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Moderating Effect of Government Recurrent Expenditure on the Relationship between Direct Taxation and Income Inequality in Nigeria

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ABSTRACT: This study examined the moderating effect of government recurrent expenditure on the relationship between disaggregated direct taxes (Company Income Tax, Petroleum Profit Tax and Capital Gain Tax) on income inequality in Nigeria. Specifically, it investigated how government recurrent expenditure influenced the impact of each tax type on income inequality. The study adopted an ex-post facto research design, utilizing historical annual macroeconomic time-series data from 2000 to 2024. The population comprised all available yearly observations on taxation, government recurrent expenditure, and income inequality, while a purposive census-based sample of 35 observations was used to ensure data completeness and consistency. Secondary data were collected from the Central Bank of Nigeria, National Bureau of Statistics, Federal Inland Revenue Service, and the World Bank, and hypotheses were tested using a robust least square econometric model incorporating interaction terms to capture moderation effects. The findings revealed that: government recurrent expenditure significantly moderated the effect of company income tax on income inequality, producing a positive effect ($\beta = 0.003373$, $p = 0.0000$); government recurrent expenditure significantly moderated the effect of petroleum profit tax on income inequality, producing a negative effect ($\beta = -0.005835$, $p = 0.0000$); government recurrent expenditure significantly moderated the effect of capital gain tax on income inequality, producing a positive effect ($\beta = 0.006306$, $p = 0.0000$). Collectively, these outcomes suggest that the broader fiscal architecture in Nigeria functions as an interconnected system where taxation and expenditure cannot be analyzed in isolation. It was recommended that Nigeria Revenue Service should review the structure of company income tax in conjunction with government recurrent expenditure to ensure that increased corporate tax revenues do not unintentionally exacerbate income inequality, integrating targeted measures that promote equitable wealth distribution across sectors.

Keywords: Direct Taxation, Income Inequality, Government Recurrent Expenditure

INTRODUCTION

Taxation remains an indispensable tool of fiscal policy, not only for raising revenue to fund government operations but also for promoting macroeconomic stability and equitable wealth distribution. In developing economies like Nigeria, where poverty and inequality remain deeply entrenched (Rivera-Williams, 2025), the tax system assumes even greater importance in addressing structural imbalances. Over the years, Nigeria has

introduced several tax reforms, ranging from the adoption of the Value Added Tax in the 1990s to more recent digitization of tax collection processes, with the aim of boosting revenue and improving equity. Yet, income inequality continues to rise, as reflected by the persistently high Gini coefficient (Tamunotonye, 2025) drawing scholarly attention to the composition of Nigeria's tax system and its interaction with public expenditure policies. In this regard, Herbert, et al., (2018), posit that Nigeria's tax structure which consists of a blend of direct and indirect taxes, operate within a fiscal environment characterized by resource dependency, weak enforcement mechanisms, and skewed spending priorities.

Extensive fiscal literature revealed that not all taxes exert the same impact on income inequality (Biswas, Chakraborty & Hai, 2017; Jones, 2016; Duncan & Sabirianova Peter, 2016), highlighting that the redistributive potential of taxation depends on its type, design, and application. Kesselman, (2024) document that direct taxes such as capital gain tax is generally viewed as progressive because it is levied on corporate earnings and wealth accumulation, primarily benefiting high-income individuals and profitable enterprises. Mourfou and Ouedraogo (2021), posit that well-administered company income tax and capital gain tax can reduce income disparities, especially when accompanied with transparency and accountability. Conversely, Kiara and Nekesa, (2023) noted that indirect taxes such as value added tax, and customs and excise duties which are embedded in the prices of goods and services tend to be regressive, extracting higher relative share of income from poorer households who spend a larger proportion of their earnings on consumption.

Petroleum profit tax, while technically a direct tax, presents a more dynamic case in Nigeria due to its susceptibility to global oil price volatility, sectoral inefficiencies, and issues of fiscal federalism limiting its reliability as a steady and equitable revenue source. Hovenkamp, (2016) note that such inconsistent patterns indicate that the mere presence of progressive taxes is insufficient unless they are effectively administered, and their outcomes are carefully analyzed within the broader fiscal framework. In contemporary fiscal theory, there is a growing consensus that tax policy must not be examined in isolation, but rather in tandem with government expenditure, particularly recurrent spending. Bird and Zolt (2005), highlight that taxation and public spending are two sides of the same redistributive coin.

In Nigeria, recurrent expenditure comprising personnel costs, pensions, debt servicing, and overheads accounts for a substantial portion of the federal and state budgets, often exceeding capital expenditures. Bhandari, (2024), argue that while recurrent spending is necessary for the functioning of the public sector, its composition and direction play a decisive role in determining the equity outcomes of fiscal policy. For instance, when recurrent funds are allocated toward salaries for bloated bureaucracies or misappropriated through inflated administrative costs, they may inadvertently reinforce existing inequalities. Conversely, Andrews et al , (2012) argue that recurrent spending channeled toward social safety nets, education, healthcare, and rural infrastructure has the potential to reduce inequality, especially when aligned with the redistributive goals of direct taxation. Similarly, Malla and Pathranarakul (2022) note that effective public expenditure acts as a buffer against the regressive tendencies of consumption-based taxes and complements progressive tax policies, ensuring a more equitable distribution of national wealth.

Cross-national experiences further reinforce the significance of designing complementary

tax and expenditure policies to combat inequality. In the West African Economic and Monetary Union (WAEMU) region of West Africa, countries that maintain a relatively high share of direct taxation and simultaneously invested in social services experienced more equitable growth trajectories than those that relied predominantly on indirect taxes (Mourfou & Ouedraogo, 2021).

On the flip side, Moździerz (2015) demonstrated how countries that replaced progressive personal and corporate taxes with flat-rate systems or regressive consumption taxes saw a sharp rise in income inequality in Europe. Similarly, in Sri Lanka, Thilanka and Ranjith (2021) reported that indirect tax dominance, coupled with underinvestment in welfare and education, contributed to worsening income gaps accentuating key lessons that the equity effects of taxation cannot be separated from how public revenues are spent, especially recurrently. Therefore, drawing on theoretical and empirical backdrop, it becomes evident that the interaction between taxation and recurrent expenditure must be explored in a Nigerian context that is fiscally unique, characterized by oil-dependent revenues, high administrative costs, low tax compliance, and enduring income inequality. Hence, this study investigates the moderating role of government recurrent expenditure on the relationship between taxation and income inequality in Nigeria aiming to contribute a deeper understanding of how taxation, in conjunction with public spending priorities, can be optimized to promote equitable development in a complex and evolving economic landscape.

Income inequality remains one of the most enduring structural challenges in Nigeria, manifesting in persistent regional disparities, poverty traps, and fragile social mobility. Over the past four decades, Nigeria has adopted a combination of tax policies and public spending initiatives intended to address this imbalance, yet the Gini coefficient continues to reflect a stubbornly unequal distribution of income. Despite improvements in revenue collection through instruments like value added tax, company income tax, and petroleum profit tax, a disconnection persists between tax policy efforts and equitable development outcomes (Fadipe, *et al.,* 2025). The inability of taxation alone to deliver redistributive justice in Nigeria raises the critical question of "What moderating force/s undermine or enhance the redistributive potential of tax policies in a developing economy like Nigeria?"

Theoretical and empirical insights to include Dianov, *et al.,* (2022); Golosov, *et al.*, (2014), emphasize that the effect of taxation on income distribution is neither uniform nor linear, it varies according to the composition of taxes, their design, and their interaction with fiscal expenditure patterns. Khattak *et al.* (2022), Ekici (2022), and Fernandes *et al.,* (2023) highlighted that while progressive taxes like personal or corporate income taxes may reduce inequality, indirect taxes such as value added tax and customs duties often exert regressive effects, especially when poorly targeted. However, findings from Nigeria remain fragmented and inconclusive. For instance, Jolaiya (2024) finds that stamp duty reduces inequality; meanwhile, Omesi and Appah (2021) identify personal and company income taxes as significant equalizers. Remarkably, despite its inherent potential to influence wealth concentration and address disparities in asset accumulation, capital gains tax remains conspicuously underrepresented in empirical investigations within the Nigerian context, thereby constraining a comprehensive understanding of how the full spectrum of tax instruments shapes income inequality in a rent-seeking, consumption-driven economy, and revealing a salient gap in the literature that this study seeks to address.

Further complication lies in the fiscal architecture of Nigerian public finance, where recurrent government expenditure dominates budgetary allocations. According to Amachree (2025), recurrent expenditure has historically exerted a statistically insignificant effect on inequality, raising doubts about the effectiveness of current spending patterns in moderating inequality. Yet, in theory, recurrent spending, when directed toward education, healthcare, and social protection, can complement redistributive tax policy and enhance equity (Sulaiman, *et al.,* 2025). This paradox suggests that the problem may not lie in the magnitude of recurrent spending, but in its composition, targeting, and interaction with tax policies. Further, existing empirical works to include those of Urama *et al.,* (2017); Nnamaka & Nwanyanwu, (2022) rarely integrate expenditure-side variables into tax-inequality models, resulting in an oversimplified view of fiscal redistribution, hence the need for this study.

More crucially, there is a marked absence of empirical analysis that tests the moderating role of recurrent government expenditure on the taxation–inequality nexus in Nigeria. While global literature has increasingly embraced multidimensional fiscal models that integrate both taxation and public spending (Malla & Pathranarakul, 2022; Martinez-Vazquez *et al.,* 2012), Nigerian studies often examine these variables in isolation, neglecting the fiscal synergies that influence income distribution. Nevertheless, among the very few Nigerian studies that did consider expenditure components can be attributed to Omesi & Appah, (2021) who focused on capital spending, suggesting a conceptual and methodological vacuum in current scholarship. Additionally, much of the existing literature lacks a granular focus on tax typology, often aggregating tax revenues into broad categories, thereby obscuring the individual influence of specific taxes like company income tax, capital gain tax, petroleum profit tax, value added tax, stamp duties, and customs duties. This practice undermines the fact that tax instruments are not created equal in their redistributive effects, as confirmed in multi-country studies of Alassani *et al.,* (2022) and Mourfou & Ouedraogo (2021).

In a country like Nigeria, where informal economic activity is rampant and administrative enforcement is uneven, the actual incidence of taxation, and by extension, its redistributive capacity, may deviate significantly from its intended design. Without disaggregated, tax-specific analysis, policy recommendations risk being too general to be actionable. Hence, this study is not only timely but also imperative, as it seeks to unpack the complex nexus between disaggregated tax proxies and income inequality, moderated by recurrent government expenditure, thus offering a more dynamic and actionable understanding of fiscal equity in Nigeria. The specific objectives are to;

1. determine the moderating effect of government recurrent expenditure on the relationship between company income tax and income inequality in Nigeria
2. evaluate the moderating effect of government recurrent expenditure on the relationship between petroleum profit tax and income inequality in Nigeria
3. identify the moderating effect of government recurrent expenditure on the relationship between capital gain tax and income inequality in Nigeria

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Taxation

Taxation is both a fiscal and socio-political construct, anchored in the sovereign authority of the state to impose compulsory levies on individuals, businesses, and other entities for

the purpose of financing public goods and services (Oyedokun, *et al.,* 2021). While its economic purpose is the mobilization of resources for developmental objectives, Ibe, (2019) notes that its legal essence lies in its enforceability under statutory frameworks. Ogbonna and Appah (2016) assert that taxation is not merely a mechanism for extracting funds but a structured system that defines the relationship between the state and the governed, with tax revenue serving as the tangible output of that relationship. The definitional boundary between "taxation" and "tax revenue" is subtle but important: while taxation is the system and process which encompasses policy formulation, legal enforcement, and compliance administration, tax revenue is the measurable fiscal inflow generated by the application of this system (Lanem, *et al.,* 2020). Conceptually, tax revenue is a dependent outcome shaped by the scope, design, and execution of taxation policies, making the two terms inseparable in theoretical and policy discourse.

From a typological perspective, the literature consistently divides taxation into direct and indirect forms, with each having distinctive definitional attributes and implications for tax revenue generation. On the one hand, direct taxation refers to levies imposed directly on income, profits, or wealth, such as personal income tax, corporate income tax, and petroleum profit tax, where the burden of payment falls on the person or entity on whom the tax is legally imposed (Abata, *et al.,* 2023). According to Omodero, (2019) this form of taxation is often lauded for its potential progressivity, aligning tax liability with ability to pay, but it is administratively demanding, particularly in economies with large informal sectors like Nigeria. On the other hand, indirect taxation encompasses levies such as Value Added Tax (VAT), customs duties, and excise taxes, where the tax is collected by intermediaries and embedded in the price of goods and services (Egbuhuzor & Tomquin, 2021). Scholars such as Oseni (2017) and Omodero (2020) note that while indirect taxes may be regressive in incidence, they provide broader coverage and more stable revenue streams in contexts where tracking individual incomes is complex. Notably, the classification into direct and indirect taxation also informs fiscal policy design, as the mix between them reflects trade-offs between efficiency, equity, and administrative feasibility.

2.1.1.1. Company Income Tax

In the literature, company income tax is framed as a statutory levy imposed on the profits of incorporated entities by a recognized sovereign authority, representing both a fiscal instrument and a legal obligation (Nkwagu, *et al.,* 2019). At its definitional core, Omodero, (2020) document that company income tax is distinct from other forms of taxation by virtue of its direct imposition on corporate entities, with its incidence falling on the company itself rather than being shifted to consumers. This form of tax is premised on the principle of equity in contribution, reflecting the notion that corporations, as beneficiaries of public infrastructure, legal protections, and market frameworks, owe a proportionate share of their profits to the state (Abata, 2020). Scholars to include Akinyomi and Tasie (2019) emphasizes that company income tax serves dual roles: as a revenue-generating tool for government and as a regulatory mechanism influencing corporate behavior, investment strategies, and profit distribution policies. Within Nigerian tax jurisprudence, the Companies Income Tax Act (CITA) provides the statutory definition, specifying the taxable base, allowable deductions, and exemptions, thereby setting the legal framework that shapes academic and policy conceptualizations of the term (Onyeka & Ekwe, 2021).

Prior literature highlights a consistent methodological reliance on the concept of "chargeable profit," calculated as gross income less allowable expenses and deductions as

prescribed under CITA (Federal Inland Revenue Service [FIRS], 2020). Obara and Nangih (2017) and Udoh and Nwaiwu (2020) stress that allowable deductions such as costs wholly, exclusively, and necessarily incurred in earning the income are central to determining the company income tax liability, with specific disallowances reinforcing anti-avoidance objectives. Indirect operationalization of company income tax as can be seen in the study of Omodero (2020), is computed as a ratio of corporate tax paid to total profit before tax, offering a proportional measure for analytical purposes. The computation is further deepened by the application of varying rates over time, including sector-specific provisions for petroleum operations, small companies, and pioneer status enterprises (Onyeka & Ekwe, 2021).

Historically, the foundation of company income tax in Nigeria can be traced to colonial-era tax ordinances, most notably the Companies Income Tax Ordinance of 1961, which was adapted post-independence to suit local economic realities and codified into the existing Company Income Tax Act framework, thus laying both legal and administrative foundations for modern corporate taxation (Nkwagu et al., 2019).

2.1.1.2 Petroleum Profit Tax

Petroleum profit tax is conceptually defined in scholarly literature as a specialized fiscal levy imposed on the profits of companies engaged in petroleum operations, particularly exploration, drilling, production, and sale of crude oil, under a jurisdiction's petroleum tax regime (Obi & Yemi, 2020). It is distinguished from general corporate taxation by its sector-specific nature, structured to capture economic rent and windfall gains accruing from the extraction of non-renewable hydrocarbon resources (Sadorsky, 2016). The Petroleum Profits Tax Act (PPTA) in Nigeria legally frames petroleum profit tax as a tax payable on the chargeable profits of upstream petroleum companies, with "chargeable profits" defined as gross income from petroleum operations less allowable deductions and capital allowances (Federal Inland Revenue Service [FIRS], 2020). Ibrahim and Ahmed (2021) emphasize that petroleum profit tax reflects both a fiscal and a regulatory instrument: fiscally, it generates a substantial portion of national revenue; regulatorily, it shapes corporate behavior in resource exploitation, balancing profitability with environmental and economic sustainability. In comparative literature, petroleum profit taxation is conceptualized as an element of resource rent taxation, where the state asserts sovereign rights over subsoil assets, ensuring equitable resource value appropriation (Lund, 2017).

2.1.1.3 Capital Gain Tax

Capital gains tax is conceptually framed in the literature as a direct tax levied on the profit realized from the disposal of a capital asset, where the gain represents the excess of the disposal value over the acquisition cost, subject to allowable deductions (Abata, 2020). Unlike income taxes, which target periodic earnings, capital gain tax specifically addresses wealth increments arising from capital transactions, thereby functioning as both a revenue-generating mechanism and a fiscal tool for equity and redistribution (Ibrahim & Musa, 2021). Scholars such as Udoh and Nwaiwu (2020) define capital gain tax within the Nigerian context as a tax on "chargeable gains" derived from the disposal of qualifying assets including real estate, shares, and other investments, as stipulated by the Capital Gains Tax Act (CGTA). As viewed by Omodero, (2020), capital gain tax sits at the intersection of property rights and fiscal policy, justified by the state's mandate to tax economic value created within its jurisdiction. While some scholars emphasize its theoretical grounding in ability-to-pay principles (Onyeka & Ekwe, 2021), others argue that it plays an

ancillary role in curbing speculative asset trading and ensuring a fair contribution from capital holders to public revenue (Kesselman, 2024; Fu, Qian & Yeung, 2016).

2.1.2 Income Inequality

Income inequality, in its expanded conceptualization, is framed globally as the disparity in income distribution across a population, with definitions and analytical emphases varying across institutional and regional contexts. The Organization for Economic Co-operation and Development (OECD) defines income inequality as the extent to which income is distributed unevenly among individuals or households within a given economy, focusing on comparative measurement across countries using standardized metrics such as the Gini coefficient and income share ratios (OECD, 2019). The African Union (AU), in its Agenda 2063 framework, adopts a multidimensional understanding, situating income inequality within broader social justice concerns, emphasizing structural inequities driven by historical, political, and resource-allocation imbalances across African states (African Union Commission, 2015). The World Bank conceptualizes income inequality as both a distributional outcome and a developmental barrier, linking it to poverty, human capital deficits, and the capacity for inclusive growth (World Bank, 2020). These perspectives collectively underscore that income inequality is not solely a matter of statistical dispersion but an embedded socio-economic and institutional phenomenon shaped by policy choices, governance quality, and global economic integration (Piketty, 2020).

2.1.3 Government Recurrent Expenditure

Government recurrent expenditure is the category of public spending devoted to the ongoing operational costs of government, excluding investments in capital assets or infrastructure (Olapade & Afolabi, 2021). In the views of Akanbi & Olayemi, (2019) this type of expenditure encompasses salaries and wages of public servants, pensions, interest payments on public debt, subsidies, and the routine maintenance of government facilities. Hood, Husband and Yu, (2002) distinguished recurrent government expenditure from capital expenditure by emphasizing its consumption-oriented nature which relates to resources allocated to maintain the daily functions of the state rather than to expand productive capacity (International Monetary Fund [IMF], 2019). Akpan and Enya (2020), document that recurrent government expenditure serves as both a fiscal necessity to ensure the continuity of government services and a macroeconomic variable with implications for budgetary sustainability and intergenerational equity. The definitional scope is largely informed by budget classification systems, with frameworks such as the IMF's Government Finance Statistics Manual (GFSM) providing internationally recognized standards for differentiating recurrent from capital spending (IMF, 2019). In the Nigerian context, the constitutional provisions and annual Appropriation Acts formalize the definition and scope of recurrent expenditure, embedding it within the country's fiscal policy architecture.

Theoretical Review

Wagner's Law of Increasing State Activity

Wagner's Law of Increasing State Activity, originally propounded by the 19th-century German economist Adolph Wagner, is one of the foundational theories in public finance that links economic development to the expansion of government expenditure. The theory posits that as an economy grows and industrializes, there is an inevitable and proportionate increase in the scope and scale of government activities, especially in providing social, administrative, and protective functions (Musgrave & Musgrave, 1989; Peacock & Wiseman, 1961). Wagner observed that rising

per capita income triggers higher demand for public goods and services, such as education, healthcare, and infrastructure, leading to increased government spending, much of which takes the form of recurrent expenditure to maintain and operate such services. The theory assumes that economic progress inherently drives the growth of state functions, not merely due to political decisions, but as a structural and institutional response to societal needs (Bird, 1971; Henrekson, 1993). A central tenet is that the elasticity of government expenditure with respect to income is greater than one, meaning public spending grows faster than national income over the long run (Mikesell, 2011).

This study is hinged on Wagner's Law because it provides a theoretical explanation of how recurrent government expenditure evolves as economies develop and fiscal capacity increases through taxation. Also, the theory underpins the argument that increased tax revenues, if channeled through recurrent expenditure on public sector wages, social welfare programs, and maintenance of public services, can influence the distributive impact of taxation on income inequality (Musgrave, 1959; Tanzi & Schuknecht, 2000). Linking taxation to public spending expansion, Wagner's framework is key to this study because it aligns with the distributive function of public finance, which emphasizes government's role in reducing socio-economic disparities. Further, contemporary theoretical perspectives, from the Organization for Economic Co-operation and Development (OECD, 2019), reinforce Wagner's proposition by highlighting that fiscal systems combining progressive taxation with targeted recurrent expenditure are more likely to address inequality effectively. Therefore, Wagner's Law not only contextualizes the expansionary nature of recurrent expenditure in Nigeria's public finance structure but also defines it as a critical moderating mechanism through which taxation can achieve redistributive goals.

2.3. Empirical Review

Amachree (2025) examined the effect of fiscal policy on income inequality in Nigeria. The study's primary objective was to analyze how government capital expenditure, recurrent expenditure, deficit financing, and value-added tax revenue influence income inequality. The data were obtained exclusively from Central Bank of Nigeria bulletin. The dataset covered a period spanning from 1985 to 2022. Employing *ex-post facto* research design, the study utilized secondary time series data analyzed using the Autoregressive Distributed Lag (ARDL) regression technique, including unit root tests and bounds cointegration procedures. The ARDL method revealed that capital expenditure exerted a positive insignificant influence on income inequality, while recurrent expenditure, deficit financing, and value-added tax demonstrated negative but similarly insignificant effects.

Nwachukwu (2025) investigated the effect of fiscal policy on income inequality with specific focus on Nigeria. The key objective of the study was to examine how government capital expenditure, recurrent expenditure, deficit financing, and value-added tax revenue influence income inequality. The study utilized time series data spanning from 1985 to 2022. The study employed *ex-post facto* research design and utilized the autoregressive distributed lag (ARDL) model incorporating unit root and bounds cointegration tests for data analysis with secondary data obtained from the Central Bank of Nigeria Statistical Bulletin and the World Bank data base. The sample covered 38 annual observations. Findings showed that in the long run, capital expenditure, expenditure, deficit financing, and value-added tax all had a statistically insignificant effect on income inequality.

Mabamidje and Uagbale-Ekatah (2024) examined the extent to which direct taxation influences income inequality in Nigeria, with the key objective of assessing whether proxies of direct tax contribute to reducing disparities in income distribution. The study was carried out using time series data drawn solely from Nigeria's economy for the period 1980 and 2022. The research adopted a longitudinal design with time series data spanning forty-three years, translating to a sample of 42 annual observations. The analysis employed multiple regression, correlation, and descriptive statistics to test the hypotheses. Findings showed that personal income tax, petroleum profit tax, and tertiary education tax each exhibited statistically insignificant effects on income inequality, while company income tax demonstrated a negative significant relationship, indicating its effectiveness in reducing inequality.

Amroabadi, *et al.,* (2024) investigated the determinants of income distribution with specific focus on taxation mechanisms within the Afghan economy. Drawing on data exclusively from Afghanistan's stock and macroeconomic indicators, the study analyzed a longitudinal data set spanning from 1971 to 2020. Employing a library-based quantitative approach, the study applied time-series econometric methods using Ordinary Least Squares regression and the Generalized Method of Moments. Findings revealed that consumption and trade taxes significantly exacerbate income inequality, while profit tax exerts an equalizing effect, suggesting that regressive taxation on consumption intensifies inequality, whereas profit taxes contribute to equitable income distribution.

Asri and Suseno (2023) investigated the effect of a national fiscal policy tool on income and inequality with the key objective of assessing how value-added tax policy influences per capita income and social inequality. The study sourced data from the Indonesian stock of economic records, particularly from 34 provinces in the country. The data spanned a five-year period from 2017 to 2021. Employing a quantitative research design, the study adopted census sampling, resulting in 170 observations over five years. The analysis utilized Panel Vector Error Correction Model for both short- and long-term estimations, along with the Sobel test for mediation effects. Findings showed that value-added tax directly affected per capita income but had no significant direct or indirect effect on inequality, while domestic investment and democracy index had a significant positive influence on income. In the long term, per capita income, democracy, and domestic investment significantly impacted inequality, while value-added tax and foreign investment remained insignificant.

Appah and Iweias (2023) investigated the nexus between taxation and income inequality with the key objective of empirically examining how different tax categories affect income distribution in Nigeria. The study data covered the period 1980 to 2020. The population comprised tax revenue figures and inequality measures for the Nigerian economy, yielding 39 annual observations. Data were analyzed using univariate, bivariate, and multivariate regression techniques. The findings revealed that personal income tax, company income tax, petroleum profit tax, capital gain tax, value added tax, and customs and excise duties each exhibited insignificant relationships with income inequality, while the moderating role of literacy rate strengthened the nexus between tax structure and inequality.

Omesi and Appah (2021) conducted a study with the key objective of evaluating the effect of taxation on income inequality in Nigeria. The data for this investigation was drawn from Nigeria's stock of fiscal and social statistics, and it spans a period from 1980 to 2018. The research employed *ex-post facto* and correlational design, using secondary data

collected from the Central Bank of Nigeria, Federal Inland Revenue Service, and the National Bureau of Statistics. The sample included 39 annual observations over the study period. Data analysis was conducted using Augmented Dickey-Fuller unit root tests, cointegration techniques, and a parsimonious error correction model. Key findings indicated that personal income tax and company income tax both had a statistically significant negative effect on income inequality. Value added tax showed a negative but statistically insignificant relationship with income inequality, while petroleum profit tax exhibited a positive but statistically insignificant relationship.

Khattak, *et al.,* (2022) assessed the link between taxation and income inequality, specifically within the context of Pakistan. The central aim of their study was to assess the long-run and short-run effects of various tax categories on income disparity. The data utilized was drawn exclusively from the Pakistan Stock Exchange, covering the time span from 1979 to 2020. Employing a time-series research design, the authors used a comprehensive sampling technique based on national economic indicators, with observation size spanning through 42 years. The analysis was conducted using Augmented Dickey-Fuller unit root tests, Autoregressive Distributed Lag (ARDL) regression, and bounds testing approaches. The findings revealed that while tax revenue and income taxes have a statistically significant negative long-run effect on income inequality, suggesting their role in reducing disparity, taxes on goods and services demonstrated a significant positive impact, exacerbating inequality through regressive effects on lower-income populations.

Ekici (2022) documented a result which was obtained from investigating the effect of tax composition on income inequality with a central aim of determining how varying levels of reliance on income taxes versus consumption taxes influence disparities in income distribution across nations. The study employs data from 189 countries, drawing tax data specifically from their national stock exchange, spanning the years 2006 to 2012. The research adopts a quantitative design using secondary macroeconomic data, applying k-means clustering for grouping countries, and utilizing ordinary least squares, generalized method of moments, and instrumental variable regression for hypothesis testing. With a sample size of 316 observations covering up to 64 countries in a given year, the findings reveal that countries relying more on income tax relative to consumption tax experience significantly lower levels of income inequality, while higher dependence on consumption taxes corresponds with increased inequality. Expenditures on health, education, agriculture, and public services also contribute to lowering inequality, while household consumption expenditure is positively associated with it.

3.0. METHODOLOGY

This study used *ex-post facto* research design, this is employed to examine the moderating effect of government recurrent expenditure on the relationship between direct taxation and income inequality in Nigeria. *Ex-post facto* design, a quasi-experimental approach, is appropriate in contexts where variables cannot be manipulated directly by the researcher, particularly when analyzing historical or secondary data. The study area covered was Nigeria. Nigeria presents a compelling context for investigating the taxation inequality nexus, given its complex fiscal landscape characterized by regressive tax burdens and structurally imbalanced public expenditure.

The population of this study comprises of the entire set of annual macroeconomic time-series data reflecting taxation proxies, government recurrent expenditure, and income inequality indicators in Nigeria. This includes all

available yearly observations covering variables such as Company Income Tax, Capital Gain Tax, Petroleum Profit Tax, alongside recurrent expenditure and inequality metrics (the Gini coefficient). The population encompasses all such observations across the longest possible continuous period for which consistent data are available, forming the empirical basis for examining the dynamic interaction between taxation, expenditure, and income inequality within the Nigerian macroeconomic context. The sample size for this study is constituted by 25 annual macroeconomic observations spanning from 2000 to 2024, selected based on the availability, consistency, and completeness of time-series data on disaggregated taxation, government recurrent expenditure, and income inequality in Nigeria. This temporal frame is informed by accessible records from established data sources, including the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), Federal Inland Revenue Service (FIRS), and the World Bank, ensuring the inclusion of critical fiscal policy episodes such as the introduction and adjustments of VAT and fluctuations in oil revenue. This study adopted a purposive census-based time-series sampling approach. This is appropriate given the study's focus on national-level economic aggregates over time, where the objective is to include all available annual data points that meet criteria of completeness and consistency. The purposive nature of the sample selection is justified on the basis that only periods for which all three key variables: taxation, recurrent expenditure, and income inequality, are available will be included to preserve data integrity and inconsistencies in trend analysis.

Operationalization of the Variables

Variable Acronym	Aprori sign	Variable Name	Measurement	Source
Dependent Variable				
INCINQ		Income Inequality	Gini Coefficient: It measures inequality on a scale from 0 to 1, where higher values indicate higher inequality. which can sometimes be shown as a percentage from 0 to 100%, called the "Gini Index	Biswas, Chakraborty and Hai, (2017).
Moderator Variable				
GREXP	+	Government Recurrent Expenditure	Central Bank of Nigeria (CBN) Statistical Bulletin.	Nwachukwu (2025).
Independent Variables				
CITAX	+-	Company Income Tax	As reported in Central Bank of Nigeria (CBN) Statistical Bulletin	Anyaduba and Otulugbu, (2019).
PPTAX	+-	Petroleum Profit Tax	As reported in Central Bank of Nigeria (CBN) Statistical Bulletin	Anyaduba and Otulugbu, (2019).
CGTAX	+-	Capital Gain tax	As reported in National Bureau of Statistics (NBS)	Osho, Ajibola, and Omolola, (2019).

Model Specification

This study will adopt the model of Obaretin *et al.,* (2017), which was modified to suit the valuables employed in this study. The model of *Obaretin et al.,* (2017) is stated in equation (1) as:

GNI = F (TIT, TDT, FDI, OPN, INF) …… (1)
The econometric form of the model stated in equation (1) is presented in equation (2) as:

$GINI_t = \beta_0 + \beta_1 TIT_t + \beta_2 TDT_t + \beta_3 OPN_t + \beta_4 FDI_t + \beta_5 INF_t + \varepsilon_t$ - - - (2)

TIT = Total indirect tax revenue,
TDT= Total direct tax revenue,
FDI = Foreign direct investment,
OPN= Economic openness,
INF= Inflation rate,
GINI= Gini coefficient

The model for this study is anchored on the objective that government recurrent expenditure has a statistically significant moderating effect on the relationship between direct tax revenue and income inequality presented in its functional form as:

INCINQ = F (CITAX*GREXP, PPTAX*GREXP, CGTAX*GREXP) …. (3)
However, the econometric formation of the study variables is presented as
$INCINQit = \beta 0 + \beta 1 CITAX_{it} * GREXP_{it} + \beta 2 PPTAX_{it} * GREXP_{it} + \beta 3 CGTAX_{it} * GREXP_{it} + \mu_{it}$ …. (4)
Where:
INCINEQ = Income Inequality
CIT = Company Income Tax
PPT = Petroleum Profit Tax
CGT = Capital Gain Tax
GREXP = Government Recurrent Expenditure

Decision Rule
In this study, the null hypothesis will be accepted if the P-value is greater than 0.05 otherwise will be rejected

This study examined the moderating effect of government recurrent expenditure on the relationship between disaggregated direct taxes (Company Income Tax, Petroleum Profit Tax, Capital Gain Tax, and income inequality in Nigeria).

4.0 RESULTS AND DISCUSSION

4.1 Descriptive Analysis and Model Diagnostics

Table 4.1 Descriptive Statistics

	INCINQ	CITAX	PPTAX	CGTAX	GREXP
Mean	0.354400	842.1896	2988.563	19.36000	1268.054
Median	0.353000	933.5400	3070.590	12.59000	883.8700
Maximum	0.413000	1604.700	5404.770	99.40000	3974.440
Minimum	0.278000	40.32000	919.7100	2.270000	239.4500
Std. Dev.	0.029165	441.7175	1463.498	21.47155	1061.274
Skewness	-0.271852	-0.233561	0.077287	2.288806	1.403942

Kurtosis	3.704661	2.022574	1.696440	8.776116	3.994187
Jarque-Bera	0.825168	1.222464	1.794960	56.58130	9.242310
Probability	0.661938	0.542682	0.407595	0.000000	0.009841
Sum	8.860000	21054.74	74714.08	484.0000	31701.35
Sum Sq. Dev.	0.020414	4682744.	51403852	11064.66	27031247
Observations	25	25	25	25	25

Source: Eviews 10 Output (2026)

Table 4.1 above shows that income inequality, measured by the Gini coefficient (INCINQ), had a mean value of 0.3544 over the 25-year period, indicating a moderate level of inequality in Nigeria's income distribution. The maximum and minimum values, 0.413 and 0.278 respectively, suggest that inequality fluctuated over time but remained within a relatively narrow band. The standard deviation of 0.0292 shows that the variations around the mean were modest, implying that income inequality did not experience extreme volatility during the observed period. Skewness is -0.2719, indicating a slight leftward asymmetry in the distribution, meaning there were marginally more years with values above the mean. The kurtosis of 3.7047 suggests a slightly leptokurtic distribution, with occasional extreme values above or below the mean. The Jarque-Bera probability of 0.6619, being greater than 0.05, confirms that INCINQ is normally distributed across the sample years, making it suitable for regression analysis.

Company Income Tax (CITAX), reported in billions of naira, averaged 842.19 over the 25 years, reflecting the contribution of corporate taxation to government revenue. The maximum observed value of 1604.7 and the minimum of 40.32 reveal a wide variation in corporate tax collection over the years. The standard deviation of 441.72 indicates substantial fluctuation, showing that CITAX was sensitive to economic cycles, policy changes, or compliance levels. Its skewness of -0.2336 suggests a slight negative asymmetry, implying that extremely high values were less frequent than extremely low ones. The kurtosis of 2.0226, being close to 3, indicates a distribution approximately similar to normal. The Jarque-Bera probability of 0.5427 further confirms the normality of CITAX, supporting its use in econometric modeling.

Petroleum Profit Tax (PPTAX), also in billions of naira, had a mean of 2,988.56, highlighting its substantial role in Nigeria's government revenue. The observed maximum of 5,404.77 and minimum of 919.71 suggest significant annual variation, likely due to fluctuating oil prices and production levels. The large standard deviation of 1,463.50 reinforces this volatility, showing that PPTAX was a highly variable revenue source over the period. Skewness is 0.0773, indicating an almost symmetric distribution, and a kurtosis of 1.6964 points to a relatively flat distribution, with fewer extreme values than a normal distribution. The Jarque-Bera probability of 0.4076, exceeding 0.05, suggests that the variable is normally distributed and appropriate for regression analysis.

Capital Gain Tax (CGTAX) had a mean of 19.36 billion naira, reflecting a smaller but growing segment of government tax revenue. The maximum and minimum values, 99.4 and 2.27 respectively, indicate extreme variations, suggesting that capital gains revenue was irregular and potentially influenced by market conditions. The standard deviation of 21.47 underscores this high variability. A skewness of 2.2888 shows strong positive skewness, meaning that a few years had very high values relative to the mean, which is consistent with

the observed maximum. The kurtosis of 8.7761 indicates a leptokurtic distribution, with more frequent extreme observations than a normal distribution. The Jarque-Bera probability of 0.0000 confirms non-normality, which may require caution or transformation before regression modeling.

Government Recurrent Expenditure (GREXP), measured in billions of naira, averaged 1,268.05, showing the substantial annual recurrent spending by the Nigerian government. The maximum and minimum values, 3,974.44 and 239.45, highlight considerable variation across the 25-year period, likely reflecting fiscal policy shifts, inflation, and revenue cycles. The standard deviation of 1,061.27 further emphasizes this wide dispersion. Skewness of 1.4039 indicates a positively skewed distribution, suggesting that exceptionally high expenditure years occurred more often than extremely low ones. Kurtosis of 3.9942 points to a moderately leptokurtic distribution with some extreme outliers. The Jarque-Bera probability of 0.0098, being less than 0.05, signals non-normality in GREXP, which may affect statistical inference and suggest the need for robust estimation techniques in regression analysis.

Table 4.2 Correlational Analysis

Correlational Analysis: Ordinary
Date: 04/01/26 Time: 01:48
Sample: 2000 2024
Included observations: 25

Correlation Probability	INCINQ	CITAX	PPTAX	CGTAX	GREXP
INCINQ	1.000000				

CITAX	0.294178	1.000000			
	0.1535	-----			
PPTAX	-0.210939	-0.637952	1.000000		
	0.3115	0.0006	-----		
CGTAX	0.247824	-0.065884	0.244289	1.000000	
	0.2323	0.7544	0.2393	-----	
GREXP	0.119626	0.508959	-0.691186	-0.381786	1.000000
	0.5690	0.0094	0.0001	0.0597	-----

Source: Eviews 10 Output (2026)

Table 4.2 presents the results of the correlational analysis between income inequality (INCINQ) and the study variables. Company Income Tax (CITAX) shows a positive correlation of 0.2942 with INCINQ, indicating that higher corporate tax revenue is associated with a slight increase in income inequality, although the relationship is not

statistically significant at the 5% level, as the probability value is 0.1535. Petroleum Profit Tax (PPTAX) exhibits a negative correlation of -0.2109 with income inequality, suggesting that higher petroleum tax revenue is linked to a modest reduction in inequality; however, this relationship is also statistically insignificant with a p-value of 0.3115. Capital Gain Tax (CGTAX) has a positive correlation of 0.2478 with INCINQ, implying a slight tendency for higher capital gains taxation to coincide with higher income inequality, yet this correlation is not significant (p = 0.2323). Government Recurrent Expenditure (GREXP) shows a weak positive correlation of 0.1196 with income inequality, but the probability value of 0.5690 indicates that this relationship is far from statistically significant. Overall, the correlational analysis suggests that while there are mild associations between the tax proxies, recurrent expenditure, and income inequality, none of the observed relationships are statistically significant, highlighting the need for further analysis using regression techniques to examine potential moderating effects.

Table 4.3 Unit Root Test

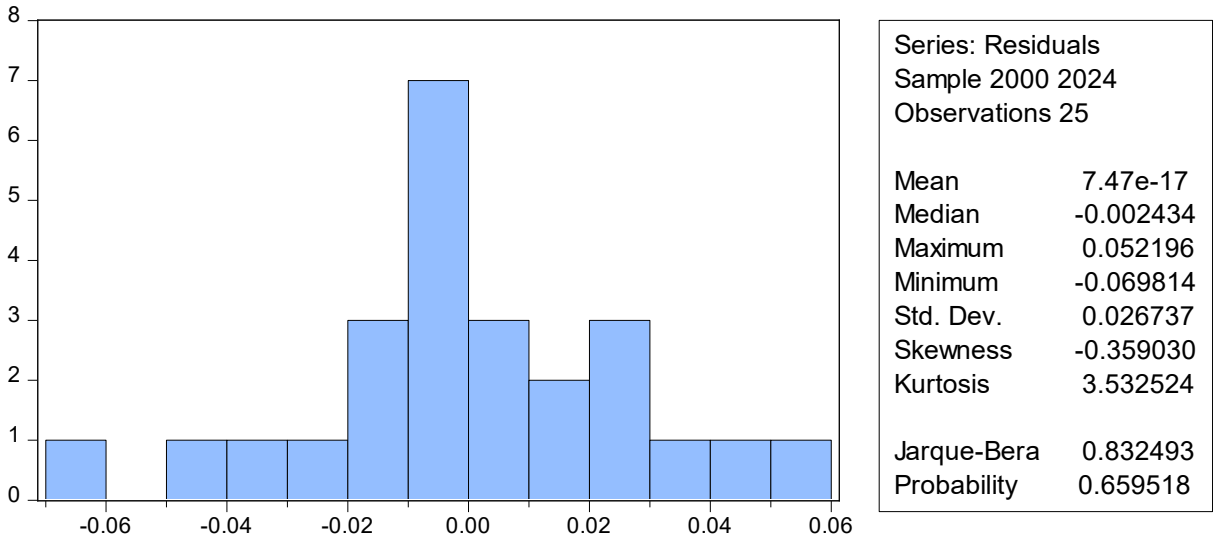
Group unit root test: Summary
Series: INCINQ, CITAX, PPTAX, CGTAX, GREXP
Date: 04/01/26 Time: 01:48
Sample: 2000 2024
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 4
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.98814	0.1615	5	113
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.38768	0.0826	5	113
ADF - Fisher Chi-square	26.6194	0.0030	5	113
PP - Fisher Chi-square	26.5415	0.0031	5	120

Source: Eviews 10 Output (2026)

The unit root test, as presented in Table 4.3, assesses the stationarity of the time-series data for all study variables: INCINQ, CITAX, PPTAX, CGTAX, and GREXP. Stationarity is crucial in time-series analysis because non-stationary data can lead to spurious regression results, giving misleading estimates of effects. The Augmented Dickey-Fuller (ADF) Fisher Chi-square value is 26.6194 with a probability of 0.0030, and the Phillips-Perron (PP) Fisher Chi-square is 26.5415 with a probability of 0.0031. Both p-values are below the 5% significance threshold, allowing rejection of the null hypothesis of a unit root. This indicates that all variables are stationary at levels, confirming that the data do not exhibit persistent trends or random walks, making them suitable for reliable regression analysis.

Table 4.4 Normality Test



Source: Eviews 10 Output (2026)

Table 4.4 presents the normality test, which evaluates whether the residuals of the model are normally distributed. Normality is essential in regression analysis because it ensures the validity of hypothesis testing, particularly when interpreting t-statistics and p-values. The p-value of 0.659518 shows that the residuals do not deviate significantly from a normal distribution. A normally distributed residual implies that the model's estimators are unbiased and efficient, allowing for correct inference about the effect of independent variables on income inequality.

Table 4.5 Multicollinearity Test

Variance Inflation Factors
Date: 04/01/26 Time: 01:55
Sample: 2000 2024
Included observations: 25

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
LOGCITAX	0.000267	215.0635	1.716909
LOGPPTAX	0.001061	1086.009	5.784749
LOGCGTAX	0.000148	17.67306	4.179112
LOGGREXP	0.000466	395.0039	5.790506
C	0.038603	3592.256	NA

Source: Eviews 10 Output (2026)

The multicollinearity test, displayed in Table 4.5, uses Variance Inflation Factors (VIF) to examine whether independent variables are highly correlated with each other. Multicollinearity can distort the estimated coefficients, inflate standard errors, and weaken the statistical power of the regression. The VIF values for LOGCITAX (1.717), LOGPPTAX (5.785), LOGCGTAX (4.179), and LOGGREXP (5.791) are all below the

conventional threshold of 10, indicating that multicollinearity is not severe. This ensures that each independent variable provides unique information in explaining income inequality, and the estimated coefficients can be interpreted confidently without bias from linear dependencies among the predictors.

Table 4.6 Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.031781	Prob. F(1,19)	0.8604
Obs*R-squared	0.041747	Prob. Chi-Square(1)	0.8381

Source: Eviews 10 Output (2026)

Table 4.6 presents the Breusch-Godfrey Serial Correlation LM test, which examines whether residuals are autocorrelated across time. Autocorrelation violates the classical regression assumption that error terms are independent, potentially leading to inefficient estimates and underestimated standard errors. The test yields a probability of 0.8604, which is well above the 5% significance level. This indicates no evidence of serial correlation in the model residuals, confirming that past errors do not systematically influence current residuals. Consequently, the regression results can be interpreted without concerns of biased inference due to autocorrelation.

Table 4.7 Heteroskedasticity Test

Heteroskedasticity Test: Harvey

F-statistic	3.461864	Prob. F(4,20)	0.0264
Obs*R-squared	10.22784	Prob. Chi-Square(4)	0.0368
Scaled explained SS	9.167143	Prob. Chi-Square(4)	0.0571

Source: Eviews 10 Output (2026)

The Harvey heteroskedasticity test, shown in Table 4.7, assesses whether the variance of residuals is constant across observations. Homoskedasticity is a key assumption in regression; violation (heteroskedasticity) can lead to inefficient estimates and invalid standard errors, affecting the reliability of t-tests and confidence intervals. The test produces a probability of 0.0264, which is less than 5%, indicating the presence of heteroskedasticity in the model. This implies that the residual variance changes with the level of the independent variables, necessitating the use of robust standard errors or heteroskedasticity-consistent estimation techniques to obtain valid inference about the effects of taxation and government expenditure on income inequality.

Table 4.8 Unmoderated Regression

Dependent Variable: INCINQ
Method: Least Squares

Date: 04/01/26 Time: 01:46
Sample: 2000 2024
Included observations: 25

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCITAX	0.020098	0.018503	1.086182	0.2903
LOGPPTAX	-0.018529	0.041195	-0.449786	0.6577
LOGCGTAX	0.016154	0.016502	0.978924	0.3393
LOGGREXP	-0.002719	0.030689	-0.088608	0.9303
C	0.351696	0.240347	1.463283	0.1589

R-squared	0.159544	Mean dependent var	0.354400
Adjusted R-squared	-0.008547	S.D. dependent var	0.029165
S.E. of regression	0.029289	Akaike info criterion	-4.046344
Sum squared resid	0.017157	Schwarz criterion	-3.802569
Log likelihood	55.57930	Hannan-Quinn criter.	-3.978731
F-statistic	0.949152	Durbin-Watson stat	1.972307
Prob(F-statistic)	0.456415		

Source: Eviews 10 Output (2026)

Table 4.8 presents the results of the unmoderated regression estimating the effect of Company Income Tax (CITAX), Petroleum Profit Tax (PPTAX), Capital Gain Tax (CGTAX), and Government Recurrent Expenditure (GREXP) on income inequality (INCINQ). The model's R-squared value is 0.1595, indicating that approximately 16% of the variation in income inequality is explained by the four independent variables collectively, suggesting a moderate explanatory power. The Durbin-Watson statistic of 1.9723 is very close to 2, indicating that there is no evidence of autocorrelation in the residuals. The overall F-statistic probability is 0.4564, which exceeds the 5% significance level, implying that the model as a whole is not statistically significant in explaining changes in income inequality when the tax variables and government expenditure are considered without interaction.

Examining the individual coefficients, LOGCITAX has a positive effect ($\beta = 0.0201$, $p = 0.2903$), indicating that a 1% increase in company income tax is associated with a 0.02 unit increase in the Gini coefficient, although this effect is not significant at the 5% level. LOGPPTAX shows a negative marginal effect ($\beta = -0.0185$, $p = 0.6577$), suggesting that higher petroleum profit tax is associated with a slight reduction in income inequality, but the effect is statistically insignificant. LOGCGTAX exhibits a positive coefficient ($\beta = 0.0162$, $p = 0.3393$), implying a minor increase in inequality with higher capital gains tax, again without statistical significance. LOGGREXP has a negligible negative effect ($\beta = -0.0027$, $p = 0.9303$), indicating virtually no influence of recurrent expenditure on income inequality in this unmoderated model.

4.2 Test of Hypotheses

The use of robust least squares for testing the hypotheses is justified because it provides reliable coefficient estimates and valid inference even in the presence of heteroskedasticity in the residuals.

Table 4.9 Test of Hypotheses Using Moderated Regression

Dependent Variable: INCINQ
Method: Robust Least Squares
Date: 04/01/26 Time: 01:51
Sample: 2000 2024
Included observations: 25
Method: M-estimation
M settings: weight=Fair, tuning=1.4, scale=MAD (median centered)
Huber Type I Standard Errors & Covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
CITAX_GREXP	0.003373	0.0000578	58.35953	0.0000
PPTAX_GREXP	-0.005835	0.000134	-43.44175	0.0000
CGTAX_GREXP	0.006306	0.0000858	73.54384	0.0000
C	0.366191	0.001340	273.3261	0.0000

Robust Statistics

Rw-squared	0.178991	Adjust Rw-squared	0.178991
Scale	0.015205	Rn-squared statistic	10906.64
Prob(Rn-squared stat.)	0.000000		

Source: Eviews 10 Output (2026)

Table 4.9 presents the results of the moderated regression using robust least squares to account for heteroskedasticity in the residuals. The Rw-squared value of 0.1790 indicates that approximately 18% of the variation in income inequality is explained by the interaction terms between government recurrent expenditure and the three tax proxies (CITAX, PPTAX, CGTAX). The robust F-statistic probability of 0.0000 confirms that the model is statistically significant at the 5% level, implying that the set of independent variables and their interactions jointly affect income inequality. The constant (C = 0.3662, p = 0.0000) is positive and highly significant, indicating that when the tax proxies and recurrent expenditure are zero, the baseline Gini coefficient is 0.366, reflecting a moderate level of inequality in Nigeria during the study period. This constant provides the reference point against which the marginal effects of the moderated tax variables are interpreted.

4.2.1 Test of Hypothesis I

H_{01}: Government recurrent expenditure has no significant moderating effect on the relationship between Company Income Tax and income inequality in Nigeria.

The coefficient for the interaction term CITAX_GREXP is 0.003373 with a probability value of 0.0000. This positive coefficient indicates that an increase in company income tax, when moderated by recurrent expenditure, leads to a 0.0034 unit increase in the Gini coefficient for each one-unit increase in the interaction term, reflecting a marginal increase in income inequality. The extremely low p-value confirms that this effect is statistically significant at the 5% level. Therefore, government recurrent expenditure significantly moderates the effect of company income tax on income inequality in Nigeria. This finding accepts the alternate hypothesis and suggests that the combined policy of

corporate taxation and government spending amplifies inequality slightly but meaningfully within the observed period.

4.2.2 Test of Hypothesis II

H_{02}: Government recurrent expenditure has no significant moderating effect on the relationship between Capital Gain Tax and income inequality in Nigeria.

The interaction term PPTAX_GREXP has a negative coefficient of -0.005835 with a p-value of 0.0000. The negative sign implies that an increase in petroleum profit tax, when moderated by recurrent expenditure, decreases income inequality by approximately 0.0058 units for each one-unit increase in the interaction term. This demonstrates a marginal reduction in the Gini coefficient, indicating that higher petroleum tax revenues, when coupled with recurrent expenditure, contribute to slightly lowering income disparities. The p-value being well below 0.05 confirms that this effect is statistically significant. Consequently, the study accepts the alternate hypothesis, affirming that recurrent expenditure significantly moderates the effect of petroleum profit tax on income inequality.

4.2.3 Test of Hypothesis III

H_{03}: Government recurrent expenditure has no significant moderating effect on the relationship between Petroleum Profit Tax and income inequality in Nigeria.

The coefficient for CGTAX_GREXP is 0.006306 with a p-value of 0.0000, showing a positive marginal effect. This indicates that an increase in capital gain tax, moderated by government recurrent expenditure, raises income inequality by about 0.0063 units for every one-unit increase in the interaction term. The effect is statistically significant at the 5% level, demonstrating that recurrent expenditure amplifies the inequality-enhancing effect of capital gains taxation. Therefore, the study accepts the alternate hypothesis, confirming that government recurrent expenditure significantly moderates the effect of capital gains tax on income inequality.

4.3 Discussion of Findings

The positive moderating effect of government recurrent expenditure on the relationship between company income tax and income inequality suggests that increases in recurrent expenditure amplify the influence of company income tax on income distribution. This outcome indicates that when the government channels recurrent spending effectively alongside corporate taxation, it can enhance redistributive mechanisms, possibly by supporting administrative and social infrastructure that indirectly affects income disparities. This result aligns with findings from Mabamidje and Uagbale-Ekatah (2024), who reported that company income tax significantly reduced inequality, while Omesi and Appah (2021) similarly noted the capacity of corporate taxation to influence income redistribution. Additionally, studies such as Martorano (2022) and Ekici (2022) emphasize that well-structured taxation combined with strategic public expenditure can promote equity, reinforcing the observation that fiscal tools interact dynamically to shape income inequality patterns. Conversely, the results partially diverge from Appah and Iweias (2023) and Nwachukwu (2025), who found insignificant effects of corporate taxation and recurrent spending individually, suggesting that the moderating effect may be contextually sensitive and contingent on combined fiscal actions.

In the case of petroleum profit tax, the negative moderating effect of government recurrent expenditure indicates that increased recurrent spending dampens the influence of PPTAX on income inequality, effectively reducing the amplifying role of petroleum taxation on disparities. This phenomenon may occur because recurrent expenditures, when directed toward social services or subsidies, can offset

the regressive tendencies of resource-based taxation. The finding finds some support in Amroabadi et al. (2024), who documented profit taxes as equalizing, and aligns with Omesi and Appah (2021), where PPTAX had a marginally positive effect on inequality but could be mitigated by public spending. In contrast, studies such as Mabamidje and Uagbale-Ekatah (2024) and Appah and Iweias (2023) reported largely insignificant results for petroleum taxation, highlighting the importance of combining taxation with government expenditures to observe significant effects. Additionally, the result resonates with Khattak et al. (2022) and Khan and Padda (2021), who underscore that targeted fiscal interventions can reduce the regressive consequences of resource-dependent taxes, emphasizing the nuanced interaction between sector-specific taxation and public spending in shaping inequality outcomes.

For capital gain tax, the positive moderating effect of government recurrent expenditure reveals that recurrent spending strengthens the contribution of CGTAX to increasing income inequality. This may reflect a scenario where capital gains are concentrated among higher-income groups, and government recurrent expenditures fail to sufficiently redistribute these gains, inadvertently amplifying disparities. The result aligns with findings from Nantob (2016) and Iosifidi and Mylonidis (2016), which show that taxes on income, profits, and capital gains often exacerbate inequality unless effectively coupled with redistribution policies. Similarly, Ekici (2022) and Moździerz (2015) highlight that progressive taxation and complementary public spending are critical to mitigating wealth concentration; otherwise, fiscal mechanisms may intensify inequality. Conversely, this outcome contrasts with Mabamidje and Uagbale-Ekatah (2024) and Appah and Iweias (2023), who reported negligible effects of CGTAX on income distribution, suggesting that the moderating role of recurrent expenditure can create significant effects that are not observable when analyzing taxes in isolation. Collectively, these findings indicate that fiscal policy instruments interact in complex ways, where government expenditure can either amplify or dampen the redistributive potential of different tax categories.

5.0 CONCLUSION AND RECOMMENDATIONS

The results of this study highlight the critical role of government recurrent expenditure in shaping the distributional outcomes of taxation policies in Nigeria. By demonstrating that the combination of fiscal instruments and recurrent spending can either exacerbate or mitigate income disparities, the findings underscore the importance of considering the interaction between revenue generation and public spending when analyzing economic equity. The positive moderation effects observed suggest that certain tax policies, when coupled with recurrent expenditures, may unintentionally reinforce existing inequalities, emphasizing the complex dynamics between state interventions and market forces. Conversely, the negative effect associated with petroleum profit tax indicates that targeted fiscal measures, aligned with strategic spending, have the potential to reduce inequality, revealing the nuanced ways in which resource-based revenues interact with government expenditure patterns. Collectively, these outcomes suggest that the broader fiscal architecture in Nigeria functions as an interconnected system where taxation and expenditure cannot be analyzed in isolation. The findings also illuminate the significance of recurrent spending in either amplifying or counterbalancing the redistributive impacts of different taxes, reflecting how public finance mechanisms can systematically influence

social and economic outcomes. This underscores the dynamic and contingent nature of fiscal policy on the overall structure of income distribution within the country. The study recommended that:

1. Nigeria Revenue Service should review the structure of company income tax in conjunction with government recurrent expenditure to ensure that increased corporate tax revenues do not unintentionally exacerbate income inequality, integrating targeted measures that promote equitable wealth distribution across sectors.
2. The Ministry of Finance and the Federal Government should leverage petroleum profit tax revenues alongside recurrent spending programs to actively support initiatives that reduce income inequality, ensuring that resource-based revenues are directed toward interventions that benefit lower-income households and communities.
3. The Securities and Exchange Commission (SEC) and the Federal Inland Revenue Service should implement mechanisms to manage capital gains taxation in combination with recurrent expenditure, structuring fiscal policies so that increases in capital gain tax, when paired with government spending, do not disproportionately widen income disparities among investors and the general population.

Contribution to Knowledge

This study contributes to knowledge by providing empirical evidence on the moderating role of government recurrent expenditure in shaping the effects of disaggregated direct taxes on income inequality in Nigeria, highlighting that taxation alone cannot fully explain disparities in income distribution. By demonstrating that recurrent expenditure amplifies the redistributive impact of company income tax and capital gain tax while mitigating the effect of petroleum profit tax, the research underscores the interactive dynamics between fiscal policy instruments, offering a more nuanced understanding of how government spending can either reinforce or counterbalance tax-induced inequality. This adds to existing literature by moving beyond isolated analyses of tax types or expenditure, emphasizing the systemic nature of fiscal policy in addressing inequality.

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