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Taxation and Standard Of Living in Nigeria

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Abstract: This study determined the effect of taxation on standard of living in Nigeria from 1990 to 2023. Company income tax, value-added tax, education tax and personal income tax were adoped as the proxies of taxation while per capita income was adopted as the indicator of standard of living. Annual time series data used in this study were obtained from Central Bank of Nigeria (CBN), Office of the Federal Inland Revenue Service and Annual Abstract of statistics of the National Bureau of Statistics. The major techniques of data analysis adopted include Augmented Dickey-Fuller (ADF) unit root test, correlation matrix of multicollinearity test, bounds cointegration test and Autoregressive Distributive Lag (ARDL) approach. The key findings of the study showed that company income tax has a positive and significant effect per capita income in Nigeria. Also, value-added tax has a positive and non-significant effect on per capita income in Nigeria. Contrarily, education tax has a negative and significant effect on per capita income in Nigeria. Lastly, personal income tax has a positive and significant effect on per capita income in Nigeria. Premised on the findings, the study concluded that taxation play a vital role in improving standard of living in Nigeria. The study recommended among others that the government should strengthen and optimize the administration of company income tax and personal income tax, given their positive and significant impact on per capita income. This can be achieved through improved tax compliance mechanisms, digitalization of tax collection systems, and reduction of tax evasion and avoidance.

Keywords: Taxation, Standard of Living, Company Income Tax, Value-Added Tax, Education Tax Personal Income Tax.

INTRODUCTION

Taxation has increasingly become a central theme in public finance discourse due to its critical role in revenue generation, income redistribution, and macroeconomic stabilization, thereby attracting significant research attention among scholars and policymakers in recent years. Contemporary studies have focused on how tax structures, compliance mechanisms, and fiscal reforms influence economic growth, inequality, and welfare outcomes, particularly in developing economies where government revenue constraints are more pronounced (Agyemang & Ansong, 2023; Kargbo *et al*., 2025). This growing scholarly interest is driven by the need to design efficient and equitable tax systems capable of supporting sustainable development goals. Conceptually, taxation refers to the compulsory levy imposed by government on individuals and corporate entities to finance public expenditures and achieve socio-economic objectives (Aguinis & Glavas, 2019; Krawczyk, 2024). It encompasses various forms such as direct taxes (e.g., personal income tax) and indirect taxes (e.g., value-added tax), which collectively serve as instruments for mobilizing domestic resources. Okoye and Ezejiofor (2020) agreed that the primary function of a tax system is to raise enough revenue to finance essential expenditures on the goods and services provided by government. Hence, tax revenue remains one of the best instruments to boost the potential for public sector performance and repayment of public debt. In line with the foregoing, this study is designed to determine the effect of taxation on economic development in Nigeria. In developing countries like Nigeria, taxation has gained prominence due to declining oil revenues and the urgent need to diversify government income sources, thereby intensifying academic inquiry into its effectiveness and impact on citizens' welfare. The impact of taxation on standard of living, often proxied by per capita income, is anchored on the ability of tax revenues to finance critical public goods and services that enhance productivity and human capital development. Efficient tax systems enable governments to invest in infrastructure, healthcare, education, and social protection programmes, which in turn improve income-generating opportunities and overall living standards (Fatima & Elbanna, 2023; Idemudia, 2020). In the Nigerian context, reforms such as the expansion of the tax base, digitization of tax administration, and increased emphasis on non-oil revenue generation have been aimed at improving fiscal capacity and promoting inclusive growth. When effectively managed, tax revenue can stimulate economic activities in key sectors, create employment, and increase per capita income through improved service delivery and economic opportunities. However, the realization of these benefits depends largely on transparency, accountability, and efficient allocation of tax proceeds. Thus, understanding the relationship between taxation and standard of living in Nigeria remains crucial for ensuring that fiscal policies

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translate into tangible welfare improvements for the population.

However, the persistent challenge of low and unstable standard of living in Nigeria, as reflected in fluctuating and often inadequate per capita income, has continued to generate concern among policymakers and researchers, particularly in relation to the country's taxation system. Despite numerous tax reforms aimed at increasing government revenue through instruments such as personal income tax, value-added tax, and corporate taxes, the expected improvement in citizens' welfare has remained largely elusive. Ideally, taxation should enhance standard of living by providing government with resources to fund public goods and services such as healthcare, education, infrastructure, and social protection; however, in Nigeria, issues such as inefficient tax administration, corruption, regressive tax structures, and poor allocation of tax revenues have limited these benefits. Consequently, taxpayers often experience a disconnect between the taxes they pay and the quality of public services received, thereby weakening the potential positive impact of taxation on per capita income. Moreover, the burden of taxation, especially indirect taxes, may disproportionately affect low-income households, further worsening income inequality and reducing disposable income. While previous studies have examined taxation and economic growth, limited attention has been given to its direct effect on standard of living measured by per capita income in the Nigerian context. This gap underscores the need for a comprehensive empirical investigation into how taxation influences the standard of living, with a view to informing policies that ensure tax systems contribute meaningfully to improving the welfare of Nigerians. In line with the identified problem, this study aims to examine the effect of taxation on economic development in Nigeria.

Aim and Objectives of the Study

The aim to be achieved by this study shall be to examine the effect of taxation on standard of living in Nigeria. The specific objectives of this study shall be to:

1. determine the effect of company income tax on economic development in Nigeria.
2. analyse the effect of value-added tax on economic development in Nigeria;
3. evaluate the effect of education tax on economic development in Nigeria; and
4. ascertain the effect of personal income tax on economic development in Nigeria.

LITERATURE REVIEW

Theoretical Literature Review

The theories adopted in this study are extensively discussed in this section as follows:

A. Diffusion Theory of Taxation

The Diffusion Theory of Taxation is commonly associated with the French economist Pierre-Paul Leroy-Beaulieu and was developed in the late 19th century, around 1881. According to diffusion theory of taxation, under perfect competition, when a tax is levied, it gets automatically equitably diffused or absorbed throughout the community. Advocates of this theory, describe that when a tax is imposed on a commodity by state, it passes on to consumers automatically. Every individual bears burden of tax according to his ability to bear it. For instance, a specific tax is imposed on say, cloth. Manufacturer raises prices of commodity by the amount of tax. Consumers buy commodity according to their capacity and thus share burden of tax. In the words of Mansfield: "It is true that a tax laid on any place is like a pebble falling into a lake and making circles till one circle produces and gives motion to another". This quotation explains that just as a pebble gets diffused in a lake, similarly a tax imposed on a commodity is also absorbed and its burden is felt equally among various sections of community. Advocates of this theory assume perfect competition in the market but in world of reality, it is imperfect competition which prevails. If tax gets automatically diffused through the community, then most of worries of finance minister will be over. He will simply impose tax and collect money from people without worrying about final resting place of a tax. In actual practice, we find that taxes do not get distributed equally. Some taxes remain where they are imposed first and some are partly or wholly shifted on to the consumers. Diffusion theory of taxation has however been criticized. The diffusion theory of taxation has never gained any importance in the world of reality. It has never been seen that a tax gets automatically equitably distributed among people. It is true that in some taxes, diffusion or absorption does take place but that too is not throughout the community. Accordingly, another criticism of this theory of taxation is that there are few taxes like income tax, inheritance tax, toll tax in which there is no absorption at all.

B. Effective Tax Theory

The theory of effective tax rate developed by Scholes and Wolfson (1992) in which this work is anchored on relies on the basic concepts and methods of modern contract theory. The wholistic

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nature of the effective tax theory makes it more embracing for our study. The effective tax theory unlike other theories that centers basically on the explicit benefit of tax aggressiveness, incorporates the explicit benefit with its negative implicit implication if not properly managed. Therefore, firms are advised to consider the transactions of all parties which comprise both the explicit and implicit values as firms‟ trade-off tax savings against non-tax costs in their choice of investment. The theory states that, in the presence of perfect markets, the objectives of the traditional and effective tax planning frameworks are almost identical. However, where uncertainty and information asymmetry exist, objectives will begin to differ. The core objective of effective tax planning theory is the maximization of total after-tax benefits, requiring consideration of the forms of costs and constraints related to achieving this goal. Scholes and Wolfson argue that the optimal scale for effective tax planning under conditions of uncertainty and information asymmetry in incomplete markets is based on three key considerations: the tax implications for all parties associated with the transaction; the implications of implicit taxes; and the impact of non-tax costs on total costs of tax planning. Effective tax planning must consider the transactions of all parties. Thus, the appropriate goal of tax planning should not be tax minimisation per se, rather, the optimisation of total tax burdens including those passed on to/saved from other parties. Corporations are encouraged to trade-off tax savings against non-tax costs in their choices of investment, financing, and compensation. First, all contracting parties to the transaction and their reactions should be taken into account during the tax planning process. From a contract perspective, these include employers, employees, customers and the tax authorities. Therefore effective tax planning involves tradeoffs of the benefits received by all transactional parties to achieve their long term goals. Secondly, effective tax planning requires consideration not just of explicit taxes the tax burden for the enterprise as regulated by tax law and paid directly to the tax authorities but also implicit taxes when making investment and financing transactions. Implicit taxes are an actual burden, although not paid to tax authorities under the tax law. Instead implicit taxes take the form of reduced rates of return associated with the firm's inability to capture explicit tax savings. Thirdly, effective tax planning requires all costs, including non-tax costs, be considered. Explicit tax savings do not necessarily provide the best (or the most feasible) solution in effective tax planning, because tax is just one of many operating costs. Tax planning may lead to an increase in other transactional costs, called non-tax costs. Thus tax planners should first trade off tax savings and non-tax costs. For instance, financial reporting costs are typical non-tax costs faced by listed companies, which magnify the decrease of profits in the financial statements during tax planning. The earnings per share decrease associated with a reported decline in profit in the financial statements may cause a fall in share prices, and thus in the firm‟s value, increasing the costs associated with capital market financing and increasing merger and acquisition risk. A decline in reported profits may also affect managers‟ compensation and other interests, potentially causing inconsistencies between managers‟ interests and those of shareholders and so increasing agency costs. Also, under conditions of information asymmetry, various stakeholders may make decisions based on the company's external financial reports. For instance, management may give up substantial savings on tax because of the impact on accounting profits, believing that while tax planning may increase cash flow, stock prices are affected by accounting profit disclosures rather than cash flows.

Empirical Review

Ndah, Ekwueme, Amahalu and Ndubuisi (2024) examined the effect of taxes on net investment of industrial goods firms in Nigeria. Research adopted the ex-post facto research design to study a population of thirteen (13) listed industrial goods firms over a period of 11 years (2013-2023). Data obtained were analysed using the panel regression. The results showed that company income tax and tertiary education tax had insignificant effect on net investment, though positively negatively related respectively. The study further found that value added tax and capital gains tax were negatively significant, while industrial training tax was positively significant.

Eneisik, Obara and Uwikor (2023) empirically ascertains the effect of companies income tax on financial performance of quoted manufacturing companies in Nigeria. The population of the study consists of sixty quoted manufacturing companies in Nigeria. The study adopts purposive sampling techniques to select thirty quoted manufacturing companies as a sample size. Secondary data was obtained from audited annual financial reports of quoted manufacturing companies in Nigeria from 2006-2020. Hypotheses formulated were tested using panel least squares regression through

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pooled effect, fixed effect, and random effect, determined by the Hausman test, fixed effect regression was preferred for results interpretation with the aid of EViews 10 econometric statistical software. Findings show that company income tax had a negative and insignificant effect on net profit margin of quoted manufacturing companies in Nigeria. Capital gains tax had positive and significant effect on net profit margin of quoted manufacturing companies in Nigeria. Tertiary education taxes had negative and insignificant effect on net profit margin of quoted manufacturing companies in Nigeria.

Ogunsola (2023) investigated the influence of taxation on the economic development in Nigeria.The study adopted time series research method. The data used were obtained from secondary sources, which covered a period from 2015 to 2022. Using regression analysis, the study found that company income tax (CITX) and value added tax (VATX) positively and insignificantly influence real gross domestic product, however, the influence of education tax (EDTX) is negligible. Results also revealed that the influence of CITX on poverty index is negligible, while VATX and EDTX have negative and positive insignificant influence on poverty index respectively. Besides, findings revealed that CITX negatively and insignificantly influences life expectancy. While VATX positively and significantly influences life expectancy, the influence of EDTX is positive and insignificant. Moreover, results showed that CITX positively and insignificantly influences balance of trade, whereas the influence of VATX and EDTX is negative and insignificant.

Olaoye, Yunus and Opefolu (2023) examined tax revenue and economic development in Nigeria. The sample technique used in this study is a Judgmental sampling technique. The study evaluated the effect of tax revenue on the economic development in Nigeria from 2003-2020. The data was obtained from the publication of Federal Inland Revenue service, Central Bank of Nigeria, Annual Statistical Bulletins, and the National Bureau of Statistical. The reliability of the data was premised on published reports and bulletins from CBN. Data was analysis using descriptive and inferential statistics. The findings of this study shows that petroleum profit, company income tax, value added tax, and education tax has a significant relationship / effect on economic development, because the p-value for petroleum profit, company income tax, value added tax and education tax is less than the level of significance.

Aliyu Abubakar Baliksu and Mustapha (2022) assessed empirically the impact of tax revenue on economic growth in Nigeria, spanning from 1981 to 2017. The study employed, time series data obtained from the CBN statistical bulletins, FIRS annual publications and National Bureau of Statistics (NBS) portal. To achieve the objectives of the study, OLS and ARDL techniques were employed to estimate the relationships and the dynamics and longrun effects of independent variables on dependent variable. ARDL bound test revealed that the variables are cointegrated while ARDL long-run estimation indicated that petroleum profit, value added tax and government domestic debt are significant and positively related to GDP. In addition, company income tax and customs and excise duties came out significant but have negative impact on economic growth.

Edori and Atabusi (2022) examined the nexus between direct taxes and total federal tax revenue of Nigeria. The study was anchored on the ex post facto form of research design. Time series data (secondary data) from 2005 to 2020 was collected from the Federal Inland Revenue service and was analysed using simple regression analysis. The study indicated that significant relationship exists between education tax and total tax revenue and petroleum profit tax and total tax revenue with a probability value of 0.000 and 0.002 respectively. Also, both education tax and petroleum profit tax have positive relationship with total tax revenue with R2 values of 0.729 and 0.524 respectively.

Ogbodo and Nweze (2021) reviewed on Effect of tax revenue on economic development: evidence from Nigeria. The methodology used in the study was Ex-post Facto research design. The study found that companies' income tax has a significant positive effect on per capita income of Nigeria; petroleum profit tax has a significant positive effect on per capita income of Nigeria. In this study education tax was no considered as a measure of tax revenue.

Oladele (2021) examined the impact of tax compliance on economic development in Nigeria. A quantitative research design has been adopted having been found to be appropriate for the quantitative research model that underpins the study at hand through regression was adopted for the data analysis. The results of the study indicate that the tax compliance have positive impact on

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economic development in a time series data of Nigeria's Economy during 2003 – 2019. The linearity test revealed that linear relationship exists between tax compliance and standard of living in Nigeria. The research closes the knowledge gap induced by inconclusive evidence on the growth effects of human capital development and per capita income which most often have resulted in situations where results of researches done in developed economies are generalized to developing countries.

Obaretin, and Uwaifo (2020) reviewed on Value Added Tax and Economic Development in Nigeria. This study employed a longitudinal research design. The finding unveils that VAT has a positive and significant impact on economic development in Nigeria. In this study education tax was no considered as a measure of tax revenue.

Clement, Ayobolawole and Oladimeji (2019) reviewed on tax revenue and economic development in Nigeria. The data for the relevant variable of this study were extracted from the statistical bulletin of the Central Bank of Nigeria and human development report of United Nations Development Programme for the year under consideration in this study. The study revealed that taxation has a significant long run relationship with Nigeria's economic development. In the study of Okonkwo and Chukwu (2019). Reviewed on Government Tax Revenue and economics development in Nigeria: 1996-2017. The study adopted study obtained time series data. The government tax income has not significantly influenced economic development of Nigeria.

Oshiobugie and Akpokerere (2019) examined tax revenue and the Nigeria economy from 2000 – 2017. Secondary data were sourced from Central Bank of Nigeria Statistical Bulletin of various editions. The study adopted the ex-post facto research design while ordinary least square regression techniques was used to process the used to process the data gathered using E-view 8.0 software. The null hypotheses (Ho) were tested at 5% level of significance. The findings revealed that there is insignificant effect of tax revenue on economic growth under the period study and concluded that personal income tax and company income tax affect economic growth in Nigeria either negatively or positively.

Osho and Efuntade (2019) examined the impact of taxation on investment, social and economic development in Nigeria. The secondary data were obtained from relevant literatures, Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics publications among other. Data were tested using the Ordinary Least Square Linear Regression model. From the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics. The findings show that all the coefficients of the explanatory variables in model 1 and 2 are all statistically significant to gross domestic product and Gross Fixed Capital Formation (GFCF) except company income tax. The study concluded that, tax revenues are tools of both capital formation and economic growth to enhance investment, social and economic development of the country.

Ojijo and Oluwatosin (2018) examined taxation and economic growth in resource rich country, a case of Nigeria. They employed the linkage between availability of higher resources revenue and lower taxation effect of other revenue categories and the effects of these on growth. They used ordinary lease square estimation techniques to analysis their data collected. They found out that taxation has a significant effect on real GDP growth rate.

Ogudu, Kingsley and Akinlosotu (2018) examined the impact of corporate income tax on the performance of the manufacturing sector in Nigeria from 2013 – 2017. The ex-post facto research design was adopted for this study. The population of this study covered all the 23 registered manufacturing firms dealing with consumable foods in Nigeria. The sample of five manufacturing firms, dealing with consumable foods in Nigeria which represent 35% of the quoted manufacturing firms on the Nigerian Stock Exchange (NSE) market was selected for the study. This study made use of the fixed and random effect regression technique. The result showed that company income tax had direct significant impact on net income and return on equity of manufacturing companies in Nigeria.

Richard (2017) examined Value Added Tax (VAT) and economic growth in Nigeria from 1994-2013. Data were obtained from Central Bank of Nigeria (CBN) statistical bulletin and Federal Inland Revenue Service (FIRS) data. Diagnostic tests consisted of normality test, Ramsey RESET test for misspecification and Breusch–Pagan-Godfrey Serial Correlation LM test for the presence of auto correlation. The statistical tool employed was simple linear Ordinary Least Square (OLS) regression. The study found that VAT is

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statistically significant, suggesting that VAT has positive relationship with economic growth in Nigeria. Hence, this paper recommends among others that the government should reform the Value Added Tax system for better effectiveness and increase the present VAT rate of 5% to 10% in line the prevailing rate of others countries in the world. The paper concluded that if the Value Added Tax is reformed, the resultant effect will cushion the impact of the fall in oil revenue on government expenditure and its attendant effect on economic growth of the country.

METHODOLOGY

Research Design

The research design adopted in this study is *ex-post facto* research design. An *ex-post-facto* research design is a systematic empirical inquiry that requires the use of variables which the researcher does not have the capacity to change its state or direction in the course of the study

Data Collection Method and Sources

The nature of data used in this study is basically secondary in nature. These data were sourced from Central Bank of Nigeria (CBN), Office of the Federal Inland Revenue Service and Annual Abstract of statistics of the National Bureau of Statistics. The data for the study will cover the periods from 1990 to 2023, indicating thirty-four (34) years sample observations.

Model Specification

The modeladopted in this study is multiple regression model. Specifically, this model was built on the work of Olaoye, Yunus and Opefolu (2023) in their analysis of the effect of tax revenue on economic development in Nigeria. The original model of Ogungbenle (2021) is modified and functionally stated as:

Model three is functionally specified as follows:

$PCI = (\text{CIT, VAT, EDT, PIT})$ (3.1)

Model three is mathematically specified as follows:

$$PCI_t = \beta_0 + \beta_1 CIT_t + \beta_2 VAT_t + \beta_3 EDT_t + \beta_4 PIT_t \quad (3.12)$$

Model three is econometrically specified as follows:

$$PCI_t = \beta_0 + \beta_1 CIT_t + \beta_2 VAT_t + \beta_3 EDT_t + \beta_4 PIT_t + \mu_t \quad (3.13)$$

The long-run ARDL specification of the model is expressed as:

$$\begin{aligned}\Delta\ln(PCI_t) = {} & \beta_0 + \beta_{1i}\Delta\ln(PCI_{t-1}) + \beta_{2i}\Delta\ln(CIT_{t-1}) + \beta_{3i}\Delta\ln(VAT_{t-1}) + \beta_{4i}\Delta\ln(EDT_{t-1}) \\ & + \beta_{5i}\Delta\ln(PIT_{t-1}) + \sum_{t=1}^{p}\delta_{1i}\Delta\ln(PCI_{t-1}) + \sum_{t=1}^{q}\delta_{2i}\Delta\ln(CIT_{t-1}) + \sum_{t=1}^{p}\delta_{3i}\Delta\ln(VAT_{t-1}) \\ & + \sum_{t=1}^{q}\delta_{4i}\Delta\ln(EDT_{t-1}) \sum_{t=1}^{q}\delta_{5i}\Delta\ln(PIT_{t-1}) \\ & + \varepsilon_{1i} \quad (3.4)\end{aligned}$$

The short-run ARDL specification of the model is expressed as:

$$\begin{aligned}\Delta\ln(PCI_t) = {} & \delta_0 + \sum_{t=1}^{p}\delta_{1i}\Delta\ln(PCI_{t-1}) + \sum_{t=1}^{q}\delta_{2i}\Delta\ln(CIT_{t-1}) + \sum_{t=1}^{p}\delta_{3i}\Delta\ln(VAT_{t-1}) \\ & + \sum_{t=1}^{q}\delta_{4i}\Delta\ln(EDT_{t-1}) \sum_{t=1}^{q}\delta_{5i}\Delta\ln(PIT_{t-1}) + \lambda ECMT_{t-1} + \varepsilon_{14i} \quad (3.5)\end{aligned}$$

A Priori Expectation: $\beta_1 > 0$; $\beta_2 > 0$; $\beta_3 > 0$; $\beta_4 > 0$.

Where: PCI = Per capita income, LTR = Literacy rate, PCI = Per capita income

CIT = Company income tax**,** VAT = Value added tax, EDT = Education tax, PIT = Personal income tax, β_0 = Slope of the Regression Line, β_1 = Parameter of company income tax, β_2 = Parameter of value added tax, β_3 = Parameter of education tax, β_4 = Parameter of personal income tax, μ_t = Error term

Data Analysis Techniques

The data analysis technique to be adopted was based on the outcome of the pre-estimation test. Hence, Autoregressive distributed lag (ARDL) technique was adopted in this study. ARDL is a least square method developed by Pesaran, Shin and Smith (2001) that allows us to include the lag values of the dependent and independent variables of a model while carrying out regression analysis. This technique was adopted because the outcome of the unit root test indicates that the series are of different order of integration 1(0) and 1(1) .

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RESULTS AND DISCUSSION

Descriptive Analysis

The descriptive statistics for the study variables are summarized in Table 4.1:

Table 4.1: Descriptive Statistics

	LEX	LTR	PCI	CIT	VAT	EDT	EDT
Mean	49.90060	64.97333	1818.260	786.3067	122.6880	684.1930	2210.641
Median	50.46850	63.53500	1912.900	507.8900	74.39000	441.5550	1371.670
Maximum	53.91800	79.54000	3201.000	4896.470	719.4400	3639.320	9061.440
Minimum	45.48700	51.08000	494.1000	12.27000	2.200000	11.80000	70.47000
Std. Dev.	2.695260	8.410763	768.6551	1018.456	150.1979	834.9840	2587.199
Skewness	-0.349757	0.173409	-0.229572	2.424525	2.187042	1.958668	1.494356
Kurtosis	1.797711	1.629462	2.125273	10.02819	9.251695	6.863190	4.144748
Jarque-Bera	2.418524	2.498322	1.219952	91.13597	72.77037	37.83719	12.80355
Probability	0.298417	0.286745	0.543364	0.000000	0.000000	0.000000	0.001659
Sum	1497.018	1949.200	54547.80	23589.20	3680.640	20525.79	66319.23
Sum Sq. Dev.	210.6684	2051.487	17134090	30080349	654222.5	20218749	1.94E+08

Source: *Authors' Computation, 2026 (EViews 12 Output).*

Table 4.1 above presents the descriptive statistics of research variables. The per capita income (PCI) recorded over the period a mean value of ₦1818.26 billion with a maximum of ₦3201 billion and minimum of ₦494.1 billion per annum. The standard deviation of per capita income (PCI) is ₦768.66 billion and this indicates that per capita income (PCI) has high deviation from the mean. A high dispersion of Per Capita Income (PCI) suggests that income levels per individual in Nigeria were highly volatile and uneven. Also, company income tax (CIT) recorded over the period a mean value of ₦786.31 billion with a maximum of ₦4896.47 billion and minimum of ₦12.27 billion per annum. The standard deviation of company income tax (CIT) is ₦1018.46 billion and this also indicates that company income tax (CIT) has high dispersion from the mean. High dispersion in company income tax (CIT) implies that the **tax revenue collected from companies fluctuated significantly** over the years. Furthermore, value-added tax (VAT) recorded over the period a mean value of ₦122.68 billion with a maximum of ₦719.44 billion and minimum of ₦2.2 billion on per annum. The standard deviation of value-added tax (VAT) is ₦150.19 billion and this indicates that value-added tax (VAT) has low dispersion from the mean. Additionally, education tax (EDT) recorded over the period a mean value of ₦684.19 billion with a maximum of ₦3639.32 billion and minimum of ₦11.8 billion per annum. The standard deviation of education tax (EDT) is ₦834.98 billion on and this indicates that education tax (EDT) has low deviation from the mean. Lastly, personal income tax (PIT) recorded over the period a mean value of ₦2210.64 billion with a maximum of ₦9061.44 billion and minimum of ₦70.47 billion per annum. The standard deviation of personal income tax (PIT) is ₦2587.20 billion and this indicates personal income tax (PIT) has low deviation from the mean.

Unit Root Test

The results of the unit root test are presented in table 4.2 below:

Table 4.2: Augmented Dickey-Fuller (ADF) Test Results

ADF						
Variables	**Level**	**Critical Value @ 5%**	**1st Difference**	**Critical Value @ 5%**	**I(d)**	**Stationary @**
$InPCI_t$	-1.589863	-2.954021	-4.931657***	-2.957110	I(1)	1st Difference
$lnCIT_t$	-1.797937	-2.954021	-4.352493***	-2.957110	I(1)	1st Difference
$lnVAT_t$	-0.314447	-2.971853	-3.958446***	-2.971853	I(1)	1st Difference
$lnEDT_t$	-0.294022	-2.954021	-6.471154***	-2.957110	I(1)	1st Difference

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$lnPIT_t$	-4.601562***	-2.954021	-	-	I(0)	Level

Note: *, **, and * denote significance at 10%, 5% and 1%, respectively**
Source: *Authors' Computation, 2026 (EViews 12 Output).*

Table 4.2 presents the summary results of the ADF Unit root tests carried out on all the variables in our model. The unit root test results showed that personal income tax (PIT) attained stability at levels. This is because the test statistic value of personal income tax (PIT) is greater than the Mackinnon critical value at 5% level of significance at level. This further indicates that personal income tax (PIT) was stationary at order zero [i.e., I(0)]. On the other hand, per capita income (PCI), company income tax (CIT), value-added tax (VAT) and education tax (EDT) attained stability after first differencing. This is because their test statistic values are greater than the Mackinnon critical value at 5% level of significance at first difference. This further indicates that per capita income (PCI), company income tax (CIT), value-added tax (VAT) and education tax (EDT) were integrated at order one [i.e., I(1)]. Conclusively, the attainment of mixed stationarity in the variables (that is stationary at order zero and stationary at order one) necessitated the use of ARDL in the estimation of the long run relationship among the variables and the error correction model.

Correlation Analysis

The results of the correlation are presented in Table 4.3:

Table 4.3: Correlation Matrix

	PCI_t	$lnCIT_t$	$lnVAT_t$	$lnEDT_t$	$lnPIT_t$
PCI_t	1				
$lnCIT_t$	0.013621	1			
$lnVAT_t$	0.6905	0.394352	1		
$lnEDT_t$	0.114263	0.287442	0.478713	1	
$lnPIT_t$	0.44948	0.583431	0.492063	0.681939	1

Source: *Authors' Computation, 2026 (EViews 12 Output).*

The result of the correlation matrix in Table 4.3 indicated that company income tax, value-added tax, education tax and personal income tax) all have weak positive relationships with per capita income. Hence, there is sufficient statistical evidence to conclude that there is absence of multicollinearity problem among the independent variables.

ARDL Bound Cointegration Test

Table 4.4: ARDL Bounds Cointegration Test

	Critical Value Bound		**F-Statistics**
$F_{PCI}(lnCIT_t/lnCIT_t, lnVAT_t, lnEDT_t, lnPIT_t)$			7.525788***
K = 4			
Significance	I(0) Bound	I(1) Bound	
10%	2.2	3.09	
5%	2.56	3.49	
2.5%	2.88	3.87	
1%	3.29	4.37	

Note: Null hypothesis: No level relationship; K = number of regressors; *, ** and *** denote significance at 10%, 5% and 1% level, respectively.
Source: *Authors' Computation, 2026 (EViews 12 Output).*

In order determine if there is cointegration among per capita income (PCI), company income tax (CIT), value-added tax (VAT), education tax (EDT) and personal income tax (PIT), bounds test was conducted. The result of ARDL Bounds correlation test in Table 4.4 showed that bound test indicates presence of long run relationship among per capita income (PCI), company income tax (CIT), value-added tax (VAT), education tax (EDT) and personal income tax (PIT) given that the F-statistics value of 7.525788 is higher than the 5% upper bound critical value of 3.49. By this, the

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null hypothesis is rejected, which leads to the study concluding that there is cointegrating relationship among the variables. The confirmation of long run dynamics among the variables further necessitated the estimation of the extent of the relationship between the dependent and independent variables through estimation of Autoregressive Distributed Lag (ARDL) model.

Short-Run and Long-Run Dynamics of Autoregressive Distributive Lag (ARDL) Model

The short-run and long-run dynamic effect of company income tax, value-added tax, education tax and personal income tax on per capita income in Nigeria estimated using Autoregressive Distributive Lag (ARDL) approach. The results of the estimation are presented in Table 4.5:

Table 4.5: Estimated Long-Run and Short-Run Coefficients of ARDL

Dependent Variable = PCI_t				
Short-Run Results				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
$D(lnPCI_{t-1})$	0.321573	0.197655	1.626939	0.1348
$D(lnPCI_{t-2})$	0.502693	0.267993	1.875770	0.0901
$D(lnPCI_{t-3})$	0.371120	0.268664	1.381351	0.1973
$D(lnCIT_t)$	0.933933	0.080572	11.59122	0.0003
$D(lnCIT_{t-1})$	0.550132	0.193367	2.845011	0.0466
$D(lnCIT_{t-2})$	0.176004	0.387776	0.453879	0.6596
$D(lnVAT_t)$	0.176203	0.568200	0.310108	0.7628
$D(lnEDT_t)$	-0.268178	0.056021	-4.787133	0.0087
$D(lnEDT_{t-1})$	-0.340463	0.210434	-1.617906	0.1368
$D(lnEDT_{t-2})$	-0.204432	0.198279	-1.031031	0.3268
$D(lnPIT_t)$	0.254345	0.050946	4.992429	0.0075
$D(lnPIT_{t-1})$	1.040378	0.141161	7.370170	0.0018
$D(lnPIT_{t-2})$	-0.620410	0.442659	-1.401552	0.1913
CointEq(-1)*	-0.907784	0.244971	-3.705683	0.0041
R^2 = 0.702507 Adjusted R^2 = 0.558014 Durbin-Watson stat = 2.363173				
Long-Run Results				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
$lnCIT_t$	2.101405	0.558353	3.763576	0.0328
$lnVAT_t$	0.125745	0.959461	0.131058	0.8983
$lnEDT_t$	-0.402132	0.121911	-3.298575	0.0300
$lnPIT_t$	4.525641	0.758657	5.965335	0.0040
C	7.636586	1.213579	6.292614	0.0001
EC = LOG(PCI) - (0.9339*LOG(CIT) + 0.1257*LOG(VAT) -0.4021*LOG(EDT) + 4.5256*LOG(PIT) + 7.6366)				

Source: *Authors' Computation, 2026 (EViews 12 Output).*

INTERPRETATION OF SHORT-RUN AND LONG-RUN AUTOREGRESSIVE DISTRIBUTIVE LAG (ARDL) ESTIMATION MODEL RESULTS

Company Income Tax (CIT) and Per Capita Income (PCI)

The short-run estimates of the ARDL model are shown in Table 4.5. The results revealed that company income tax has a positive and significant effect on per capita income in Nigeria. This is evident by the positive coefficient value (0.933933) of company income tax at initial level and its p-value (0.0003) which is less than 0.05. This implies that a unit increase in company income tax will lead to 0.933933 increase in per capita income in the short-run. Also, the long-run estimates of the ARDL model results revealed that company income tax has a positive and significant effect on per capita income in Nigeria. This is evident by the positive coefficient value (2.101405) of company income tax and its p-value

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(0.0328) which is less than 0.05. This implies that a unit increase in company income tax will lead to 2.101405 increase in per capita income in the long-run.

Value-Added Tax (VAT) and Per Capita Income (PCI)

Furthermore, the short-run estimates of the ARDL model are shown in Table 4.15. The results revealed that value-added tax has a positive and non-significant effect on per capita income in Nigeria. This is evident by the positive coefficient value (0.176203) of value-added tax at initial level and its p-value (0.7628) which is greater than 0.05. This implies that a unit increase in value-added tax will lead to 0.176203 increase in per capita income in the short-run. Also, the long-run estimates of the ARDL model results revealed that value-added tax has a positive and non-significant effect on per capita income in Nigeria. This is evident by the positive coefficient value (0.125745) of value-added tax and its p-value (0.8983) which is greater than 0.05. This implies that a unit increase in value-added tax will lead to 0.125745 increase in per capita income in the long-run.

Education Tax (EDT) and Per Capita Income (PCI)

Moreover, the short-run estimates of the ARDL model are shown in Table 4.5. The results revealed that education tax have negative and significant effect on per capita income in Nigeria. This is evident by the negative coefficient value (-0.268178) of education tax at initial level and its p-value (0.0087) which is less than 0.05. This implies that a unit increase in the education tax will lead 0.268178 decrease in per capita income in the short-run. Also, the long-run estimates of the ARDL model results revealed that education tax have negative and significant effect on per capita income in Nigeria. This is evident by the negative coefficient value (-0.402132) of education tax and its p-value (0.0300) which is less than 0.05. This implies that a unit increase in education tax will lead to 0.402132 decrease in per capita income in the long-run.

Personal Income Tax (PIT) and Per Capita Income (PCI)

Moreover, the short-run estimates of the ARDL model are shown in Table 4.5. The results revealed that personal income tax have positive and significant effect on per capita income in Nigeria. This is evident by the positive coefficient value (0.254345) of personal income tax at initial level and its p-value (0.0075) which is less than 0.05. This implies that a unit increase in the personal income tax will lead to 0.254345 increase in per capita income in the short-run. Also, the long-run estimates of the ARDL model results revealed that personal income tax have positive and significant effect on per capita income in Nigeria. This is evident by the positive coefficient value (4.525641) of personal income tax and its p-value (0.0040) which is less than 0.05. This implies that a unit increase in personal income tax will lead to 4.525641 increase in per capita income in the long-run.

Interpretation of CointEq(-1) Result

The results of the short run dynamic coefficients associated with the long-run relationships obtained from the error correction model are given in Table 4.5. The signs of the short-run dynamic interactions are consistent with that of the long run relationship. The estimated error correction coefficient of -0.907784 (with p-value of 0.0041) is highly significant, has the correct sign, and implies a high speed of adjustment to equilibrium after a shock. This implies that approximately 91% of disequilibria from the previous year's shock converge back to the long run equilibrium in the current year.

Interpretation of Adjusted R-Squared (Adj. R^2) Value

The Adjusted R-squared value of 0.558014 from the results of the short-run estimates of the ARDL model in Table 4.5 indicated that the estimated model is well fitted as the systematic changes in explanatory variables (company income tax, value-added tax, education tax and personal income tax) explained approximately 56 percent (R-squared) variation in per capita income while the remaining 44% is explained by other variables of factors outside the model.

Interpretation of Durbin-Watson Statistic Value

Lastly, Durbin-Watson stat of 2.363173 which is greater than 2 indicates the absence of serial autocorrelation.

Post-Estimation Tests

The results of the diagnostic tests are presented and discussed below:

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Table 4.6: Post-Estimation Test Results

Test	Null Hypothesis	X^2 Value	X^2 Prob	Remark
Jarque-Bera	Normal distribution exists	0.098971	0.911285	Normal residuals
Breusch-Godfrey LM	Serial correlation does not exist	1.322006	0.3191	Serial independence
Breusch-Pagan-Godfrey	Homoscedasticity exists	1.802525	0.1712	Constant Variance
Ramsey RESET	Model is stable	3.896566	0.0798	Correctly specified model

Source: *Authors' Computation, 2026 (EViews 12 Output).*

The Jarque Bera (Normality) test result in Table 4.6 shows that the probability value (0.911285) is greater than 0.05 level of significance which imply that the null hypothesis of Normal distribution cannot be rejected. Thus, this necessitates the acceptance of null hypothesis and therefore concludes that the model is normally distributed. In addition, the Breusch-Godfrey Serial Correlation LM test result in Table 4.6 shows that the probability values (0.3191) is greater than 0.05 level of significance which imply that the null hypothesis of no serial correlation cannot be rejected. Thus, this necessitates the acceptance of null hypothesis and therefore concludes that the model has no serial correlation problem. Also, the Breusch-Pagan-Godfrey heteroskedasticity test result in Table 4.6 shows that the probability values (0.1712) is greater than 0.05 level of significance which imply that the null hypothesis of homoscedasticity cannot be rejected. Thus, this necessitates the acceptance of null hypothesis and therefore concludes that the model has homoscedasticity. This implies that relevant variables were not omitted. Lastly, the Ramsey RESET test result in Table 4.16 shows that the probability values (0.0798) is greater than 0.05 level of significance which imply that the null hypothesis of correctly specified cannot be rejected. Thus, this necessitates the acceptance of null hypothesis and therefore concludes that the model is correctly specified. This implies that the functional form of the model is correct.

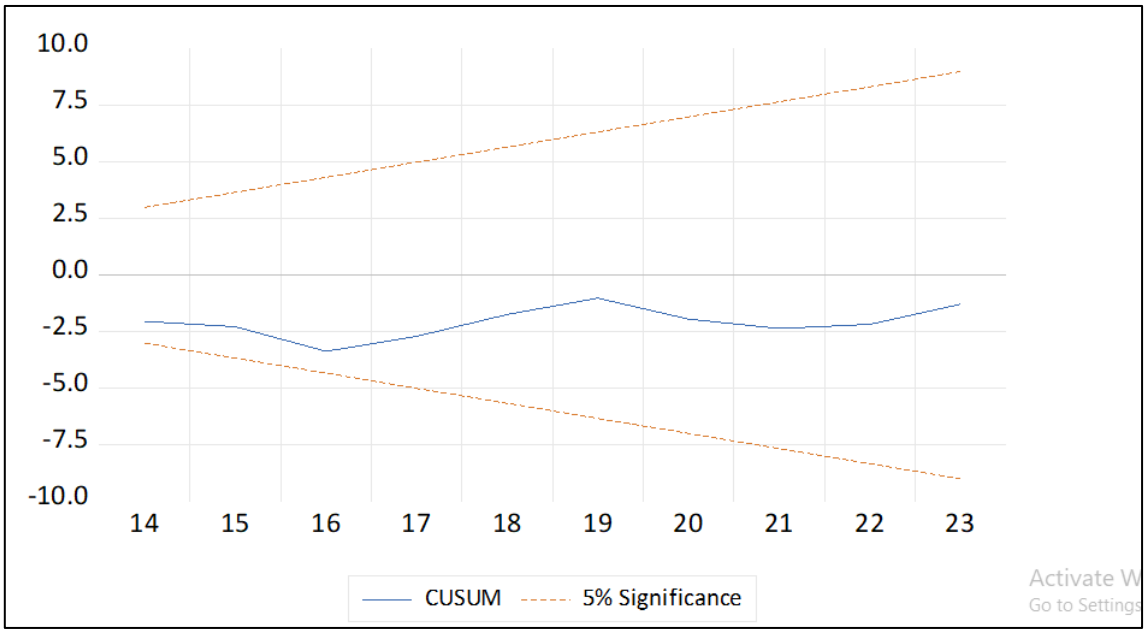

Figure 4.1: Stability Cusum Test

The cumulative sum (CUSUM) indicates that the CUSUM line stayed within the 5 percent critical bound while neither did CUSUM plot crosses the 5 percent critical lines. The implication of this is that there is stability of the long-run coefficients of the study variables.

DISCUSSION OF FINDINGS

The results of the short-run and long-run estimates revealed that company income tax has positive and significant effect on per capita income in Nigeria both in the short-run and in the long-run. The finding also relates to the finding of Clement,

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Ayobolawole and Oladimeji (2019) who established that company income tax has positive effects on economic development in Nigeria in the long-run but mixed effects in the short-run. Also, the results of the short-run and long-run estimates revealed that value-added tax has positive and non-significant effect on per capita income in Nigeria both in the short-run and in the long-run. This finding conforms to the finding of Obayori and Omekwe (2019) who ascertained that outcome showed that value-added tax has a positive effect on Gross Domestic Product (GDP) as a parameter for measuring economic growth.Moreover, the results of the short-run and long-run estimates revealed that education tax have negative and significant effect on per capita income in Nigeria both in the short-run and in the long-run. This finding conforms to the finding of Osho and Efuntade (2019) revealed that education tax impacted negatively on investment, social and economic development in Nigeria although the impact was insignificant. Lastly, the results of the short-run and long-run estimates revealed that personal income tax have positive and significant effect on per capita income in Nigeria both in the short-run and in the long-run. This finding conforms to the finding of Inyiama and Ubesie (2022) whose findings revealed the Customs and Excise Duties are some of the major contributors to Nigeria Gross Domestic Product in Nigeria.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study determined the effect of taxation on standard of living in Nigeria from 1990 to 2023.
Premised on the findings, the study concluded that taxation play a vital role in improving standard of living in Nigeria.

Recommendations

The following recommendations are proffered based on the findings of this study:
First, the government should strengthen and optimize the administration of company income tax and personal income tax, given their positive and significant impact on per capita income. This can be achieved through improved tax compliance mechanisms, digitalization of tax collection systems, and reduction of tax evasion and avoidance.

Second, there is a need to reform the education tax system, considering its negative and significant effect on per capita income. Policymakers should review the structure, utilization, and transparency of education tax funds to ensure that they are efficiently allocated to impactful educational projects.

Third, the government should enhance the effectiveness of value-added tax (VAT) by improving its productivity and ensuring that the revenue generated is channeled into visible developmental projects.

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