Indirect Taxation and Income Inequality in Nigeria

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Abstract
This study focused on the impact of indirect taxes on income inequality in Nigeria. The study employed the use of time series data ranging from 1990-2021. The data collected was analyzed using the error correction model. The result of the findings of the study indicates that stamp duty was found to have a negative impact on the Gini coefficient which is a measure for inequality. Custom and excise was found to have a positive relationship with Gini coefficient as revealed by the negative coefficient value. Value added tax was found to have a positive relationship with income inequality in Nigeria. It was also not found to be statistically significant when measured at 5% critical. It is therefore recommended that government as well as tax authority should create adequate avenue in which this corporate taxes will be harnessed to the fullest to avoid any form of evasion by tax offenders. It is therefore recommended that government should address the tariffs placed on exportation of some goods and services so has to reduce the level of income inequality that is prevalent in the society. It is therefore recommended that VAT on goods and services heavily consumed by low income households, like food items, should be either reduce or total exempted, while VAT should be imposed on goods heavily consumed by high income households

Keywords: *Inequality, indirect tax, Gini*

Introduction

Nigeria, the most populous country in Africa, has a persistent issue of income inequality which has direct and indirect effects on the welfare of its inhabitants. According to a report by the World Bank (2019), the nation's Gini coefficient an economic index measuring income inequality stood at approximately 0.43. This high value indicates a significant level of income disparity among Nigerians. It is essential to note that this income disparity is not a benign phenomenon; it fosters social tension, hinders economic growth, and exacerbates poverty (Nwosa & Ehinomen, 2020). In a country where about 40% of its population live below the poverty line (World Bank, 2020), income inequality raises fundamental concerns about social justice and the efficacy of economic policies.

The problem of inequality extends beyond just financial disparity. It intricately affects the welfare of Nigerians in several ways. A study by Nwosa and Ehinomen (2020) shows that income inequality adversely affects the Nigeria's economic growth, and increases poverty, thereby widening the socioeconomic divide. Moreover, inequality enhances the incidence of social vices,

including crime and corruption, which further impedes a country's developmental strides (Dong et al., 2020).

Various indices help track income inequality. The Gini coefficient mentioned earlier, alongside others such as the Palma ratio and the Theil index, provide quantifiable measures of income disparity. However, they all point to the same troubling conclusion: Nigeria has one of the highest levels of income inequality in Africa. For instance, a study by the United Nations Development Programme (2020) revealed that Nigeria's Palma ratio, which compares the income of the richest 10% to that of the poorest 40%, was 2.5, higher than the African average of 2.0. Similarly, the Theil index, another measure of income dispersion, stood at 0.55, showing a stark income disparity (UNDP, 2020).

To address income inequality, governments globally employ several strategies, one of which is taxation. Taxation is a fundamental tool for income redistribution as it provides a mechanism to transfer wealth from the rich to the poor through progressive tax systems and public spending (de Mooij, 2020). In Nigeria, however, the tax system is mainly regressive, with indirect taxes forming a significant part of the tax revenue. “Indirect taxes refer to levies imposed on goods and services rather than income or profits. In Nigeria, the common forms of indirect taxes include Value Added Tax (VAT), import and export duties, excise duties, and stamp duties. According to the Nigeria Bureau of Statistics (2022), revenue from indirect taxes formed about 65% of the total tax revenue in 2022, showing the dominance of indirect taxes in Nigeria's fiscal policy.

However, the nexus between indirect taxes and income inequality has been a subject of much debate. Some economists argue that indirect taxes are regressive as they disproportionately affect the poor. This is because everyone, regardless of income level, pays the same amount of indirect tax for goods and services (Silva et al., 2019; Son, 2022). As a result, the poor, who spend a higher proportion of their income on consumption, bear a heavier tax burden relative to their income than the rich. This situation further widens the income disparity.

This regressive nature of indirect taxes is particularly prominent in Nigeria. A study by Anyaduba and Otulugbu (2019) found that indirect taxes, especially the VAT, significantly contribute to Nigeria's income inequality. The study concluded that the high dependence on indirect taxation in Nigeria has a significant adverse effect on the country's income distribution.
Based on the above introductory themes which holds indirect taxation as bearing significant implication on income inequality, this study seeks to investigate the effect of indirect taxation on income inequality in Nigeria.

The widening income disparity in Nigeria has prompted a discussion regarding the optimal level of taxation to combat income inequality. Bird and Zolt (2014) aver that taxes in developing nations are ineffective for redistribution of income. The extent to which taxes can be used to redistribute income, according to Adam and Miller (2021), is debatable. Therefore, depending on the impact of the tax and how tax revenue is spent, taxes can either directly or indirectly affect the distribution of income. Governments in every nation must establish a balance between efficacy and redistribution of income when designing tax systems (Bejaković, 2020). In order to address these issues at the policy level, it has been stated that taxes can be used to address the problem of inequality in both developed and developing countries (Malla & Pathranarakul, 2022).

Numerous studies on the effect of taxes (both direct and indirect) and income inequality have been conducted. Several researches have been conducted in developed nations (Atkinson & Leigh,

2010; Sameti & Rafie, 2010; Iris et al., 2012), while the following have been conducted in Nigeria (Awe & Rufus, 2012; Ilaboya & Ohonba, 2013; Ogbeide & Agu, 2015; Obaretin et al., 2017; Oboh & Eromonsele, 2018; Anyaduba & Otubugbu, 2019) with mixed findings. It is unclear why empirical studies conducted in developing nations like Nigeria frequently yield contradictory results. In light of these contradictory findings, the effect of taxes on income inequality remains to be determined. Due to the inconclusiveness of the results, the issue of taxes and income inequality remains open to additional empirical investigation.

In addition, the majority of these studies covered both direct and indirect taxes, but none, to the researcher's knowledge, covered stamp duties as an indirect tax variable. Essentially, majority of the above studies have typically tended towards using the more popular forms of indirect taxes (VAT and customs and excise duties) as a function of income inequality, which necessitates a study which seeks to examine the effect of stamp duties as well as other indirect taxes on income inequality in Nigeria.

Following the aforementioned gaps created by prior studies in terms of findings and conclusions, this study aims to fill the void by introducing stamp duties as a sub-independent variable for indirect taxes and conducting an analysis on the effect of indirect taxes on income inequality in Nigeria.

The purpose of study is to examine the effect of indirect taxes on income inequality in Nigeria. This study adopts three explanatory variables (value added tax, custom and excise duties as well as stamp duties) to show the effect indirect taxes have on income inequality in Nigeria. This study is longitudinal in nature and it will cover a time frame of 1990 to 2021 (32 years). This time period is considered adequate to cover the long run variations of the relationship between indirect taxes and income inequality in Nigeria as well as to cover the period after various tax reforms (Value Added Tax Act (VAT), 2004; the Federal Inland Revenue Service Establishment Act (FIRS), 2007) in Nigeria.

2.0 Literature Review

2.1 Income Inequality

Inequality is the state of not being equal especially in rights, opportunities and status (Oxford Advanced Learner's Dictionary). Inequality can be viewed from different perspectives. International Monetary Fund (IMF) (2014) divided economic inequality into four: inequality of outcome (interpersonal distribution of income); inequality of wealth (distribution of wealth across individuals or households); life-time inequality (distribution of incomes or earnings for an individual over his or her lifetime); and inequality of opportunity (the relationship between income inequality and social mobility i.e. the mobility between income groups across generations). The development strategy and policy analysis unit (2015) states that economic inequality boils down to two views: inequality of outcomes and inequality of opportunities. Inequality of outcomes takes an ex-post or achievement-oriented perspective which refers to the material dimensions of well-being resulting to circumstances beyond one's control such as gender, ethnicity, family

background, and so on. On the other hand, inequality of opportunities is an ex-ante or potential achievement perspectives focusing on the circumstances beyond one's control that affect one's potential outcomes. OECD (2015) defined income as household disposable income in a particular year. It consists of incomes from earnings, self-employment and capital income and public cash transfers; income taxes and social security contributions paid by households are deducted. International Monetary Fund (IMF) (2014), states that income inequality is the inter-personal distribution of income which describes how household or individual incomes are circulated across a population at a given time. Bakare (2012) posits that inequality of income connotes a condition whereby income received or collected in a given period such as the payment for work done or interest received on investments are different in sizes.

2.1.1. Income Inequality Measures

OECD (2012) report states that income inequality measures fall into two categories: the Gini index known as one-number summary statistics and shares of income or percentile ratios also known as income distribution at various points. Lee, Kim and Cin (2013) notes that Gini-coefficient or index is a range on which Zero (0) is perfect equality and (1) is perfect inequality. According to Index mundi, Gini index (World Bank estimate) measures the extent to which the distribution of income among individuals or households within an economy deviates from perfectly equal distribution. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. The Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. In the view of Omotola and Kabir (2015), the Gini coefficient is derived from the Lorenz curve which shows the cumulative proportion of income in relation to the cumulative proportion of the population. The Gini is given by the area between the Lorenz curve and the 45^0 line of equity from the origin. Bourguignon as stated in Omotola and Kabir (2015), states that a value of 0.55 and above is a high level of inequality, 0.45-0.55 is middle-high, 0.35-0.45 is middle and 0.35 and below is a low level of inequality.

Appergis (2015) posits that unequal distribution has been accredited to a variety of factors such as changes in skilled-based technology, globalization, liberalization of product and factor markets, and increased labour-force participation by low-skilled workers, increasing share of high-income in couples and single parent households and the declining top marginal income tax rates of high earners. Dr. Otive Igbuzor in THEWILL (2017) explores the drivers of inequality in Nigeria. He further states that the main drivers of poverty and inequality are: retrogressive taxation, poor budgeting system and allocation, poor resource management and policy implementation, elite capture, cronyism and favouritism, and prohibitive cost of governance. Ilaboya and Ohonba (2013) opine that inequality of income can be reduced through a range of public policies such as good governance represented by transparency and accountability, public expenditure on health, housing and education, policies of more comprehensive growth pattern, and taxation.

Awe and Rufus (2012) determined income inequality in the Nigerian economy using the Error correction model and Co-integration analysis on the variables for a period of 1977-2005. Income inequality was proxied by Gini coefficient function of independent variables such as: growth rate of output (GDP), inflation rate (INFR), employment rate (EMPR), government expenditure on health (HE) and government expenditure on education (EDE). The empirical result

showed that Gini ratio is on the increase in Nigeria, signifying a high level of inequality. The study further revealed that, both government health expenditure and growth rate of output confirmed a negative correlation with Gini ratio, while government education expenditure, inflation rate and employment rate had a positive correlation with Gini ratio in Nigeria. Finally, it was noted that employment rate, GDP, government social spending and inflation rate are determinants of income redistribution in Nigeria.

According to Kuznets (1955) who used both time series and cross-country data to analyse the relationship between income inequality and economic growth found that income inequality rises as economies develop, reach the peak and then fall after a certain critical income level and threshold development stage. This shows that at the early stage of growth income inequality increases as countries develop and then decreases when the economy reached the mature stage. This is represented by an inverted U-shaped relationship between growth and income inequality. However, Barro (2000) argued against Kuznets view stating that inequality of income reduces in the early phase of economic growth and rises when the economy reaches a certain stage of economic growth. This implies a U-shaped relationship between income curve and income inequality. Evidence from different researchers are mixed

Sameti and Rafie (2010) examined income distribution and economic growth effects of tax in Iran and some selected East Asian countries. From their empirical result they found evidence of a positive effect of income inequality on economic growth for the period of 1990-2006.

Giovanni (2012) examine determinants and trends of income inequality. Data from Latin America for periods ranging from 1990-2010 were used and the least square dummy variable (LSDV) model was used to analyse the variables. It was observed that for the periods of 2002 to 2009, changes in the independent variables accounted for 64% variation in inequality. It was further observed in the LSDV model, GDP per capita showed a negative correlation but insignificant effect on income inequality.

OECD (2012) report showed that unequal distribution of income before taxes was mostly driven by the dispersion of labour income dominated by part-time employment and inactivity in all OECD countries and that some tax reforms and social transfer systems require a double share in terms of increasing GDP per capita and decreasing inequality. Especially, curbing tax spending which benefit the rich bring about a growth-friendly cut in marginal rates and also contributing to equity objectives.

Thewissen (2013) examined the effect on distribution or redistribution on growth for a smaller set of OECD countries. He used Luxembourg Income Study (LIS) inequality data base and world top income data. Based on the empirical result, he found no relationship between redistribution or inequality and growth.

Dartyan (2014) analysed the interactions among fiscal performance, income inequality and economic growth for Anglo-Saxon countries (USA, Canada and UK). Based on their empirical findings for UK, income inequality was found to have a negative impact on growth. However, for USA and Canada the effect was positive.

Ostry, et al. (2014) reviewed redistribution, inequality and growth: Non-OECD and OECD countries. They focused on long and medium term growth for a period of five years and the growth duration spells using new comprehensive data set that differentiates market inequality (before

transfers and taxes) from net inequality (after transfer and taxes). From their result they found first, redistribution appears generally benign in terms of its effect on growth; only in extreme cases that it may have direct negative effects on growth. Second, lower net inequality is strongly correlated with more durable and faster growth for a given level of redistribution. And third, that more unequal society tends to redistribute more. They therefore state that based on their results high inequality is related to low growth while redistribution is by and large insignificant across all samples.

Deciel Ratio : A simple but effective way to examine income inequality is to calculate decile ratios. The calculation is done by taking, for example, the income earned by the top 10% of households and dividing that by the income earned by the poorest 10% of households. Decile ratios were used by Gold et al.30 in their study of income inequality and teen birth rates in the US and by Lobmayer and Wilkinson31 in their study of income inequality and mortality in 14 countries. An important advantage of this measure is that it enables sensitivity analyses; for example, the correlations between population health and the 20:80, 30:70, 40:60 decile ratios may be compared. This allows researchers to examine which sections of the income spectrum may be most important as a social determinant of health.

Kakwani progressivity: The Kakwani progressivity index builds from the Gini framework. Originally devised to measure the progressivity of tax systems, it is also used to examine health care issues such as equity in health care expenditures. In this case, the Kakwani progressivity index is the difference between the Gini coefficient for incomes and the concentration index for out-of-pocket health care payments (World bank, 2006) The rationale is that if out-of-pocket expenses are a progressive way to finance health services, the concentration curve will lie below the Lorenz curve and the Kakwani progressivity index will have a positive value (being the difference between the Gini coefficient, the summary of the Lorenz curve, and the concentration index, the summary of the concentration curve).39 In theory, Kakwani index values range from −2 (indicating severe regressivity) to +1 (indicating strong progressivity) (Wagstaff & Van, 1992) In their study of health care financing in Colombia, Castano et al.38 offer a good example of the use of the Kakwani progressivity index. Similarly, Wagstaff and van Doorslaer40 offer an excellent application of the Kakwani index in the study of health care financing in several countries in the Organisation for Economic Cooperation and Development (OECD).

2.1.2. Drivers of Income Inequality

i. Globalisation: This refers to the integration of economies in terms of trade, jobs and information. This consolidation of economies, particularly with Asia and the U.S, had impacted on income inequality globally (Appergis, 2015). This also increases the shares of imports and exports in GDP (Bakija, 2013).
ii. Skill-Based Technological Change: Technology has arguably changed overtime in ways that complement the skills of highly skilled workers, and substitute for skills of low skilled workers. (Bakija, 2013; Appergis, 2015).
iii. Retrogressive Taxation: According to Igbuzor (2017), the poor is taxed heavily and the rich and big multinational receive questionable tax waivers, tax holidays and loopholes for tax avoidance in Nigeria.

iv. Poor Budgeting System and Allocation: The government budgets which are allocated to education, health and social protection (the critical policy areas to tackle poverty and inequality) are lowest in Africa (Mayah, 2017). It was noted that from 2005 to 2015, a total of N77 trillion was appropriated through budgets towards the development of the country, yet the state of electricity and water supply, roads, schools and hospitals remain inadequate to meet even the basic needs for large part of the population (Igbuzor, 2017).

v. Poor resource management and poor policy implementation: The poorly managed resources allocated to provide services to citizens have lead to service failure. This can be seen in the oil sector which provides 80% revenue for Nigeria but its performance and contributions are inefficient and inequitable (Mayah, 2017)

vi. Elite capture, cronyism and favoritism: The fair distribution of benefits of growth has been prevented due to elite capture of public sector policies and resources which has undermines the productivity of most import sectors of the economy.

2.2 Empirical Review

2.2.1 Taxation and income inequality

Charles (2014) opine that the unsuitably soaring level of poverty suffered by so many on the continent in sub-Saharan Africa is due to absence of effective and efficient tax system. Taxation according to the TJNA and Christian Aid Report (2014) provides a critical foundation for development and that tax is vital as it plays a key role in income and wealth redistribution and that a progressive tax policy is suitable for setting the public on a new track for creation and distribution of wealth.

Taxation is not the only means used by government to address inequality of income, a wide variety of actions could be taken all of which are being funded through taxation and they include: policies on the implementation of an appropriate minimum wage to enhance wages; promoting reform on land to mitigate the disparity of land ownership; and progressive public spending which seek to raise the access, assets and income of the poor in the society. While these measures represent a strategy for equitable national development, the key objective of any strategy in curbing income inequality is redistributive taxation. Parsad (2008) opine that indirect taxes are more attractive than direct taxes as indirect taxes symbolize an easier way by which government revenue accrue. Martinez-Vazquez, Vulovic and Liu (2011) posits that the impact of taxation on inequality depends on the size of the system of taxation, reason being that nations with smaller tax system have positive impact on inequality while nations with larger size tax system have negative impact on income inequality. Empirical evidence on direct and indirect taxation is discussed below:

Seaz (2004) determined indirect or direct tax instruments for redistribution: short-run versus long-run. He discovered that redistribution of income should be obtained only through direct taxation while indirect taxation is sub-optional in income inequality. He concluded that direct taxation should be preferred to indirect taxation to achieve redistribution of income and raising revenue.

Martinez-Vazquez, et al. (2011) examined direct versus indirect taxation, they considered the trends, theory and economic significance. Their study showed that the tax mix for 116 nations (developed, developing and transitional) from 1972 to 2005 had a negative effect on inequality in

nations with share of total tax to gross domestic product (GDP) larger than (0.29) thus reducing income inequality meanwhile for the sub-sample of developing nations, the result of tax mix on income inequality was found not to be statistically significant. These findings confirm the low impact of the developing nation's tax systems on income distribution.

In the report of the Office of the National Statistics (ONS) (2011), taxes make little difference to income inequality" stated that the effects of taxes and benefits in United Kingdom on inequality over 30 years has shown that taxes in general made little difference on unequal income in that, though direct taxes reduces inequality but indirect taxes increases inequality by almost the same amount. The report further stated that cash benefit in the form of income support, child benefit and housing benefit play the largest role in reducing income inequality.

Bastagli, et al. (2012) studied income inequality and fiscal policy in advanced and developing countries. They opined that over recent decades, inequality has risen in most developed and many developing nations owing to some factors including technological changes and globalization. They further opined that for the 22 developed countries studied, fiscal programs and policy has contributed in addressing inequality in particular on the expenditure side through progressive income taxes. Nonetheless, the distributive impact of fiscal policy for 128 developing countries studied can be enhanced through improving the country's ability to increase tax revenues and to use those resources more equitably and efficiently. And that resource mobilization must be a focal point on increasing consumption and income taxes bases and increasing personal and corporate taxes by reducing tax exemptions and improving and encouraging voluntary tax compliance.

In the report of OECD (2012), income inequality and growth: the role of taxes and transfer system. They found that on the average, three-quarters of reduction in the variation of income is due to transfers while one-quarter is as a result of direct household taxation. They further opined that redistribution of income before taxes and transfers is mainly influence by the prevalence of part-time employment and dispersion of labour income.

Ilaboya and Ohonba (2013) examined "Direct versus indirect taxation and income inequality in Nigeria". They employed multivariate economic analysis based on macroeconomic and tax data between 1980 and 2011.They expressed Gini coefficient as a function of independent variables such as: Total tax revenue (TTR), private sector to GDP ratio (Pcredit/GDP), Tax ratio, GDP per capital (GDPPC), Tax burden (TBUD), and labour force participation (LFP). The study employed a combination of Error Correction and Co-integration Model, the results revealed a negative but robust relationship between tax burden, total tax revenue and income inequality in Nigeria while a negative, but insignificant relationship was found to exist between GDPPC, Prcedit/GDP, tax ratio * TR and income inequality. They found direct to indirect tax ratio to increase inequality though it was insignificant at 5% level while tax burden helped to reduce inequality since it exhibit a negative effect on inequality in Nigeria. They further recommended that the administrative mechanism of government to be strengthened, ensuring an effective regulation of the tax system and that the informal sector should be taken into cognizance in order to increase the tax base and revenue of the country.

The Tax Justice Network Africa and Christian Aid Report (2014) reviewed "Africa Rising? Inequality and essential role of taxation in eight Sub-Saharan African countries including Nigeria",

according to the report, the growing levels of income inequity in these African countries are holding back development and this means that rising inequality should be a great concern to governments in these eight countries especially in Nigeria given that from 1986 to 2010, the concentration of income has increased to about 75 percentage. The report showed that the redistributive tax role is particularly essential with progressive tax system as one significant tool useful to governments. On the other hand, this report also revealed the level to which illegal financial flows weaken the scope for African governments to put in place a good progressive system of taxation. The report further commented on the weaknesses in direct taxation stating that the personal income tax system lack equity been that the bulkiness of tax burden is on employees meanwhile the self-employed hardly ever pay tax and this inequity erodes citizen's reliance in the system.

IMF (2014) examined Fiscal policy and inequality. The report posited that fiscal policy is a principal tool to affect income distribution by government and this is consistent with one of the three main objectives of taxation and they are promoting macroeconomic stability, provision of public goods and correcting market failures, and income redistribution. In this report it was discovered that direct taxation and transfers have decrease inequality of income in developed nations by an average of one-third and that the overall distributive effect of fiscal policy is also influence by the distribution of in-kind transfers and indirect taxes, though indirect taxes tend to be regressive in nature, the regressive nature is in general less significant when assessed against lifetime income or consumptions. The report also found that kind transfers decreases the Gini index by 5.8 % points in European countries. On the other hand, both taxes and public expenditure limits the distributive effect of fiscal policy in least developed economies and the distribution of in-kind public expenditure was found to be regressive, revealing the inaccessibility to key public services such as education and health by low income households.

Ogbeide and Agu (2015) focused on the causal relationship between inequality and poverty in Nigeria. They found that the level of poverty and inequality in Nigeria is on the increase with feedback causality effect. They further stated that inequality is caused by life expectancy rate and unemployment while there is no causality effect between poverty and unemployment in Nigeria. They also reported a direct relationship between inequality and poverty as well as an indirect relationship between them through unemployment causing inequality and inequality causing poverty. They recommend that in order to fight against inequality and poverty in Nigeria, employment should be one of the primary tools to be considered and that both the public and private sectors should be actively involved including individual citizens through imbibing the spirit of entrepreneurship.

Savage and Callan (2015) investigated modeling the impact of direct and indirect taxes using complementary datasets. They assessed the sensitivity of the distributional effects of direct and indirect taxes and welfare in Ireland. They confirmed the regressive nature of the indirect tax system meanwhile an integrated analysis of all three components mentioned above present a broad picture of an overall distributional effect of the benefit and tax system to the choice between estimated, actual, and imputed data.

ONS (2016) reviewed the effects of taxes and benefits on income inequality: from 1977 to 2015 in UK. The report showed that since 2007/08 there has been a slight decrease in overall

income inequality, though from a longer perspective it is above levels since the early 1984 while there was little change in overall levels of income inequality during the 1990s and early 2000. The report also stated the effect of direct taxes, cash benefits and indirect taxes on income inequality. The report found that cash benefits reduces inequality by 14.2% in 2014/15 and that since the late 1990s, the progressivity of cash benefits has decreased that is they have become less targeted towards decreasing inequality of income. On the other hand, direct taxes were found to reduce inequality by a further 3.2% points in 2014/15 and that since 1977, the average proportion of income households pay direct taxes has generally fallen, most recently going from 22.9% of gross income in 2007/08 to 18.8% in 2014/15. At the same time, despite a number of fluctuations, direct taxes have generally been progressive. In the aspect of indirect taxes, they have been found to be regressive, having the tendency of increasing income inequality to a 3.5% point increase in Gini index in 2013/14.

2.2.2 Value Added Tax and Income Inequality

Value added tax is a tax charged at each level of the consumption chain and is borne by the final consumer of the service or product. In Nigeria, according to Ahor and Ekundayor (2016), VAT is charged and collected at a flat rate of 5% on invoiced amounts of all goods and services produced except those specifically exempted. VAT was introduced and regulated in January by the Value Added Tax Act No 102 of 1993, many Nigerians believed that the tax was introduced as a means of preventing the taking loans from non local agencies and it commenced on January 1, 1994 to replace the Sales Tax (Ochei, 2010). This tax aimed at increasing the government revenue and to ensure funds are available for purpose of development. The National Tax Policy (2012) stated that indirect tax such as VAT have overtime, provided a more consistent revenue inflow with a lower compliance cost having a huge stance for improved tax compliance.

Engel, et al. (1999) studied the distributional impact of the Chilean tax system and also assessed the sensitivity of redistribution of income to variations in structure of taxes and rates at the household level. They constructed a model incorporating the main allowances and taxes in place in Chile for 1996. However, major modifications of the tax structure such as raising the VAT from 18% to 25% or substituting a 20% flat tax were considered for the present progressive income tax. They discovered that the system of taxation has little effects on redistribution. They also found the scope for direct redistribution through a progressive income tax is small and they noted that after accounting for distribution of income, the slightly regressive but high yield VAT decreases inequality of income compared to the strongly but low yield progressive income tax.

Aasness, et al. (2002) examined the distributional efficiency of twelve different taxes (direct and indirect) in Norway focusing on three collective measures: equality, average standard of living and Sen-welfare. Based on their study, they found that the distributional efficiency determined by the change in a cumulative measure of standard of living distribution total individuals in a mini population divided by the change in total consumption contrast strongly between the rankings and the tax reforms and they further stated that a low VAT on food and electricity enhance equality.

Klazar and Slintakova (2010) analyzed the effect of harmonization on distribution of VAT in the Czech Republic. They used the entropy measures (GE) and Gini index under the framework

of both annual and lifetime incidence given a time frame of 2003 to 2005. Their result showed that the Czech VAT is regressive when analyzed for annual income while the lifetime income analysis indicated that VAT is progressive and that the distribution of income both annual and lifetime after taxation was more equal before the harmonization. They suggested that shifting from income taxation towards consumption taxation would lead to improved economic efficiency and that the design of VAT can affect the rate of progressiveness as it can be a tool for efficient redistribution.

Sameti and Rafie (2010) analysed the interaction of redistribution of income, economic growth and taxes in Iran and some selected East Asian countries for the period 1990-2006. They used random effect estimation and panel data regression. They found the impact of goods and service tax (VAT) on income inequality and growth to be insignificant.

Leathy, et al. (2011) measured the distributional impacts of value added tax (VAT) in Ireland based on the 2004 and 2005 Household Budget Survey to determine VAT payments by equivalised income decile of different household's composition and sizes. Micro-simulation model was used to ascertain the effect of VAT rate changes on a particular group of items and the related change in revenue. The general pattern of their results showed that the current system is highly regressive reflecting the hardest hit on households in the first income decile, 6 person households, households containing a single adult with children and households in rural areas.

Iris, et al. (2012) studied the government fiscal policies' impact on income inequality in Asia. Panel estimation for 150 countries between the periods of 1970 and 2009 were used. Their variables include: company tax; personal income tax; payroll taxes and social security contribution; taxes on goods and services including VAT and customs and excises duties. From their empirical results, they found the general taxes on goods and services including VAT to be regressive in Asia. They therefore opined that a 1% increase in goods and services tax in Asia increases inequality of income by 0.666% compared to 0.768% points in the rest of the world.

Okatch, et al. (2013) investigated the determinants of income inequality in Botswana. They utilized the ordinary least square (OLS) regression method to analyse factors increasing income inequality at household level in Botswana. Explanatory variables such as primary and secondary education, number of working adult, age, number of children and value added tax were used. Their results showed that VAT contributes significantly to income inequality. They further suggested that VAT on goods and services heavily consumed by low income households, like food items, should be either zero rated or exempted while VAT should be imposed on goods heavily consumed by high income households.

Alavuotunki and Pirttila (2015), examined the consequences of the Value-Added Tax on inequality using high quality macro data. They estimated the direct effect of VAT following the addition of first controls and VAT relations with middle and low income nations. Their results revealed that VAT consequences have not been positive, contrasting previous results. They suggested that adoption of VAT has not lead to increased inequality and has not undermined equitable development.

Erero (2015) analysed the effects in valued-added tax increment using a dynamic general equilibrium model of the national treasury in South Africa. The model comprises of a social accounting matrix (SAM) for the year 2010 and all important South African taxes. Five different simulations examined ranges from 1% to 5% VAT increase between the periods 2012 and 2018. The empirical result showed that an increase in VAT rate resulted in a marginal increase in GDP

for the period between 2013 by 0.022% and 2018 by 0.115% respectively. The result also revealed a slight increase in the government revenue which could be used for distribution and alleviation of poverty. The researcher suggest that any policy measures aimed at stimulating growth, employment and redistribution of income can consider an increase in VAT rate as well as evaluating the trade-offs between a VAT and other taxes for future research.

Fu (2016) examined "Does indirect tax increase the income gap between urban and rural areas?" in China using the analysis of Thayer Index between 1994- 2013. The consumption expenditure data and the indirect tax burden for urban and rural inhabitants were determined He discovered that income gap existed between rural and urban areas in china in the process of economic and social developments and that the main tax (indirect tax) of the country should be able to bridge the gap on income between these areas. The study concluded that during the period of review (1994 - 2013), indirect taxes were found to be regressive between rural and urban residents. Specifically VAT had a negative effect on income gap; consumption tax and business tax had a positive impact on income gap between these areas. He further opined that indirect tax especially VAT is reducing income distribution as a whole.

Office of National Statistics (ONS) (2016) report revealed that the measure of progressivity based on the kakwani index indicates indirect taxes to have been progressive between 1977 and 2014/15 in the UK, although a number of fluctuations existed during this period. The overall pattern has been one of the increasing progressivity. Indirect taxes such as VAT act to increase income inequality between 1978 by 1.5% point and 1991 by 3.5% point. Since then, there has been very little change in the redistribution of indirect taxes.

2.2.3 Custom and Excise Duties and Income inequality

Fasoranti (2013) posited that duties on Customs and excise otherwise known as export and import are the oldest forms of modern taxation. They are levied either as a percentage or a fixed amount of the value of import or specific quantity. In Nigeria, these duties are ascertained by the government through the customs service to raise revenue for the country and also to protect infant and domestic industries from aggressive competition. According to Akhor and Ekundayo (2016), custom duties have been introduced in Nigeria as import duties. Import duty is a tax on the goods brought into a country from other countries, while Export Duty is a tax on the goods sold to other countries. Anyanwu (1997) opines that the custom and excise duties are charged to regulate the consumption and production of certain goods and services, protection of infant industries, control business and commerce, reduce income inequalities and curb inflation. Meanwhile, duties on excise are tax charged on the output of goods manufactured and are administered by the country's custom services (Ekeocha, Ekeocha, Malaolu & Oduh, 2012). Empirical evidence regarding the effect of customs and excises duties is mixed."

Cicowiez, et al. (2010) examined poverty, economic and inequality impact of both domestic and world trade reform in Argentina focusing on export taxes. They used a combination of models such as a national CGE model, World Bank LINKAGE model, and micro simulations. From their review, they found full trade liberalization of world trade including import taxes and subsidies but not export taxes for both agriculture and non agricultural goods to reduce inequality and poverty in Argentina.

In the study of Iris, Martinez-Vazquez and Vulovic (2012), they found customs and excises duties to be regressive in Asia. Their results revealed an estimated impact of 0.174% for customs duties and 0.609% points for excises. Martinez-Vazquez, Vulovic and Moreno-Dodson (2012) carried out a research on the effect of tax and expenditure policy on the distribution of income between 1970 and 2009. They found that excise taxes, general consumption taxes, and custom duties had negative effect on redistribution of income.

2.3 Review of Theories

The major theories underpinning this work are discussed below.

2.3.1 Optimum income taxation Theory

"A major development from the standpoint of the optimal tax mix was the seminal paper of Atkinson and Stiglitz's in 1976. The Atkinson-Stiglitz theorem was the starting point in optimal tax literature. These researchers measured the relationship between indirect and direct taxes in the achievement of equity and efficiency objectives. This theory in the view of Slemrod (1990) is the study of designing and implementing a tax that reduces inefficiency and distortion in the market under given economic constraints through pareto optimal moves. According to the Atkinson and Stiglitz theory a country where individuals vary simply in their income levels, government can charge a general tax on income and where the utility function is different between all commodities and labour, the appropriate tax design need not to utilize indirect taxation. Mirrlees (1971) explored the theory of optimum taxation in 1971, he discovered that an approximately income tax schedule with an administrative advantage is desired and that the income tax-mix is less useful means for decreasing inequalities. He further opined that a complementary tax design should be devise to avoid the difficulties faced with income-tax. According to Martinez-Vazque, Vulovic and Liu (2011), the option of the direct-indirect tax mix is also expected to have, significant effect in other areas of the economy including variation in redistribution of income, macroeconomic stability and flows from foreign direct investment. This shows that an optimal tax-mix design should be a combination of an efficient and effective direct and indirect taxes in any economy.

2.3.2 Ability to pay Theory

This theory flows from the optimal tax theory; it was propounded by Arthur Cecil Pigou and it examines tax liability from the perspective of a compulsory levy imposed by the state without quid pro quo benefits. This theory is also term equality of sacrifice theory or faculty theory and it states that an individual must pay tax and that his relative share of tax burden is determined in relation to the capacity of the citizen (Bhartia, 2009). This shows that tax paid by a citizen and his relative share in the total tax burden is determined in relation to his or her capacity to pay. This therefore indicates that high income earners should pay more than low income earners. This theory is supported by both socialist and non-socialist thinkers because it is consistent with the principle and concepts of equity and justice as it became part of the theory of welfare economics (Chigbu, et al., 2012). According to Wikipedia, equity is first determined by assessing an individual ability to pay. The sub-set of the ability to pay theory are the horizontal and vertical equity. Horizontal equity suggest that if people who have equal ability to pay should actually do pay the same amount in taxes while vertical equity states that government should implement higher taxes on those who have higher abilities to pay than those who have lower ability to pay.

3.0 METHODOLOGY

This section focuses on the method, design and procedure used in the study. Thus the following sub-headings are research design, population of the research, sampling size, method of data collection, method of data analysis, model specification and diagnostic tests.

3.1 Research Design

The research design used in this study was ex-post facto. This method is adopted because there is a pre-manifestation of the use of this data in literature.

3.2 Population and Sample of the Study

The study is country-specific. To this end, the population and sample of the study will be related to direct and indirect taxes and income inequality in Nigeria from 1990 -2022.

3.3 Data and Data Source

In this study, time series data spanning a period of 27years, ranging from 1990-2022 will be taken from Central Bank of Nigeria (CBN) Statistical Bulletin, Index Mundi, World Bank Indicators, and Federal Inland Revenue Service. However, Gini coefficient of Nigeria from 1990-2016, will be collected from index mundi. Due to the non-availability of data on value added tax before 1993, VAT will be from 1994 to 2022.

3.4 Data Estimation Techniques

Data analysis will be conducted with descriptive statistics, Pearson correlation and ordinary least square. The descriptive statistics such as mean and standard deviation will be used to depict trends and relations among variables. The Pearson correlation will be used to test the correlation level between dependent and independent variable. Ordinary least squares (OLS) regression will be used to analyse the effect between the variables. The OLS is a best linear unbiased estimator whose estimates possess the desirable properties of unbiasedness, efficiency and consistency (Iyoha, 2004). Data collected will be examined using a combination of Error Correction Model (ECM) and co-integration to test for the stationarity of time series data.

3.5 Model Specification

The model of the study is a modification of the models of Martinez-Vazquez *et al*. (2012). Martinez-Vazquez *et al*. (2012) examined the impact of taxes and expenditure polices on income distribution from 1970 to 2009. They used fiscal variables of both tax and public expenditure instrument such as personal income tax, company income tax, general sales tax, payroll taxes and customs and excise using the model:

$$Gini_{it} = \alpha gini_{it-1} + yf_{it}\, \beta x_{it} + vi + \varepsilon_{it,}\ i=1,\ldots,n,\ t=1,\ldots,T$$

Where:

$Gini_{it}$ = Gini coefficient in country I in year t, i=1,…n, t=1,…T

$\alpha gini_{it-1}$ =Value in year t-1.

f_{it} = Vector of fiscal variables of both tax and public expenditure instruments in country I in year t, the variables are Personal income tax, Company income tax, general sales tax, SSC and payroll taxes, excise and customs duties.
x_{it} = Set of control variables.
vi =unobserved country fixed effects.

This study however deviated from the above named study by focusing on the link between indirect tax and income inequality. The models stated below were modified to suit the country-specific nature, the peculiarity of this study, and to ascertain the effect of taxation (indirect tax) on income inequality in Nigeria. Thus the functional model is given below

$$GINC_t = \beta_0 + \beta_1 VAT_t + \beta_2 CED_t + \beta_3 SDT_t + \varepsilon_t$$

Where:

$GINC_t$ = Gini coefficient represents the dependent variable;
VAT_t = Value Added Tax;
CED_t= Customs and Excise Duties;
SDT_t =Petroleum Profit Tax;
ε = Error term;
β_0 = Intercept of the relationship; and
$\beta_1 - \beta_3 < 0$ Unknown coefficients of the variables, this connotes that the independent variables are expected to have a negative relationship with income inequality particularly in consonance with existing theory. Independent variables represented by the tax instruments are value added tax, petroleum profit tax, customs and excise duties and company income tax.

3.6. Operationalisation of Variables

Variables	Types of Variable	Measurement	Source
Income inequality (GINIC)	Dependent	Gini coefficient or index (1990-2016) from annual report of National Burea Of Statistics (NBS)	Ilaboya and Ohonba (2013); Bakare (2012)
Value added tax (VAT)	Independent	VAT (1990-2016) from annual report of NBS	Klazar and Slintakova (2010); Fu (2016)
Custom and Excise Duties (CED)	Independent	CED (1990-2016) from annual report of NBS	Iris *et. al* (2012)
Stamp duty tax	Independent	SDT (1990-2016) from annual report of NBS	Moradi (2009); Martin and Crookes (2013)

4.0 Data Presentation and analysis

This section contains the presentation, analyses and interpretation of the data collected for this research work. Consequently, it entails the application of both mathematical and statistical techniques to provide the basis for the testing of the research hypotheses. Hence, it is a vital part of any research work, since it forms the basis for recommendation and conclusions at the end of the research. The models specified in the previous chapter are examined empirically. The preliminary analysis of the data is first conducted (descriptive and correlation analysis). Thereafter, the regression analysis is conducted. The results are presented and interpreted below;

Test for Stationarity

@LEVELS **@2ND DIFFERENCE**

VARIABLES	ADF	CRITICAL VALUE	Prob	REMARK	VARIABLE	ADF	CRITICAL VALUE	Prob	REMARK
GINI	-2.6186	-2.9810	0.1021	**Non-stationary**	**D(GINI,2)**	-6.2513	-2.9980	0.0000	**stationary**
SDT	3.7793	-3.0206	1.0000	**Non-stationary**	**DCIT,2)**	-16.250	-2.9980	0.0000	**Stationary**
VAT	-1.9081	-3.0048	0.3227	**Non-stationary**	**D(VAT,2)**	-7.5412	-3.0207	0.0000	**Stationary**
CED	-1.1767	-2.9862	0.6679	**Non-stationary**	**D(CED,2)**	-6.6574	-2.9980	0.0000	**Stationary**
ECM	-4.200829	-3.004861	0.0038	**Stationary**					

Source: Eviews 8.0

The table above gives an indication of the stationarity test conducted using the Augmented dickey-fuller test. From the table above it was observed that all the variables were found to be non-stationary at levels but became stationary at second difference. Therefore indicating the existence of a long run relationship among the estimating parameters. Furthermore the error term (ECM)

was found to be stationary at level which also gave a clear indication that the need to take into account the long run relationship that exists among the variables.

TEST FOR COININTEGRATION

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
DGINI	-5.770329	0.0207	-74.21421	0.0000
DSDT	-2.726949	0.7499	8.841027	1.0000
DCED	-2.999411	0.6337	-12.69068	0.6413
DVAT	-3.558106	0.4002	-28.67503	0.0011

Source: Researchers compilation

From the result of the coinintegration test conducted it was observed that there the existence of a coinintegrating equation in the model judging by the tau statistics and Z-statistics that revealed probability values that are less than the critical 5% value.

REGRESSION RESULT

Dependent Variable: D(GINI)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SDT)	-1.66E-08	5.59E-09	-2.788492	0.0131
D(CED)	9.19E-08	1.87E-07	0.492131	0.6293
D(VAT_BILL_)	2.13E-08	2.61E-08	0.818255	0.4252
ECM(-1)	-0.916742	0.138696	-6.609735	0.0000
C	-0.001771	0.008005	-0.221254	0.8277

R-squared	0.518217		
Adjusted R-squared	0.354535		
F-statistic	3.306940	Durbin-Watson stat	2.002926
Prob(F-statistic)	0.030632		

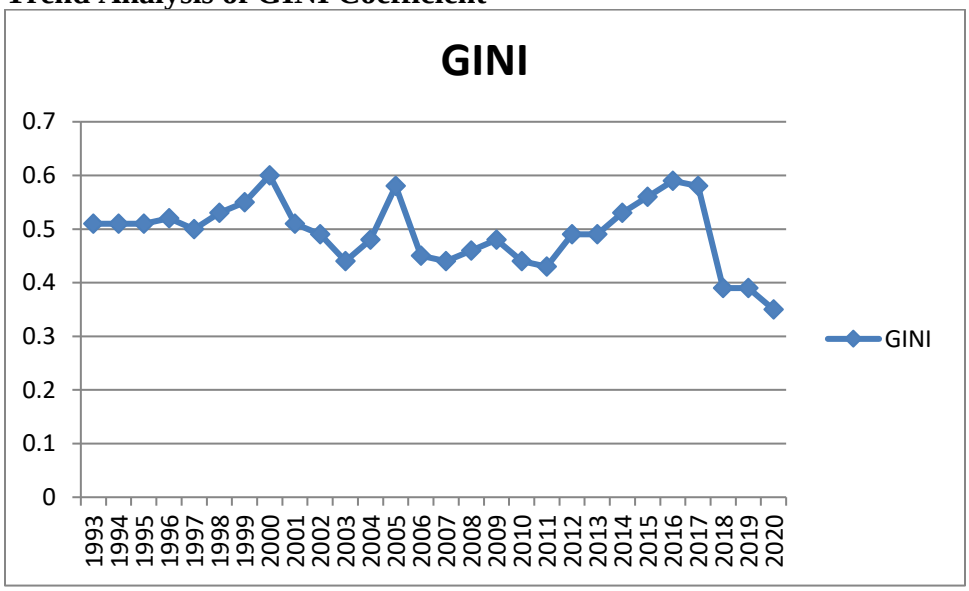
Source: Eviews 8.0

From the regression result conducted on the variables in the model, it was observed that stamp duty tax was found to have a negative impact on the Gini coefficient which is a measure for inequality. It was also found to be statistically significant when measured at 5% critical level. Custom and excise was found to have a positive relationship with Gini coefficient therefore

indicating that on the average the income generated from custom and excise duty brings about a reduction in income inequality in Nigeria as a country. Value added tax was found to have a positive relationship with income inequality in Nigeria. It was also not found to be statistically significant when measured at 5% critical level. The error term which is depicted as ECM was found to have a value of -0.9 with an associate probability of 0.00 therefore indicating that on the model has the capability of leaving its state of disequilibrium to equilibrium at a speed of 91% annually.

Furthermore with respect to the summary statistics, the coefficient of determination depicted as R^2 stood at a value of 0.50 therefore indicating that on the average the model account for 50% of the systematic variation while the remaining 50% left on accounted for is been capture by the stochastic error term. The F-statistics which measures the overall significant of the variables stood at a value of 3.3 with an associate probability value of 0.03 therefore indicating that the variables are jointly statistically significant when tested at 5% critical level. The Durbin Watson statistics which account for the presence of autocorrelation in the model stood at a value of 2.0 therefore indicating that the presence of first order serial correlation

Trend Analysis of GINI Coefficient



The diagram above gives a graphical illustration of the trend analysis based on the GINI coefficient that is a proxy for income inequality. From the diagram above it was observed that between 1993-1995 Nigeria experiences a constant increase in the poverty ratio which stood at a value of 0.51. Furthermore, in 1996 the Gini coefficient value stood at 0.52, in the year 1997 Nigeria experienced a coefficient value of 0.52, between 1997-1999 Nigeria still experienced a coefficient value within 0.5%. In the year 2000 Nigeria had a Gini coefficient value of 0.6. The year 2001, the Gini coefficient value stood at 0.51, 2002 had a Gini value of 0.49, 2003 stood at a value of 0.44, 2004 add a value of 0.48, 2005 stood at a value 0.58. From 2006-2013 the coefficient value was within

the range of 0.4% annually. From 2014-2020 Nigeria stated to experience an increment in the coefficient value which rose from 0.53 to 0.56 in 2016 the value stood at 0.59 and finally in 2020 it slightly dropped to 0.35 resulting from the pandemic. The analysis so far indicates that the Gini ratio is on the increase in Nigeria, signifying a high level of inequality in the country.

Diagnostic Test

Test for Autocorrelation

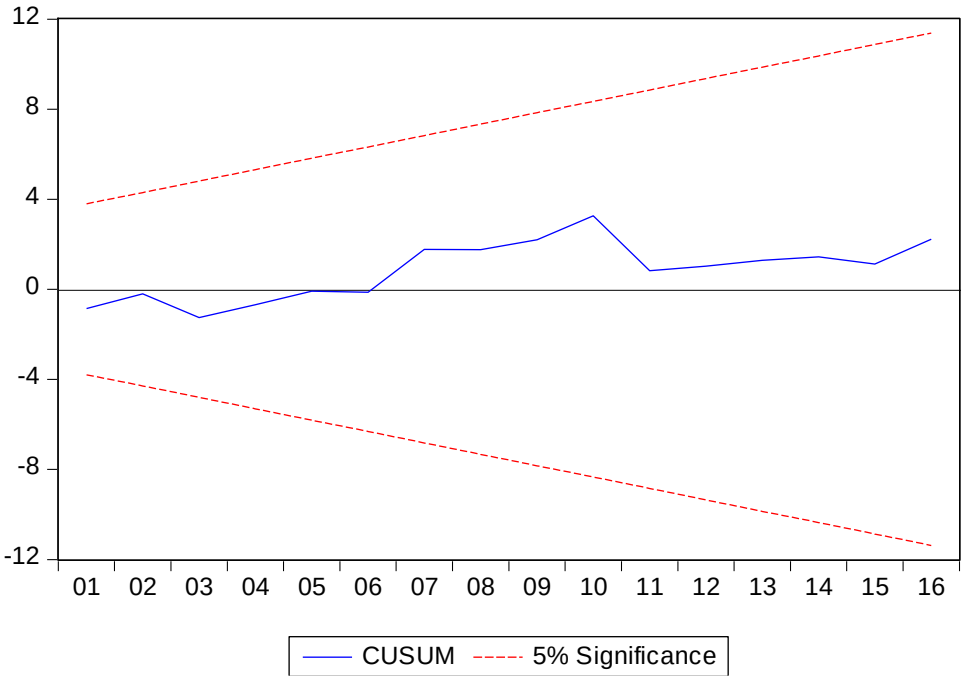
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.322248	Prob. F(2,14)	0.2979
Obs*R-squared	3.495385	Prob. Chi-Square(2)	0.1742

Source: Eviews8.0

The table above gives the diagnostic test for autocorrelation in the model. From the result it could be observed that the lagrang multiplier (LM) test for higher order autocorrelation is utilized in this study holding to the fact that it test for high order autocorrelation and is relatively more powerful than the Durbin Watson test. From the hypothesis of zero autocorrelation in the residuals where not rejected. This was because the probability (prob. F , chi square) were greater than 0.05. The LM test did not therefore reveal the problem of first order serial correlation in the model.

Test for stability

The CUSUM test (Brown, Durbin, and Evans, 1975) is based on the cumulative sum of the recursive residuals. This option plots the cumulative sum together with the 5% critical lines.



The test finds parameter instability if the cumulative sum goes outside the area between the two critical lines. As observed from the figure, the lines for the cumulative sum lie within the 5% critical lines and hence this suggests that the parameters of the model are stable.

Test for Misspecification

Ramsey RESET Test			
	Value	Df	Probability
F-statistic	1.300211	(1, 15)	0.2721
Likelihood ratio	1.745685	1	0.1864

Source: Researchers compilation, 2023

Considering Ramsey (1969) and Ramsey and Schmidt (1976) argument that various Specification errors such as omitted variables, incorrect functional form, correlation between independent variables and the error term, give rise to non-zero error term vector (Johnson, and Dinardo, 1997: 121), the performance of the Ramsey RESET test was inevitable. The test was performed to determine whether there were specification errors. The results showed high probability values that were greater than 0.05, meaning that there was no significant evidence of miss-specification.

Test for Multicollinality

Variance Inflation Factors			
	Coefficient	Uncentered	Centered

Variable	Variance	VIF	VIF
DSDT	9.19E-16	3.640109	3.435843
DCED	3.14E-13	1.607586	1.022166
DVAT	7.49E-15	1.028842	1.028786
C	0.000397	1.748652	NA

Source: Researchers compilation,2023

As a result of various specification errors such as omitted variables incorrect functional form and correlation between independent variables and error term lead to the performance of this test, the test is performed to determine whether there were specification errors. The result revealed that high probability values that where greater than 0.05 meaning that there was no significant evidence of miss specification.

5.0 Summary of Findings

The study undertakes an empirical evaluation of the taxation and income inequality in Nigeria. The result of the analysis showed that

1. Stamp duty was found to have a negative impact on the Gini coefficient which is a measure for inequality. It was also found to be statistically significant when measured at 5% critical level. This finding is in line with the findings of Piketty and Qain (2009) who opined that corporate taxes are generally viewed to be progressive hence decrease income inequality.
2. Custom and excise was found to have a positive relationship with Gini coefficient as revealed by the Negative coefficient value. This findings is in line with the finds of but
3. Value added tax was found to have a positive relationship with income inequality in Nigeria. It was also not found to be statistically significant when measured at 5% critical. This study is in line with the finds of but at variance with the finds of level.

5.1 Conclusion

The government can use a variety of tools to reduce income inequality, all of which are funded by taxes. These tools include progressive public spending programmes that aim to improve the access, assets, and income of the poor in society as well as policies on the implementation of an adequate minimum wage to increase wages. The main goal of any policy to reduce income disparity is redistributive taxation, even though these policies serve as a plan for a more equitable national development. According to Martinez-Vazquez et al., (2011) the size of the tax system determines how much of an impact it has on inequality reason being that nations with smaller tax system have favourable effect on inequality

While countries with bigger tax structures have an adverse effect on income disparity.

5.2 Policy Implication

1. The Gini coefficient, which is a gauge of inequality, was found to be negatively impacted by stamp duty. Therefore, it follows from the data that stamp duty has a part to play in

lowering the level of income disparity in society. This is as a result of the fact that company income tax brings about a reduction in how much income inequality there is in the society.

2. Custom and excise were discovered to be positively correlated with the Gini coefficient as revealed by the Negative coefficient value. This implies that custom and excise duty increase the country's level of income inequality. This is as a result of the fact that when high tariffs are placed on the exportation of some of our locally produce goods it makes it impossible for local producers to engage in large scale production that will enhance the growth of the economy which will pave way for equitable distribution of income.
3. In Nigeria, it was discovered that value added tax and income inequality were positively correlated. Value added tax is a fee imposed at every stage of the purchasing process and is paid for by the customer who receives the service or the goods. According to Ahor and Ekundayor (2016), VAT is charged and collected at a flat rate of 5% on invoiced amounts of all goods and services produced except those specifically exempted. This implies that when the goods consumed by low income earners are subjected to tax there is every tendency that it will increase their burden which in turn will further broaden the gap between the rich and the poor in the society. This is as a result of the fact that the same five percent (5%) deduction that is been remove form the good consumed by the rich is the same quota that is also removed from the goods consumed by the poor.

5.5. Recommendation

Arising from the forgoing, it was therefore recommended that:

1. Stamp duty was found to have a negative impact on the Gini coefficient which is a measure for inequality. Therefore, it follows from the data that stamp duty has a part to play in lowering the level of income disparity in society. Therefore, it is advised that the government and tax authorities provide enough channels through which this corporate tax would be utilised to the maximum in order to prevent any kind of tax evasion by tax defaulters.
2. Custom and excise was found to have a positive relationship with Gini coefficient as revealed by the Negative coefficient value. It is therefore recommended that government should address the tariffs placed on exportation of some goods and services so has to reduce the level of income inequality that is prevalent in the society.
3. Value added tax was found to have a positive relationship with income inequality in Nigeria. It is therefore recommended that VAT on goods and services heavily consumed by low income households, like food items, should be either reduce or total exempted, while VAT should be imposed on goods heavily consumed by high income households"

5.5. Recommendation for Further Study

As a recommendation for further study, it will be useful for other studies to examine the influence of indirect tax on foreign direct investment.

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