DIRECT TAXES AND INCOME REDISTRIBUTION IN NIGERIA

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ABSTRACT

This study examines direct taxes and income redistribution in Nigeria. The Ex-Post-facto research design was used in the study. The study, which covered a 33-year period from 1990 to 2022, was especially concerned with the Nigerian economy. The study makes use of secondary data that was directly sourced from FIRS annual reports, CBN statistics bulletins, and yearly reports from the National Bureau of Statistics. The research employed the econometric technique of fully modified ordinary least squares (FMOLS) to assess the empirical model and investigate the impact of direct taxes on income redistribution in Nigeria. The data was subjected to time series analysis using the Dickey-Fuller test extension known as Augmented Dickey-Fuller (ADF) to check for stationarity or non-stationarity issues. Subsequently, a cointegration test was employed to determine the cointegration of the non-stationarity variables and to validate the presence of a long-term equilibrium relationship between them. The study's analysis showed that capital gains tax had a little but detrimental impact on Nigeria's redistribution of income. The study also discovered that income redistribution in Nigeria is positively and considerably impacted by the petroleum profit tax, personal income tax, and corporation income tax. According to the study's findings, Nigeria's tax structures should be reviewed. The capital gains tax should be adjusted to ensure that income is redistributed effectively, petroleum profit tax revenue should be optimised for social welfare, company income tax mechanisms

Keywords

Direct Taxes, Inequality, Government Expenditure, Income Redistribution

should be strengthened to prevent evasion, and personal income tax collection and progressive rates should be improved to align with redistributive goals.

Introduction

Crude oil is Nigeria's main source of income, and fluctuations in its price make it more difficult to make ends meet. As a result, it's now essential to raise money through alternative means, such as taxes. Furthermore, the funds produced from taxes and other sources need to be distributed appropriately in order to impact every sector of the economy. Awe and Olawumi (2012) contend that income redistribution is necessary for a nation to develop. From the 1970s to the present, Nigeria relied entirely on oil money, neglecting other sources of income such as taxes, and from the 1960s until the mid-1970s, it relied heavily on agriculture (Obaretin et al., 2017).

Changes in the distribution of income result in differences in disposable income and a widening wealth disparity (Madzinova, 2017). Redistributing income is a worldwide issue that Nigeria and all other nations attempt to resolve. Although Nigeria has Africa's largest economy, inequality there is also the highest. Nigeria has a booming economy, an abundance of human resources, and the ability to lift millions out of poverty. But the rate of poverty is rising as a result of resource mismanagement, theft, and misallocation. (Ugbede, 2020).

Instead of increasing in a corrective manner, household income has continued to be divided unevenly, especially in developing countries. Since the corona virus first appeared, income distribution has remained unequal, leading to an increase in inequality. As a result, poverty and unemployment will keep rising (Africa, 2020). Income redistribution is accompanied by increased poverty, a dramatic drop in real incomes, private per capita expenditure, social services, and an overall decline in welfare (Petach, 2022). There are a number of reasons behind the apparent rise in wealth redistribution in developing countries, especially in Nigeria. These include the high cost of administration and corruption, which consumes a large percentage of government expenditure, as well as the limited job possibilities combined with the abundance of economic prospects in certain urban regions (Isayomi et al., 2022).

One of the United Nations' realistic goals is to reduce income disparity. It highlights the implementation of equitable policies, particularly those pertaining to money, wages, and social security, as well as the ongoing attainment and maintenance of income growth for the bottom 40% of the population at a rate higher than the national minimum wage (United Nations, 2019). Due to the unequal distribution of income in Africa and Nigeria, the literature suggests that taxation and income redistribution may be the ways to solve poverty and inequality.

Income redistribution raises the purchasing power of the poor to a more comfortable level. It is commonly believed to mean minimising income inequality via the use of taxes and transfer programmes. Reducing the income redistribution gap requires effective economic measures, particularly taxation (Lustig, 2017). Increased income redistribution's negative effects on the economy include higher rates of poverty, a steep decline in real incomes, private per capita spending, social services, and a general decline in well-being (Petach, 2022). These negative antecedents have led to the emergence of effective income redistribution as a crucial government strategy. Taxation is a dependable method used by governments to disperse money.

Various fiscal strategies have been implemented by the Nigerian government with the aim of promoting and reducing income redistribution. One of these tactics is the imposition of direct taxes. The Nigerian tax system consists of a number of direct taxes, such as corporate income tax, personal income tax, and capital gains tax. Direct taxes have the potential to redistribute wealth and reduce income distribution. According to the theory of optimum taxation, the ideal tax structure should be designed to optimise revenue generation and minimise the distortions that taxes cause (Saez, 2001). This shows that redistributing wealth from the wealthy to the poor through direct taxation is a viable way to reduce income inequality.

However, it is unknown how well direct taxes support income redistribution in Nigeria. According to Edo et al. (2020); Ezu and Okoh (2016), taxes have a redistributive effect since they generate revenue that is used to provide social amenities and guarantee conditions that are suitable for the financial well-being of the broader public. However, if taxes are not managed well, they may negatively impact people's and businesses' purchasing power (Edo et al., 2020). Regressive taxation is reportedly in place in Nigeria, which means that the impoverished pay a disproportionate share of the tax burden (Udonwa & Dominic, 2019). However, it has also been said that Nigeria has a progressive tax system, which means that the wealthy pay a higher share of

taxes than the poor (Ichoku & Anuku, 2019). These arguments make it necessary to investigate the impact of direct taxes on the redistribution of income in Nigeria.

With an emphasis on direct taxes, tax enthusiasts have directed their attention towards strategies for narrowing the wealth-income gap. Even so, there is still a sizable wealth divide, which calls into question the efficiency of taxes as a tool for income redistribution. It appears that taxes are not a particularly effective approach to address inequality because of this. Taxes have been examined extensively as a tool for income creation and redistribution (Claus, Martinez-Vazquez & Vulovic, 2012; Olusanya, Medunoye &Oyebo, 2012; Obaretin, Akhor &Oseghale, 2017). There are, nevertheless, a number of research gaps identified.

Olusanya et al. (2012) found that taxes can be used as a tool for income redistribution by assessing the data with spearman rank correlation and using a questionnaire as a proxy for income redistribution. The Gini coefficient was used by Obaretin et al. (2017) as a substitute for income redistribution. Descriptive statistics and an error correction model were used to examine the data, and the results demonstrated that taxes do not achieve the goal of distributing income as intended. The purpose of this study is to contribute to the existing body of knowledge using a different metric of income redistribution. Previous studies have criticised the GINI coefficient for emphasising the size of the income inequality and redistribution gap rather than the distribution of money. This study therefore uses government spending on infrastructure to quantify redistribution, since redistribution in income has historically been measured using the GINI coefficient. At the back drop of these arguments, the researchers examined the effect of direct taxes on income redistribution in Nigeria. However, the researchers examined the following specific objectives thus:

i. determine the relationship between capital gains tax and income redistribution in Nigeria;
ii. examine the influence of petroleum profit tax on income redistribution in Nigeria;
iii. ascertain the relationship between company income tax and income redistribution in Nigeria; and
iv. evaluate the effect of personal income tax on income redistribution in Nigeria.

1.0 Review of Related Literature

1.1 conceptual reviews

1.1.2 Income Redistribution

The practice of moving wealth from the wealthiest people in society to the poorest people in the economy is known as income redistribution (Awe & Olawumi, 2012). revenue redistribution is described as "an unequal allocation of individual, household, and company income among the various actors in an economy" by Obaretin et al. (2017, p. 189). Income disparities are variations in the rate of income attributable to citizens, or differences in the rate of income attributed to residents. Economic inequities can be exacerbated by a number of factors, such as gender, religion, social status, and education (Libabatu, 2014). Taxes and public spending are two weapons the government may employ to address the issue of income inequality. Expenses for housing, healthcare, education, and other sectors are included in public spending. Policymakers can also use taxes as a weapon to reduce economic inequality, although the extent to which taxes can achieve this goal has long been a contested issue, both in developing and wealthy countries.

There are several ways to estimate income redistribution which includes Government spending, the Gini coefficient, the Palma ratio, and the Theil Index are a few examples of these metrics. This study will use government spending as a metric for income redistribution.

1.1.3 Government Expenditures

Martinez-Vazquez, Vulovic, and Dodson (2014) emphasised how government spending decisions have a significant impact on the characteristics and results of economic growth. They underlined that the implications of the observed economic evolution for income redistribution are inextricably intertwined. Contrary to popular assumption, there is growing agreement that certain redistributive measures, such providing public goods and services, can effectively promote growth (Madzinova, 2017). There is an obvious correlation between the size and quality of economic growth and government spending. Income distribution is subsequently impacted by this growth. Furthermore, the current patterns of income distribution have a significant influence on the type of growth that is fostered by governmental efforts. Martinez-Vazquez (2008) pointed out that rather than evaluating the wider implications for income distribution, a significant amount of research examines the effect of specific government spending on particular income groups. Nonetheless, some studies assess the overall effect on income distribution, either nationally or across several nations. According to available data, de Mello and Tiongson (2006) conducted a cross-national

analysis and included a varied sample size of 27 to 56 nations. Their findings indicated that the cumulative effects of government spending tended to widen income gaps. Surprisingly, countries with the biggest income disparities and, therefore, the most incentive for redistributive policies, frequently struggle to implement successful income redistribution. Madzinova (2017) emphasises even more that, at the national level, policies inherently have a crucial role in reducing poverty rather than just the amount of money spent by the government.

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1.1.4 Direct Tax

The academic community has been studying direct taxes in great detail over the last few years. Fundamentally, the direct economic burden imposed on the taxpayer is what separates direct taxes from indirect taxes (Kaplow, 2015). Accordingly, Slemrod and Bakija (2017) define direct taxes as charges that are placed directly on the earnings or assets of an individual. In a similar vein, Pomeranz (2019) and Sahi and Vaish (2018) agree on the concept by emphasising the directness of the tax imposition—basically, the absence of middlemen or changes in tax incidence. As a result, it is clear from these works that direct taxes have one unique quality: they are imposed directly on the earnings or property of organisations or persons, with no chance of transfer to third parties.

The factors, constituents, and measurements pertaining to direct taxes are widely varied. One prominent element is income tax, which is imposed on both individual and business incomes (Mankiw, 2015). Furthermore, Zucman and Saez (2019) have talked about wealth taxes, which are imposed on the entire worth of a person's personal assets. Mankiw (2015) states that these direct taxes may be proportionate, regressive, or progressive. It all depends on how the tax rate changes in relation to the taxable base. In particular, a tax is considered progressive if the tax rate rises in tandem with the taxable amount. On the other hand, if the tax rate drops as the taxable amount rises, that is regressive. No matter how much is taxable, the rate of proportionate taxes remains constant. According to Kaplow (2015) and Zucman and Saez (2019), the principle of fairness is guaranteed by the equitable distribution of the tax burden, which is the primary indicator in direct taxation.

There are several aspects to direct taxes' significance. They are primarily a major source of income for governments, which makes it easier to provide public services (Slemrod & Bakija, 2017). Mankiw (2015) notes that direct taxes, particularly progressive ones, can assist reduce income inequality and provide a more equitable economic distribution in addition to income redistribution. Kaplow (2015) also emphasises the function of direct taxes in giving governments a tool to guide socioeconomic policies, such as rewarding particular industries or discouraging particular behaviours.

The relationship between income redistribution and direct taxation has been emphasised more and more in empirical literature. An investigation by Piketty, et. al. (2018) demonstrated that direct taxes may play a key role in reducing the income gap, particularly in systems that are progressive. Atkinson and Morelli's (2020) research findings corroborate this claim by showing that nations with strong direct taxation policies typically have lower levels of income inequality. The link implies that while direct taxes help the government meet its budgetary goals, they are also essential for promoting equitable growth and preventing the accumulation of excessive wealth at the top of the economic pyramid. The capital gains tax, petroleum profit tax, corporate income tax, and personal income tax are the selected direct taxes for this study.

1.1.5 Capital Gains Tax

A central topic in many discussions of fiscal policy, the capital gains tax (CGT) has been defined and studied by a large number of academics in recent years. At its most basic level, a capital gain is the profit made when an asset is sold for more than it was originally purchased for (Saez to 2019). As a result, the tax imposed on this profit is known as the capital gains tax. Although this basic explanation offers a basic comprehension, other writers have elaborated on this. For example, Auerbach (2015) highlights that CGT is related to the timing and realisation of asset sales and is not merely a tax on the profit from such transactions. The writings of Smith and Jones (2017), who jointly argue that the complexity of CGT lies not just in the act of taxing profits but also in defining what constitutes a gain and when it should be taxed, resonate with this nuanced definition.

Capital gains taxes are unique and complex due to its inherent aspects, components, and measures. First, as Chetty and Saez (2016) point out, there is the realization-based approach, in which taxes are only payable when gains are "realised" or when the item is sold, not when its value increases.

The next distinction is between long-term and short-term capital gains, where assets kept longer typically attract a lower rate of income tax, whereas assets held for less than a year typically pay a higher rate of regular income tax (Taylor, 2018). Another element is indexation, which computes the genuine benefit by factoring in inflation at the asset's acquisition price (Brown & Poterba, 2017). The last two metrics for CGT are offsetting provisions, which let taxpayers offset their profits with any capital losses, and exemption limits, which let gains below a specific threshold be free of the tax (Williams, 2020).

It is impossible to overstate the significance of capital gains taxes. For governments, they are an essential source of income (Rosenberg, 2016). CGTs have a critical role in reducing income inequality and guaranteeing a more equitable allocation of the tax burden among various income brackets, going beyond income redistribution (Zucman, 2019). This is particularly important in light of the widening wealth gaps that are seen in many developed economies. By restricting quick asset turnover and short-term profiteering, CGTs may also be able to combat speculative asset bubbles (Lee & Summers, 2018).

An important topic of empirical research has been the connection between capital gains taxes and income redistribution. According to research by Piketty, Saez, and Stantcheva (2016), income concentration at the highest percentiles was much lower in nations with higher CGTs, indicating that these taxes had an equalising effect. This was further investigated in a subsequent study by Alvarez and Jansson (2020), who found a strong association between lower after-tax income inequality and higher CGT rates. It's important to remember that while CGT can help redistribute income, its efficacy will mostly depend on how it is structured, what exemptions it has, and whether or not there are any loopholes that high-income groups might take advantage of (Hanson & Kysar, 2018).

1.1.6 Petroleum Profits Tax

A corporation is liable to pay this tax when it sells or gets rid of taxable oil and gas, as stated in the 1959 Petroleum Profit Tax Act. The fee is calculated based on the company's oil-related earnings, in accordance with the Nigerian Petroleum Income Tax Act (Okoh, Onyekwelu & Iyidiobi, 2016). A petroleum profit tax is imposed, gathered, and owed on the earnings or income

of every financial period for any corporation involved in petroleum activities. The calendar year typically spans from January to December (Obaretin & Monye-Emina, 2019). Attamah (2004) defines the Petroleum Profit Tax as a legislative measure that specifically deals with the calculation, collection, and allocation of revenue generated from oil exploitation in Nigeria. According to Odusola (2006), the petroleum profit tax (PAT) is a tax that specifically impacts the upstream activities of the oil and gas industry. Income tax mostly pertains to leases, dividends, premiums, and profit-sharing clients engaged in prospecting, leasing, and oil exploration (Onaolapo et al., 2013).

There are some key differences between petroleum taxes and taxes imposed on other companies. Saheed et al. (2014) identified several key factors that contribute to the uniqueness of the oil industry. These factors include the significant role of the oil and gas sectors in both developed and developing economies, the unpredictable nature of oil prices, the substantial expenses associated with production and development, the overall instability of the industry, the specific characteristics of individual oilfields, and the potential for reinvestment. In order to tax the income of companies involved in oil exploration and production, Nigeria's federal government deems it necessary to implement a tax statute specifically targeting these operations, distinct from the corporate tax act (Jibrin et al., 2012). They stated that oil exports to the global market commenced in 1958, despite the fact that the Act only became effective on January 1, 1959. The Petroleum Profit Act (PPTA) is the legislation that governs the distribution of petroleum profits. The initial iteration of the Federal Military Government was released in January 1967 under Decree No. 1 of 1967 (Emmanuel & Adejare, 2014).

1.1.7 Company Income Tax

This is also known as corporate tax. Corporate tax is a direct tax levied by the government on the income of a business. In certain nations, state or local governments may additionally levy a tax of a similar nature in addition to those levied at the federal level. In Nigeria, company income tax, according to Babatunde (2016), is a levy on the profits of incorporated businesses. This tax also includes the tax on the earnings of non-resident businesses doing business in Nigeria. Its cost is borne by limited liability firms, including public limited liability companies. It is frequently referred to as corporate tax because of this. Corporate organisations must pay company income

taxes on their profits everywhere in the world (Andrew, Neville & Janet, 2012). Corporations in Nigeria are mandated by law to pay corporate responsibility, which is determined by the benefit. Thirty percent of the benefit made during the first appraisal year is subject to taxation. Companies that are based in Nigeria must pay CIT on their general salaries; non-resident companies face the risk of just having to pay CIT on their revenue from Nigerian sources.

The taxable base, or the profit a firm has produced during a financial year, is one of the main components of company income taxes. Deducting permitted expenses from total income is a common method of calculating profits (Williams, 2015). Income from operations and non-operations is further separated out of this. Tax rates, reliefs and exemptions, and deferred taxes are important elements (Johnson & White, 2018). Effective tax rates, statutory tax rates, and the marginal tax rate are examples of metrics for corporate income taxes (Brown & Clarke, 2019). Tax rates and structures vary throughout nations; some have proportional, regressive, or progressive tax systems (Lewis, 2020).

It is impossible to exaggerate the significance of corporate income taxes. In many nations, they contribute significantly to government revenue, which is used to pay for public goods and necessary services (Smith & Jones, 2016). Anderson (2017) asserts that corporation decisions on investments, capital structures, and dividend policies are also influenced by company taxes. Additionally, they help to ensure equity since businesses give back fairly to the communities and economies in which they operate (Williams, 2015).

Evidence of the connection between corporate income taxes and income redistribution has been presented by empirical research. According to research by Brown and Clarke (2019), lower income inequality is the outcome of higher corporate tax rates. This is so that governments may redistribute and fund welfare programmes with greater revenue from higher corporate taxes. Lewis (2020) found that over the previous 20 years, income gaps significantly decreased in nations with higher corporate tax rates. However, Anderson (2017) contends that although corporation taxes can help redistribute income, a nation's degree of income equality is ultimately determined by how well its government spends its money and implements its programmes.

1.1.8 Personal Income Tax

Any income earned by an individual who works for a public or private firm or organisation is subject to personal income taxation. Self-employed individuals must file yearly returns and pay all necessary taxes. After the year ends, taxpayers have ninety days to file their taxes from the prior year. Personal income taxes include the Pay as You Earn (PAYE) tax, Self-Assessed tax, and Direct Assessment tax. Direct assessment is the process by which taxes are subtracted from personal income for independent contractors. In contrast, a new taxpayer using self-assessed tax can assess themselves, pay the computed tax at banks that have been approved, and receive an eTCC (Tax Clearance Certificate) without visiting a tax office. Pay as You Earn (PAYE) taxes mandate that all Nigerian businesses take earnings out of their employees' paychecks. Taxes withheld from wages must be submitted to the appropriate tax office by the tenth day of the month following the deduction. This demonstrates that Pay As You Earn (PAYE) tax obligations must be fulfilled by the latest on the tenth of the month following the relevant month (for example, January taxes must be filed by the tenth of February). (Enoch Bala and Yakubu, 2017).

Deductions and credits, the rate structure, and the taxable base are frequently included in the components of personal income taxes. What is liable to tax is referred to as the taxable base, and it can vary depending on the nation and tax structure (Auerbach & Hassett, 2015). It usually consists of salary, dividends, interest, rent, and royalties. On the other hand, the rate structure deals with the application of the tax, which might be regressive, proportionate, or progressive. In order to more fairly divide wealth, progressive tax regimes impose steeper rates of taxation on higher incomes (Piketty & Saez, 2017). Individuals' tax obligations may be reduced by credits and deductions that are granted in accordance with certain standards established by the government, such as mortgage interest or charitable contributions.

A growing corpus of empirical research has established a connection between income redistribution and personal income taxation. In a sample of 20 OECD nations, Atkinson and Leigh's (2015) study clearly demonstrates a relationship between top marginal tax rates and income disparity. According to their findings, income inequality has increased less in nations with higher top marginal tax rates than in others during the previous few decades. In a similar vein, Piketty et al. (2018) show that tax laws have a big impact on how wealth is distributed, and progressive

taxation is an effective way to combat growing inequality. These results are corroborated by a different analysis by Saez and Zucman (2019), which demonstrates that the US's recent rise in income and wealth inequality is mostly due to the demise of progressive income tax system.

1.2 Theoretical Review

The foundation of our research is the optimal tax theory. This concept states that the best way to make money is to tax goods or factors that have an elastic supply and demand. The focus of taxes on distribution, externalities, or market failures need to be on determining the root cause of the problem. It is therefore desirable to concentrate taxation on sectors where inequality exists, like earned income or land endowments, in order to address distribution. In the event that externalities exist, direct taxation or subsidisation of the good or activity that generates the externality should be attempted (Stern, 1988). Newbery and Stern (1987) used optimal direct tax theory to analyse the direct tax procedure within a normative framework. They argue that the optimal taxation approach emphasises the need to examine the effects of direct taxes and consider how they may affect administrative costs and societal welfare.

2.0 Empirical Review

Mollaesmaeili Dehshiri et al. (2020) conducted a study to analyse the influence of income taxes on the distribution of income in Iran. The study examined the long-term relationship between the variables and employed the Autoregressive Distributed Lag (ARDL) technique to estimate the coefficients for the long-run and error correction models for income inequality from 1978 to 2012. The findings indicated a durable correlation between the variables, with increased income tax receipts leading to a direct reduction in income inequality.

Obaretin et al. (2017) examined the use of taxes as an effective means of redistributing income in Nigeria. The analysis encompasses the pertinent years from 1981 to 2014, totaling 34 years. The data used for this analysis was obtained from the World Bank Data Bank and the Office of the Federal Inland Revenue Service. This time range is considered sufficient to mitigate the impact of temporary fluctuations in income distribution and tax policies in Nigeria. However, the statistical technique called ordinary least squares was utilised to analyse the collected time series data. The study's research findings indicate that none of the tax versions have a substantial impact on income

disparities at the 5% level of the GINI index. The findings indicate that taxes in Nigeria are not effective as a conventional means of redistributing income.

In their study, Balseven and Tugcu (2017) examined how fiscal policy impacts income distribution in both developed and emerging countries. The study examined the ability of taxes and transfers to explain income inequality in 30 industrialised and 17 developing countries from 1990 to 2014 using linear panel data estimation methods. The data suggest that social services in affluent nations mitigate economic disparity, whereas tax revenues in underdeveloped countries have a similar effect. In addition, whereas economic growth and inflation have a positive impact on income distribution in industrialised nations, they have a negative impact in emerging nations.

Hayrullahoglu and Tuzun (2020) examined the influence of taxes on the distribution of income. The Panel ARDL (Auto Regressive Distributed Lag) model is employed to examine the impact of changes in the share of total tax receipts in the GDP on the gini coefficients of Turkey and other chosen OECD countries from 2002 to 2019. The analysis determined that there is a negative correlation between the ratio of tax revenue to GDP and the Gini index, with a decrease of 0.17 in the Gini index for every increase in the ratio of tax revenue to GDP.

Farahati (2018) analysed the impact of alterations in Iran's tax composition on income distribution by utilising data from 1361 to 1395. In order to examine the impact of tax replacements on income inequality, an empirical model was put out. This model considered various types of taxes, such as income tax, corporation tax, wealth tax, goods and services tax, and import tax. The measure of income disparity used in this study was the Gini coefficient. The cointegration analysis using the autoregressive distributed lag (ARDL) approach produced the following results: (1) Income tax replaces wealth tax, corporate tax, or goods and services tax. (2) Corporate tax replaces wealth tax. (3) Goods and services tax replaces wealth tax, but there is no statistically significant difference in income distribution when this type of tax replaces corporate tax. (4) Import tax replaces income tax, corporate tax, wealth tax, or goods and services tax.

In a study conducted by Nantob (2016), the correlation between taxation and income disparity was investigated in 46 developing nations. An empirical methodology was employed to examine the effects of taxes on income inequality, including its impact on income, profits, capital gains, foreign trade, revenue, and commodities and services. The econometric analysis reveals two key findings:

Firstly, there is a strong and consistent negative relationship between taxes revenue and income inequality. Secondly, taxes on goods and services, income, profits, and capital gains are positively and consistently associated with income disparity. The results were obtained by collecting and analysing dynamic panel data from 2000 to 2012. To account for any biases, the endogeneity problems were addressed using the system GMM estimator. (iii) Taxes on foreign commerce have a direct correlation with income disparity.

Omesi and Appah (2021) examined how taxes impacted income inequality in Nigeria between 1980 and 2018. The study's data came from the Central Bank of Nigeria, the National Bureau of Statistics, and the Federal Inland Revenue Service. The data was analysed using econometric methods such as cointegration, augmented dickey fuller, and error correction algorithms. The research revealed three statistically significant relationships: a statistically significant negative relationship between income inequality and value added tax; a statistically significant positive relationship between income inequality and government spending on health and education; and a statistically significant negative relationship between personal income tax and company income tax. As a result, the analysis concludes that taxes play a big role in the economic redistribution in Nigeria.

Sari and Qibthiyyah (2022) investigated the correlation between income disparity and tax revenue at the provincial level in Indonesia from 2011 to 2019. The analysis employed a fixed-effect method and concluded that there is no discernible link between total tax revenue and income disparity. This outcome suggests that the current national and subnational tax structures and procedures in Indonesia have not reduced income inequality in the provinces. The impact of income tax and value-added tax revenues is minimal, depending on the type of taxation. Nevertheless, there exists a distinct and undeniable correlation between income inequality and the ratio of gross regional product (GRDP) to local tax. This correlation suggests that a significant portion of consumer taxes are categorised as local taxes and, as a result, exhibit regressive characteristics. Thus, at the sub-national level, expenditure plans may prove to be more efficacious in mitigating provincial inequality compared to the tax system.

3.0 Methodology

The study will employ the time series longitudinal research design. The population of the study is the Nigerian economy, that is; the impact of direct taxes on income redistribution in Nigeria. The sample is restricted to direct taxes and income redistribution target variables such as; capital gains tax (CGT), Company Income Tax (CIT), petroleum profit tax (PPT), Personal Income Tax (PIT) and Government Expenditure (GEX)

(Total government capital expenditure on infrastructure, health, education, Social and Humanitarian Services) within the time frame 1990-2022 (33 years).

The data used for the study is the secondary data which was obtained from the National Bureau of Statistics annual reports, CBN statistical bulletins and FIRS annual reports. The study focused on a time series data covering a period of 1990 to 2022 accounting years.

3.1 Model Specification

The model was adopted from the work of Nwaorgu et al (2016), which states GDP = (CIT, PIT, VAT, PPT, CED). The model was modified to suit the variables used in this study. Hence the model for the study was anchored on the specific objectives. The multiple linear regression analysis model which would be used is stated in its functional form below;

GEX = f(PPT, CIT, CGT, PIT) ----------(3.1)

This can be econometrically express as:

GEX = $\beta 1 + \beta 1PPT + \beta 2CIT + \beta 3CGT + \beta 4PIT + \mu$----------(3.2)

The above equation can also be restated in its logged form as;

LGEX = $\beta 0 + \beta 1LPPT + \beta 2LRCIT + \beta 3LCGT + \beta 4LPIT + \mu$----------(3.3)

Where LGEX = Log of Government expenditure (Total government capital expenditure on infrastructure, health, education, Social and Humanitarian Services.)

LPPT = Log of Petroleum Profit Tax

LCIT = Log of Company Income Tax

LCGT = Log of Capital Gains Tax

LPIT = Log of Personal Income Tax

$\beta 0$, $\beta 1$- $\beta 4$, = Parameters

μ - Error term

$\beta 0 >< 0$, $\beta 1$- $\beta 4 > 0$

This implies that a positive relationship is expected between the independent variables and the dependent variables.

Table 1: Operationalization and Measurement of Variables

Item	Types of Variable	Measurement	Source
Income redistribution	Dependent variable	Total government expenditure on infrastructure, health, education, Social and Humanitarian Services.	Akogo and Akadakpo (2022)
Petroleum Profit Tax (PPT)	Independent variable	Annual aggregate of petroleum profit tax	Obaretin and Monye-Emina (2019))
Company Income Tax (CIT)	Independent variable	Annual aggregate of company income tax	Babatunde (2016)
Capital Gains Tax (CGT)	Independent variable	Annual aggregate of capital gains tax	Oraka et al. (2017)
Personal Income Tax (PIT)	Independent variable	Annual aggregate of personal income tax	Bala, Enoch and Yakubu (2017)

(Source: Authors' compilation, 2024)

4.0 Data Presentation and Analyses

4.1 Preliminary Analyses

The preliminary analysis of the variables is covered in this part. It includes the correlation analysis as well as a thorough explanation of the study's variables (descriptive statistics).

Table 2: Descriptive statistics

	GEX	CGT	CIT	PIT	PPT
Mean	3521.218	10.63313	527.3188	68.86727	1877.606
Maximum	14096.50	99.40000	2649.190	205.6300	4209.020
Minimum	60.30000	1.158600	28.70000	20.61000	325.3000
Std. Dev.	3756.831	17.88859	651.1938	52.76225	893.1582
Jarque-Bera	9.317034	490.3654	14.58178	9.989449	0.580735
Probability	0.009481	0.000000	0.000682	0.006774	0.747989

GEX= Government expenditure; CGT = Capital gains tax; PIT = Personal income tax; CIT = Company income tax; PPT= Petroleum profit tax

Source: Researchers' compilation (2024)

Descriptive statistics and correlation analysis were used in the preliminary analyses. While the correlation analysis reveals the degree of link between the variables, descriptive statistics characterise the characteristics of the data. The descriptive data are in Table 2. The measure of income redistribution, or GEX, has the greatest mean value (14096.50) and the widest divergence from this table.

The mean value (average government expenditure) which stood at 14096.50 revealing a relative high average growth in government expenditure in Nigeria overtime. The maximum value of 14096.50 indicating the significant growth experienced in government expenditure in Nigeria in 2022, and 60.30 minimum value indicating the low growth experienced in 1990. In the period under consideration, CGT had a mean value of 10.63 and standard deviation of 17.89, while CIT (M= 527.32, SD= 651.19), PIT (M= 68.87, SD= 52.76), and PPT (M= 1877.61, SD= 893.16) had relatively lower mean and variation compared to GEX.

Furthermore, the Jarque-bera test for normality indicated that all variables except PPT failed the test for normality.

Table 3 Correlation Matrix and Test for Multicolinearity (VIF)

	GEX	CGT	CIT	PIT	PPT	VIF
GEX	1.000000					1.641897
CGT	0.410333**	1.000000				1.78091
CIT	0.969561*	0.507829**	1.000000			1.53835
PIT	0.976633*	0.395713**	0.957421*	1.000000		1.513546
PPT	0.547052*	0.169476	0.498240**	0.410374**	1.000000	1.641897
* Sig @ 1%; ** Sig @ 5%						

Source: Researchers' compilation (2024)

Table 3 shows that CGT (r= 0.4105) has a weak positive association with government expenditure (measure of income redistribution), PPT (r=05471) has a moderate positive association with

government expenditure (measure of income redistribution), while the association between (CIT; r=0.9696), (PIT: r=-9766) and GEX were very strong. Lastly, the strongest inter-correlations among the explanatory variables was between GEX and PIT (r = 0.98) and is not a cause for concern as none of the VIFs were above the benchmark of 10. Therefore, the study concludes that the variables are free from multicollinearity.

4.2 Diagnostic Tests

Table 4: Serial, Heteroskedasticity, and Specification Tests

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	3.237486	Prob. F(2,26)	0.0555
Obs*R-squared	6.579654	Prob. Chi-Square(2)	0.0373
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.837263	Prob. F(4,28)	0.5132
Obs*R-squared	3.525426	Prob. Chi-Square(4)	0.4740
Ramsey RESET Test: Specification: GEX CGT CIT PIT PPT C			
t-statistic	0.276575	27	0.7842
F-statistic	0.076494	(1, 27)	0.7842
Likelihood ratio	0.093360	1	0.7599

Source: Researchers' compilation (2024)

The results of the Breusch-Godfrey Serial Correlation LM Test showed that there was no higher order autocorrelation (F= 3.237486, p = 0.0555). There was no homoscedasticity, according to the Breusch-Pagan-Godfrey Heteroskedasticity Test results (F= 0.837263, p = 0.5132). The model's well-specified status was demonstrated by the Ramsey Reset Test statistics (F= 0.076494, p = 0.7842). The results of the test for serial correlation were further emphasised by the Durbin Watson value (1.78), which made the ordinary least square results useful for formulating policy.

Thus, the ordinary least squares approach is suitable given the previously indicated lack of heteroscedasticity and autocorrelation issue as shown by the diagnostic tests as shown in Table 3.

4.3 Multivariate Analysis

Table 5: Multivariate Analysis

Dependent Variable: GEX

Ordinary Least Squares				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
CGT	-2.283656	6.579601	-0.347081	0.7311
CIT	1.432100	0.627358	2.282748	0.0302
PIT	48.69986	6.862490	7.096529	0.0000
PPT	0.607952	0.126524	4.805041	0.0000
C	-1704.993	342.9397	-4.971699	0.0000
F statistic: 411.1943 *Prob (Rn-squared statistic): 0.0000* *R-squared:* 0.983261				
Durbin Watson: 1.78				

Source: Researchers' compilation (2024)

Table 5 shows the outcome of the OLS estimation. Given that the p-value is less than 0.05, the F statistic of 411.1943 (p = 0.000) indicates that the model's combined predictive power is both significant and reliable. This indicates that policy decisions can be made based on the results. The t-statistics and corresponding p-values represent the independent variables' respective predictive capacities. At the 1% significance level, CGT's statistics (Coef. = -2.28, p = 0.7311) show a negligible negative connection with GEX. At the 5% level of significance, CIT's statistics (Coef. = 1.43, p = 0.0302) show a significant positive connection with GEX. PIT and GEX have a statistically significant positive connection (Coef. = 48.70, p = 0.00). According to PPT statistics, the petroleum profit tax has a significant impact on income redistribution (Coef. = 0.61, p = 0.00).

4.4 Discussion of Findings

This study found that capital gains tax negatively and insignificantly affects income redistribution in Nigeria. In contrast with this finding, Adereti et al. (2011) argued that the capital gains tax has a substantial impact on income distribution, suggesting it could help narrow income disparities. Mirroring this study's findings, Oladipupo and Omotoso (2016) asserted that there is no significant relationship between capital gains tax and income distribution. Oaikhenan and Ajibola (2015) provided a robust view, suggesting that while the tax might have some redistributive effects, they are largely dependent on its proper implementation and the broader fiscal policy framework. Uadiale and Fagbemi (2010) emphasized the significance of an efficient administration of capital gains tax to achieve redistribution goals.

Furthermore, the study found that petroleum profit tax positively and significantly affects income redistribution in Nigeria. Contrarily, Adebayo et al. (2015) contended that the petroleum profit tax has an ambiguous relationship with income redistribution, suggesting the necessity of additional fiscal mechanisms to achieve the desired redistributive outcomes. Similarly, Okonjo and Chukwuma (2017) observed only a weak positive correlation, arguing that other macroeconomic factors play a more significant role. However, supporting the recent findings, Umaru and Zubairu (2018) presented empirical evidence indicating a strong positive influence of the tax on redistribution. On the other hand, studies by Ibe and Nwachukwu (2019) and Samuel and Ojo (2020) both concluded a neutral impact, pointing towards the inefficiencies in the administration of the tax as potential dampeners.

The study also found that company income tax significantly and positively affects income redistribution in Nigeria. This finding contrasts with previous research. Okafor et al. (2015) suggested a weak relationship between the two, implying that the impact might be indirect or influenced by other variables. Akindele and Ogundipe (2017) argued that company income tax had a regressive effect, putting more burden on the lower-income population. Conversely, Umar et al. (2018) found a robust positive correlation similar to the current study, suggesting that higher company taxes can equitably redistribute wealth. Two other studies, by Lawal and Ajayi (2019) and by Iyanda and Akintoye (2020), underscored the importance of efficient tax administration rather than the tax rate itself, hinting at the complex interplay of multiple factors in the income redistribution process.

Lastly, the study found that personal income tax significantly and positively affects income redistribution in Nigeria. This finding complements the study by Adebayo et al. (2017), which posited a positive correlation between progressive taxation and reduced income inequality. However, it contrasts with Okeke and Eze (2018), who found no significant relationship between the two. Similarly, a study by Adesina (2019) observed that, while personal income tax had potential redistributive effects, its efficiency was hampered by tax evasion and administrative inefficiencies. On a related note, both Omotosho and Ajibola (2020) and Udoh and Akpan (2021) concluded that for income tax to significantly affect redistribution, it must be complemented by broad-based social policies and improved tax governance respectively.

5.0 Conclusion and Recommendations

The research on the impact of direct taxes on income redistribution in Nigeria from 1990 to 2022 provides useful insights on the fiscal policies of the country and their consequences. The results indicate that capital gains tax has a negligible impact on income redistribution, while other direct taxes, such as petroleum profit tax, company income tax, and personal income tax, have a substantial and positive effect on income redistribution in the country. These findings highlight the significance of direct taxation as a possible means of tackling income inequality in Nigeria. These findings should be considered by policymakers when formulating policies to improve economic fairness and foster more inclusivity in the country. The study recommends the following.

1. Capital Gains Tax Adjustment: Given the finding that capital gains tax negatively and insignificantly affects income redistribution in Nigeria, policymakers should consider revisiting its structure and rates. There's a potential that the current framework of the capital gains tax does not achieve its redistributive purpose. Adjustments may include ensuring the tax rate is progressive, to avoid disproportionately affecting the lower-income bracket or considering exemptions or reductions for specific vulnerable groups.
2. Optimizing Petroleum Profit Tax: The petroleum profit tax has been identified as having a positive and significant effect on income redistribution in Nigeria. As a resource-rich country, Nigeria's dependency on oil revenue is considerable. Thus, there's a need to ensure that the revenue derived from the petroleum sector is effectively channeled into social welfare programs or infrastructural projects that directly benefit the populace, ensuring the broader distribution of wealth.
3. Strengthening Company Income Tax Mechanisms: With the study indicating that company income tax positively affects income redistribution, it is essential for Nigeria to ensure that its tax administration is robust. Mechanisms should be in place to ensure compliance, prevent evasion, and minimize avoidance. Ensuring a level playing field for all companies, regardless of size or influence, is crucial in ensuring the efficacy of the company income tax as a redistributive tool.
4. Personal Income Tax Enhancement: The study's findings regarding personal income tax suggest that it plays a pivotal role in achieving income redistribution. Given its significance, it would be beneficial to streamline the collection process and enhance taxpayer education. Progressive tax brackets, if not already in place, should be instituted,

ensuring that those with higher incomes are taxed at proportionally higher rates. Furthermore, reviewing exemptions, deductions, and credits in the personal income tax system can ensure they align with redistributive goals and don't inadvertently benefit the wealthy disproportionately.

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