0.450357	16.75763	27.58434	0.6008
At most 4	0.406284	14.59790	21.13162	0.3181
At most 5	0.339739	11.62338	14.26460	0.1256
At most 6	0.107895	3.196792	3.841466	0.0738

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

Source: E-views 10 Output

The trace test revealed the existence of precisely three cointegrating relationships among the variables. This finding indicates that these variables possess a substantial long-term equilibrium relationship. The findings indicate that although significant long-term correlations exist among the variables, further work is required to comprehensively examine and model these linkages.

Table 4.3: Parsimonious ECM Result

Dependent Variable: IEQ
Method: Least Squares
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CIT	0.066822	0.214543	0.311460	0.7585
PPT	0.643955	0.140758	4.574891	0.0002
CED	-0.000411	0.000119	-3.449582	0.0024
VAT	-0.000678	0.000427	-1.585617	0.1278
GRE	0.507932	0.144019	3.526838	0.0020
GCE	-0.218780	0.152215	-1.437305	0.1654
ECM(-1)	-0.680206	0.236636	-2.874485	0.0091
C	1.346728	0.557239	2.416787	0.0248

R-squared	0.967635	Mean dependent var	6.412405
Adjusted R-squared	0.956846	S.D. dependent var	1.105242
S.E. of regression	0.229597	Akaike info criterion	0.123967
Sum squared resid	1.107009	Schwarz criterion	0.501152
Log likelihood	6.202483	Hannan-Quinn criter.	0.242096
F-statistic	89.69220	Durbin-Watson stat	1.766189
Prob(F-statistic)	0.000000		

Source: E-views 10 Output

Table 4.3 indicates that CIT is beneficial (0.066822) although insignificant (0.7585) for income inequality in Nigeria. A 1% increase in CIT will result in approximately a 0.066822% increase in income inequality. PPT is significantly correlated (0.643955) and statistically significant to income inequality, as indicated by a p-value of 0.0002. A 1% increase in PPT can result in an approximate 0.643955% rise in income inequality. CED exhibits a negative correlation (-0.000411) with income inequality, which is statistically

significant, as indicated by a p-value of 0.0024. A 1% increase in CED may result in an approximate 0.000411% reduction in income inequality. The VAT is negative (-0.000678) and statistically insignificant, with a p-value of 0.1278, in relation to income inequality. A 1% increase in VAT will result in a reduction of income inequality to around 0.000678%. The GRE exhibits a positive correlation (0.507932) with income inequality, as indicated by a statistically significant p-value of 0.0020. A 1% increase in GRE can result in approximately a 0.507932% rise in income inequality. The GCE exhibits a negative correlation (-0.218780) with income inequality, which is statistically insignificant, as indicated by a p-value of 0.1654. A 1% rise in GCE may result in an approximate 0.218780% reduction in income inequality.

The adjusted R-squared value of 0.956846 indicates that the model exhibits a strong match. Income disparity variations can be elucidated by fluctuations in CIT, GCE, PPT, GRE, VAT, and CED to approximately 95.7%; the remaining percentage is attributed to additional factors not included in this model. The F-statistic of 89.69220 indicates that the model is statistically significant. The CointEq1 is negative (-0.680206) and statistically significant (0.0091). This indicates that short-run errors can be rectified at a rate of 68% in the long run. In other words, short-run disequilibrium is corrected in the long run at a rate of 68%.

Discussion of Findings

The data indicates a robust positive correlation between petroleum profit tax and wealth disparity in Nigeria. The elevated petroleum profit tax contributes to the widening wealth inequality in Nigeria. A primary factor contributing to the positive and substantial correlation between petroleum profit tax (PPT) and wealth inequality in Nigeria is the misallocation and mismanagement of oil resources. Notwithstanding substantial earnings from petroleum profit tax, a significant amount of the cash is ineffectively allocated for the enhancement of public services, infrastructure, or economic diversification. A substantial portion is frequently squandered due to corruption, elite appropriation, and governance inefficiencies. This leads to the concentration of wealth within a few set of elites and government officials, while the wider populace, especially in oil-producing regions, suffers from poverty, unemployment, and underdevelopment. Consequently, instead of diminishing income inequality, the wealth derived from petroleum taxation intensifies the disparity between the affluent and the impoverished in Nigeria. This corresponds with the research conducted by Onabote et al. (2023), Avci and Tonus (2022), and Okere et al. (2022), which indicates that government fiscal policies impact economic performance.

The data indicates that corporate income tax has a negligible positive correlation with income disparity in Nigeria. The research demonstrates that an increase in corporate income tax results in a heightened degree of economic disparity in Nigeria. A primary reason for the positive yet negligible correlation between Company Income Tax (CIT) and income inequality in Nigeria is the regressive effect of tax burden shifting. Numerous organisations, particularly large corporations, frequently transfer the tax burden to consumers and employees via increased prices of goods and services, reduced compensation, or layoffs. This disproportionately impacts low- and middle-income individuals, but corporate proprietors and shareholders—typically more affluent—retain the majority of the earnings. Moreover, the cash accrued from corporate income tax

is frequently ineffectively allocated to support social welfare initiatives, education, healthcare, or infrastructure that would advantage the lower-income demographic. This results in an expanding income disparity, as the advantages of economic expansion are inequitably distributed. This corresponds with the research conducted by Onabote et al. (2023), Avci and Tonus (2022), and Okere et al. (2022), which indicates that government fiscal policies affect economic performance.

In Nigeria, there is a significant and adverse correlation between customs and excise duty taxes and income disparity. Increasing customs and excise tax rates contribute to the reduction of income inequality in Nigeria. A primary factor contributing to the adverse and substantial correlation between customs and excise charges and economic inequality in Nigeria is the function of trade taxation in revenue redistribution and the safeguarding of local industries. Customs and excise duties produce government money, which, when efficiently managed, can finance public services like as education, healthcare, and infrastructure—advantaging lower-income groups and mitigating inequality. Moreover, elevated excise taxes on luxury items predominantly impact affluent individuals, whereas tariffs on imports can safeguard domestic sectors, generating employment and enhancing income for low- and middle-income people. Effective management of these responsibilities facilitates wealth redistribution, stimulates domestic economic growth, and mitigates income disparity. This corresponds with the research conducted by Onabote et al. (2023), Avci and Tonus (2022), and Okere et al. (2022), which indicates that government fiscal policies impact economic performance.

In Nigeria, value-added tax exhibits a negligible negative correlation with income disparity. The income inequality in Nigeria diminishes when value-added tax rates rise; nonetheless, the effect is not significant. A primary reason for the negligible and adverse correlation between Value-Added Tax (VAT) and income inequality in Nigeria is the restricted efficacy of VAT revenue in mitigating inequality. Although VAT aims to create government revenue for social programs and infrastructure, its influence on income disparity is minimal due to factors such as inadequate tax administration, corruption, and inefficient redistribution. Moreover, VAT is a regressive tax, signifying that it disproportionately impacts low-income individuals, who allocate a greater amount of their income to taxed products and services. Nevertheless, given that Nigeria exempts fundamental necessities such as food and medication, the total impact on inequality may be minimal. Consequently, although VAT money could mitigate inequality via government expenditure, allocation inefficiencies and the tax's regressive characteristics render its effect on income distribution both detrimental and statistically negligible. This contradicts the findings of Onabote et al. (2023), Avci and Tonus (2022), and Okere et al. (2022), which assert that government fiscal policies affect economic performance.

The data indicates a significant positive correlation between government recurrent expenditure and income disparity in Nigeria. The heightened government recurrent expenditure contributes to the widening income inequality in Nigeria. A primary cause for the substantial and positive correlation between government recurrent expenditure and income inequality in Nigeria is the inequitable distribution of funds favouring administrative expenses and elite advantages over social welfare initiatives. A significant share of Nigeria's recurring

expenditure is allocated to wages, allowances, and operational expenditures for government officials, politicians, and the civil service, instead of being directed towards poverty reduction, education, healthcare, or infrastructure that would benefit the broader populace. This results in the concentration of wealth among the few, while the majority of citizens, particularly those in lower-income brackets, experience minimal enhancement in their living conditions. Consequently, instead of diminishing inequality, substantial recurrent expenditure frequently exacerbates the income disparity by privileging the affluent and politically influential, undermining overall economic advancement and social wellbeing. This is consistent with the research conducted by Onabote et al. (2023), Avci and Tonus (2022), and Okere et al. (2022), which indicates that government fiscal policies affect economic performance.

The data indicates that government capital expenditure has a negative and insignificant correlation with income inequality in Nigeria. The analysis demonstrates that an increase in government capital expenditure results in a reduction of income disparity in Nigeria; nevertheless, this effect is not significant. A primary cause for the negligible and adverse correlation between government capital expenditure and income inequality in Nigeria is the inefficacy and substandard execution of capital projects. Capital expenditure—encompassing investments in infrastructure, education, and healthcare—can mitigate income inequality by enhancing economic opportunities for lower-income demographics; however, its effectiveness is frequently constrained by corruption, project delays, misallocation of resources, and inadequate implementation. Numerous capital projects are either forsaken, inadequately executed, or concentrated in regions that advantage the privileged rather than the broader populace. Consequently, although capital spending is expected to diminish inequality, its impact is feeble and statistically negligible owing to inadequate governance and improper allocation of resources for poverty alleviation. This contradicts the findings of Onabote et al. (2023), Avci and Tonus (2022), and Okere et al. (2022), which assert that government fiscal policies affect economic performance.

Conclusion and Recommendations

Conclusion

This study analyzed the influence of fiscal policy on income inequality in Nigeria from 1994 to 2023. The research applied descriptive statistics together with unit root and Johansen con-integration analysis at a 5% significance threshold. The study discovered that the three dimensions of fiscal policy in Nigeria that substantial influence her income inequality are petroleum profit tax, custom and excise duty, and government recurrent expenditure.

Recommendations

Based on the research results these following recommendations have been established:

1. The Nigerian Federal Government should ensure transparency and direct oil earnings into pro-poor social investments. This entails the government implementing more stringent measures to guarantee that PPT earnings are allocated to education, healthcare, job creation, and infrastructure development, especially in marginalised and oil-producing communities. Enhancing institutions such as the Nigeria Extractive Industries Transparency Initiative (NEITI) and enforcing more stringent anti-corruption protocols can mitigate revenue leakages and promote equitable distribution.

Nigeria can mitigate income inequality and foster inclusive economic growth by allocating petroleum tax funds to initiatives that assist the lower-income population.

2. The Federal Government of Nigeria should to allocate CIT funds towards specific social and economic initiatives that advantage low- and middle-income demographics. The government ought to augment spending in education, healthcare, and skill development initiatives utilising CIT funds, hence broadening economic chances for the underprivileged. Moreover, regulations must be established to assist small and medium enterprises (SMEs), which generate employment and mitigate economic inequality. Through the efficient redistribution of CIT revenues and the cultivation of an inclusive business environment, Nigeria may mitigate income disparity and advance sustainable economic growth.
3. The Nigerian Federal Government should to allocate trade tax revenues to finance social welfare initiatives and bolster indigenous industries. This entails the distribution of revenue from customs and excise fees to public services, including education, healthcare, and social safety nets that directly assist lower-income populations. Furthermore, protective tariffs and incentives for domestic industries ought to be instituted to enhance local output, generate employment, and elevate incomes for low- and middle-income individuals. By guaranteeing the appropriate utilisation of money from trade tariffs for economic empowerment and poverty alleviation, Nigeria can mitigate income disparity and foster inclusive growth.
4. The Nigerian Federal Government should to establish a progressive VAT system that includes exemptions for essential products and enhances social expenditure. This entails the government broadening VAT exemptions on essential commodities such as food, healthcare, and education to alleviate the tax burden on low-income individuals. Furthermore, VAT income must to be clearly designated for social welfare programs, infrastructure development, and employment generation activities that directly assist marginalised populations. By rendering VAT more progressive and ensuring its revenues are judiciously used to assist the impoverished, Nigeria can amplify VAT's efficacy in mitigating economic disparity.
5. The Nigerian Federal Government should prioritise expenditure on social welfare programs and public services that assist the impoverished. This entails the government reallocating a greater share of recurrent expenditure to healthcare, education, housing, and social safety nets—sectors that directly benefit low- and middle-income populations. Moreover, guaranteeing the efficient and accountable utilisation of public funds via transparent budgeting and monitoring systems will mitigate unnecessary expenditure and ensure that resources are allocated to those in need. By prioritising pro-poor expenditures and enhancing the efficacy of recurrent spending, Nigeria

can mitigate income disparity and promote inclusive economic growth.

6. The Federal Government of Nigeria should enhance the targeting and execution of capital projects in neglected regions and sectors. The government may achieve this by prioritising investments in infrastructure, healthcare, education, and job creation in rural areas and communities with elevated poverty rates. Capital expenditure must be allocated to initiatives that directly benefit low-income populations, including the construction of schools, hospitals, and affordable housing, with enhancements to access to essential services. Moreover, enhancing project oversight and mitigating corruption will guarantee that resources are utilised efficiently for their designated objectives. Enhancing the allocation and execution of capital investment will enable Nigeria to promote inclusive growth and markedly diminish economic disparity.

References

Adetunji Babatunde, M., Oyeranti, O. A., Bankole, A. S., & Olawale Ogunkola, E. (2012). Exports trade, employment and poverty reduction in Nigeria. *International Journal of Social Economics, 39*(11), 875-899.

Aikins, E. R., & McLachlan, J. D. T. (2022). Africa is losing the battle against extreme poverty. *Institute for Security Studies*, *13*, 56-71

Akanbi, S. B. & Oyetade, A. O. (2019). Impact of external debt on inclusive growth in Nigeria. *Journal of Social and Management Sciences, 2*(1), 182-192.

Akindutire, Y. T. (2019). Effects of external debt on poverty reduction in Nigeria (2000- 2017). *Journal of Advances in Social Science and Humanities, 5*(6), 866–884.

Anyaduba, J. O., & Otulugbu, O. P. (2019). Taxation and Income Inequality in Nigeria. *Accounting and Finance Research, 8*(3), 12-43.

Anyaduba, J.O. & Otulugbu, P.O. (2019). Taxation and income inequality in Nigeria. *Accounting and Finance Research, 8*(3), 118-135.

Atueyi, C. L. (2019). External debt on human capital development in Nigeria (1986-2017). *International Journal of Business and Economics, 7*(1), 49 – 58.

Avcı, B.S., & Tonus, Ö. (2022). The impact of fiscal policies on inclusive growth in Turkey. *Journal of Economy Culture and Society, 66*, 293–306.

Benedict, C., Sanjeev, G. & João, T. J. (2022). Fiscal policy for inclusive growth in Asia. Center for Global Development 2055, *Working Paper 611*.

Benjamin, O.O., Jimoh, S., Otonne, A., Benjamin, S. & Oyolola, F. (2021). Social distancing and the effects of COVID-19 pandemic: A study of the six regions of the world. *Journal of Insurance and Financial Management, 4*(5), 67-82.

Davis, E. P. & Sanchez-Martinez, M. (2014). *A review of economic theories of poverty*. London: NIESR.

Demeulemeester, S. (2022). Lloyd W. Mints (1888–1989). In Springer eBooks (pp. 223–248). https://doi.org/10.1007/978-3-031-01775-9_10

Egungwu, I. C. (2018). Impact of external debt on human capital development in Nigeria. *Journal of Current Issues in Social Sciences, 4*(1), 1-33.

Enami, A., Lustig, N., & Taqdiri, A. (2019). Fiscal policy, inequality, and poverty in Iran: assessing the impact and effectiveness of taxes and transfers. *Middle East Development Journal, 11*(1), 49-74.

Ezenwobi, N. F. & Anisiobi, C. A. (2021). Effect of government public debt on economic development in Nigeria. *Social Science Research, 7*(2), 75-99.

Franko, W. W. (2021). How state responses to economic crisis shape income inequality and financial well-being. *State Politics & Policy Quarterly, 21*(1), 31-54.

Friedman, M. (1948). A monetary and fiscal framework for economic stability. *American Economic Review, 38*(3), 245-264.

Gbosi, N. G. (2015). *Contemporary macroeconomic problems and stabilization policies* (2nd edition). Spirit and Truth Publishers, Benin City, Nigeria.

Harmon, C. (2023). Gini coefficient shows progress in Nigeria's wealth distribution under democracy. Nairametrics. Available at: https://nairametrics.com/2023/03/21/gini-coefficient shows-progress-in-nigerias-wealth-distribution-under-democracy/

Ibrahim, A., & Umar, S. (2021). An examination of the impact of public spending on poverty reduction in Nigeria. *International Journal of Research and Innovation in Social Science, 5*(11), 456-461.

Ideh, A. O. (2019). Tax revenue and economic development of the Nigerian economy. *Nigerian Journal of Management Sciences, 7*(1), 222-231.

Ikharo-Kadiri, H. L. (2021). Tax structure and inclusive growth in developing countries: A Case of Nigeria. A Dissertation Submitted Igbinedion University Okada, Edo State, Nigeria.

Imide, I. O. & Imoughele, L. E. (2019). The impact of fiscal policy on human development index: Empirical evidence from Nigeria's democratic era. *International Journal of Economics, Commerce and Management, United Kingdom, 7*(2), 133-155.

Joy, J. N., Okafor, M. C., & Ohiorenuan, I. H. (2021). Impact of public capital expenditure on poverty rate in Nigeria. *International Journal Papier Public Review, 2*(4), 46-55.

Karimanzira, T., Maradze, T. C. Nyoni, T. & Nyoni, S. P. (2020). The impact of external debt on poverty in Zimbabwe. *International Journal of Advance Research and Innovative Ideas in Education, 6*(6), 1177-1189.

Kasper, S. D. (2022). Henry Calvert Simons (1899–1946). In Springer eBooks (pp. 357–381). https://doi.org/10.1007/978-3-031-01775-9_15

Kasuwa, P. F. (2024). Nigeria: Hungry Nation in a Land of Plenty. *Legal and Economic Review*, (3), 9-32.

Keynes, J. M. (1936). *The general theory of employment, interest and money*. New York: Harcourt Brace.

Khemais, Z. (2018). Is the relationship between external debt and human development non-linear? A PSTR approach for developing countries. *Economics Bulletin, 38*(4), 2194-2216.

Morris, R. E., Ozigbu, J. C. & Ezekwe, C. I. (2018). External Debt and Inclusive Growth in Nigeria. *Developing Country Studies, 8*(7), 70-79.

Obaretin, O. & Uwaifo, F. N. (2020). Value-added tax and economic development in Nigeria. *Accounting and Taxation Review, 4*(1), 148-157.

Obaretin, O., Akhor, S. O., & Oseghale, O. E. (2017). Taxation an effective tool for income re distribution in Nigeria. *Mediterranean Journal of Social Sciences, Sciendo, 8*(4), 187-196.

Ojo, E. (2020). Macroeconomic policies on poverty and income inequality In Nigeria: An empirical analysis. *IOSR Journal of Humanities and Social Science (IOSR-JHSS), 25*(8), 01-18.

Okere, P. A., Uzowuru, L. N., & Mbaeri, C. C. (2022). Fiscal policy and human development in Nigeria (1986 2017). *International Journal of Research and Innovation in Social Science, 6*(5), 545-553.

Okoh, I. F., Edo, O. C., Akhigbodemhe, E. J., & Edeoghon, I. O. (2021). Direct taxes and income redistribution in Nigeria. *Global Journal of Business and Social Sciences Review, 9*(2), 182 – 196.

Omodero, C. O. (2019). Government sectoral expenditure and poverty alleviation in Nigeria. *Research in World Economy, 10*(1), 80-90.

Onabote, A. A., Ohwofasa, B. O. & Ogunjumo, R. A. (2023). Government sectoral spending and human development in Nigeria: Is there a link? *Heliyon, 9*, (2023) e17545, 1-11.

Opasina, O., Owuru, J., & Farayibi, A. (2016). Examining the fiscal policy-poverty reduction nexus in Nigeria. *MPRA Paper 74184*, University Library of Munich, Germany.

Oyedeji, I. (2024). Fact check: Is Nigeria poverty capital of the world? Punch Newspapers. Available at: https://punchng.com/fact-check-is-nigeria-poverty-capital-of-the-world/

Ozigbu, J. C. (2018). Public debt sustainability and incidences of poverty: Empirical evidence from Nigeria. *International Journal of Development and Economic Sustainability, 6*(3), 12-26.

Selem-Amachree, I., & Ezekwe, C. I. (2021). A disaggregated impact analysis of public capital expenditure on income inequality in Nigeria. *American Journal of Humanities and Social Sciences Research (AJHSSR), 5*(5), 35-43.

Sunday, D., & Etugbo, C. O. (2023). Behavioural finance factors and investment decision making in the maritime sector of Nigeria. *European Journal of Accounting, Finance and Investment*, *9*(2), 8–16.

Tavlas, G. S. (2015). In Old Chicago: Simons, Friedman, and the development of monetary-policy rules. *Journal of Money, Credit and Banking, 47*(1), 99–121.

Ugondah, N. C., & Amadi, N. N. (2019). Taxation and income inequality in Nigeria. *Advance Journal of Economics and Marketing Research, 4*(3), 104–116.

Umo, J. U. (2012). *Escaping poverty in Africa. A perspective on strategic agenda for Nigeria*. Millennium Text Publishers Limited.

Usman, I. C., & Idoko, A. S. (2021). Effect of taxation on poverty in Nigeria: Effect of taxation on poverty in Nigeria. *International Journal of Economics and Development Policy, 4*(1), 40 54.