

An Extensive Examination of Taxation as an Accelerator for Economic Growth in Nigeria

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Abstract:- This study looks at how taxes affect Nigeria's economic development. A time series dataset from 1996 to 2021 was estimated using a short run Autoregressive Distributed Lag [ARDL(2,1,0,0)]. The dataset was collected from FIRS. The impacts of Value Added Tax (VAT), Company Income Tax (CIT), Personal Income Tax (PIT), and Petroleum Profit Tax (PPT) on Nigeria's Gross Domestic Product were particularly examined in this study. The findings showed that while personal income tax and value added tax have a short-term negative impact on economic growth, corporation income had a considerable beneficial impact on Nigeria's economic expansion. In addition, petroleum profit tax has positive but insignificant effect on economic growth in the long run. Therefore, striking the right balance between tax rates, economic incentives and compliance is crucial. The Laffer curve theory provides valuable insights into finding the optimal tax rate that maximizes revenue. This can be done balancing the incentives for economic activity against the burden of taxation, finding the optimal rate varies depending on various economic factors and the taxpayer behaviour. The study suggests that offering targeted tax incentive for investments, innovation, and entrepreneurship. These incentives can include tax breaks for specific sectors, research and development activities, and job creation initiatives.

Keywords: Economic Growth, Taxation, Tax Systems, Revenue, Sustainable Development

I. INTRODUCTION

Since taxes are often seen as a highly potent tool of fiscal policy, governments throughout the world have set up systems to optimize the amount of money they can raise from the various tax components. Due to the growing responsibilities of modern government, it is imperative that all governments, regardless of their sociopolitical inclinations, generate sufficient revenue to meet their challenges—challenges that go beyond the consideration of private interests (Dibia & Onwuchekwa, 2019; Aliyu & Mustapha, 2020). Any country's potential to expand and

develop depends on its financial resources as well as its other human and material resources (Charles et al., 2018). However, over the years the Nigerian government have witnessed a high level of tax evasion due to the high taxes imposed on its citizens and business and the unwillingness to pay tax due to the poor standard of living and the high cost of running business (Onwuchekwa & Aruwa, 2014). According to Statista (2023), in the first quarter of 2021, the federal government generated ₦1.53 Trillion (\$3.9 billion) from taxes, which is only 72.3% of its target for the period. In 2020, Nigeria's tax revenue to GDP ratio was only 6.1%, which is one of the lowest in the world and significantly lower than the average for sub-Saharan Africa (15.9%) and the global average (15.1%) (Statista, 2023). Additionally, only 32 million out of the estimated 200 million Nigerians pay taxes, and less than 10% of registered taxpayers actually pay their taxes (IMF, 2023). This has presented a challenge for economic growth given that scholars like Akintoye (2013), has purported that the problems of tax collection which has reflected on the tax revenue generated has been amongst the root causes behind the problem of economic growth in Nigeria.

While taxes are always taken into account overall, there are several other types of taxes, such as corporation income tax, value-added tax, personal income tax, and petroleum profit tax. Adefolake & Omodero (2022) note that the petroleum profit tax, which as of 2020 was at 65.75% for non-PSC operations, including joint ventures (JVs), accounts for the majority of Nigeria's revenue. During the first five years of the JV, the company had not fully amortized all pre-production capitalized expenditure; 85% for activities that are not PSC after the first five years and 30% of the income from upstream gas. However, given the recent persistent drop in oil price [from \$63.27 per barrel in 2020, to \$62.26 per barrel in 2021 and to \$60.74 per barrel in 2022 (Statista, 2023)], this has prompted the Nigerian government to consider the other categories of tax. Nevertheless, the abandonment of the other categories over the years has made it difficult to accrue any for the government to realize reasonable revenue from these other tax sources.

Tax income has been extremely low throughout time, and little real physical development has occurred (Alexander et al., 2019). This is evident as the tax revenue in 2019 was about \$13 billion, then declined to \$12.8 billion in 2020 and then further declined to \$10.9 billion in 2021 (Adefolake & Omodero, 2022). This decline has resulted in a fall in government expenditure on social amenities such that there have been an increased incessant lamentation of the people to infrastructure decay and the government justification of inadequate fund to attend to provisions of these amenities (Amahalu et al., 2022).

Based on research, it has been understood that a more innovative mode of tax collection will result in increased tax revenue which will increase the level of government expenditure and in turn increasing employment rate; which end result is increased economic growth (Edori, 2022). This statement has been proven between 2005 and 2007 as the GDP growth rate increased from 5.6% in 2005, to 6.2% in 2006 and to 6.4% in 2007 (Statista, 2023); of which scholars suggested that this increase was as a result of the rise in tax revenue given that tax revenue rose from \$6.63 billion in 2005, to \$10.1 billion in 2006 and to \$11.1 billion in 2007 (Ezekwesili & Ezejiofor, 2022). This backed the idea of (Ojong et al., 2016), as he proposed that the ability of the government to increase its tax revenue by improving its tax collection pattern can raise its GDP growth rate and better the condition of the economy. Several scholars have analysed this problem and have purported that the decline in tax revenue is the root cause behind the economic plagues in Nigeria. Therefore, this study seeks to achieve the following objectives:

- To assess how the personal income tax has affected Nigeria's GDP over time.
- To look into how Value Added Tax affects Nigeria's GDP over the long term.
- To determine how the Company Income Tax would affect Nigeria's GDP over the long term.
- To ascertain how the Petroleum Profit Tax would affect Nigeria's GDP over the long term.

II. LITERATURE REVIEW

Although tax money is a legitimate source of funding for governments, there is ongoing debate in the literature about the best amount of tax revenue to levy in order to promote growth without unfairly raising welfare costs.

Aminadokiari et al. (2018) used time series data spanning the years 1980 to 2015 using the Ordinary Least Square (OLS) approach of data analysis to conduct an empirical investigation of tax revenue and economic development in Nigeria. The findings indicated that the petroleum profit tax, corporate income tax, and customs and excise charges had no appreciable effect on Nigeria's GDP, leading the authors to draw the conclusion that, when implemented correctly and methodically, taxes may have a beneficial effect on the economy. Asaolu et al. (2018) carried on in this vein when they examined the connection

between tax revenue and economic growth in Nigeria while taking into account the topics covered by the most fundamental types of taxation. Their study's findings demonstrated that whereas CIT had a negative significant association with GDP, VAT and CED had a significant relationship with GDP. Nonetheless, there was no discernible correlation between PPT and GDP. Consequently, it was determined that taxes on value-added, corporate income, petroleum profits, and customs and excise have a major beneficial influence on Nigeria's economic expansion.

In his study on the impact of tax structure on economic development in Nigeria, Manukaji (2018) took a somewhat different tack. He used the Ordinary Least Square (OLS) model to analyze a time series dataset spanning from 1994 to 2016. The study concluded that tax structure has a positive significant effect on economic growth in Nigeria during the review period and found that all the tax components studied—value added tax revenue, personal income tax revenue, petroleum profit tax revenue, and company income tax revenue—had a significant effect on Nigeria's GDP. According to the report, closing tax administration loopholes will greatly increase tax income and aid in the growth of the economy. Etim et al. (2020), using comparable procedures, looked studied the connection between tax revenue components and economic development in Nigeria between 1989 and 2018. The Vector Error Correction Mechanism (VECM) was used to analyze an annual time series dataset. The results showed that while education, customs, and excise duties have a negative impact on economic growth, there is a positive and significant relationship between GDP and Personal Income Tax, Petroleum Profit Tax, and Company Income Tax. Therefore, the research suggested that careful consideration should be given to tax policy by the government in order to promote interventionist efforts that will accelerate economic growth.

A few important theories in this area have been the Laffer curve theory, the optimal tax theory, and the Neoclassical growth theory. Economic theories of taxation also address the issue of how to reduce the loss of economic welfare through taxes and how a country can carry out wealth redistribution in the most effective way.

A. Neoclassical Growth Theory

In the 1950s and 1960s, Robert Solow and Trevor Swan separately created the Solow-Swan growth model, which is another name for the Neoclassical growth theory. For his contributions to this theory, Solow was granted the 1987 Nobel Prize in Economic Sciences (Lansing, 1999). By analyzing the interactions between capital accumulation, technical advancement, and population expansion, the neoclassical growth theory seeks to explain long-term economic growth (Sen, 1987). Perfect competition, declining returns on capital, and external technical advancement are the key tenets. According to Temel et al. (2021) perfect competition presupposes that all businesses and individuals are price takers, with no control over market pricing. It is implied by diminishing returns to capital that

the additional production obtained from each new unit of capital decreases as the stock of capital rises. According to Ayres (2001), exogenous technological development postulates that advancements in technology happen irrespective of economic reasons.

According to the argument, technical advancement is ultimately what propels a nation's economic prosperity. Growth is aided by increases in the capital stock, but with time, the effect of capital accumulation on production decreases due to decreasing returns to capital. In contrast, it is believed that technological advancements are the main force behind long-term economic expansion since they enable productivity and production gains that surpass the constraints of capital accumulation. According to Bird and Zolt (2003), taxes can have both positive and negative effects on economic growth in Nigeria when seen through the lens of Neoclassical growth theory. Taxes are, on the one hand, required to pay for public goods and services, which support economic growth. Furthermore, while saving, investing, and entrepreneurship are essential for economic growth, well-thought-out and effective taxation regimes can offer incentives for these activities (Ho et al., 2007). However, by discouraging productive activities, lowering investment incentives, and causing distortions in resource allocation, high taxing or ineffective tax regimes can impede economic growth (Mulder et al., 2001).

B. Optimal Tax Theory

The optimal tax theory, rooted in public finance and welfare economics, seeks to determine the ideal tax policy that maximizes economic efficiency and social welfare (Lansing, 1999; Kopcuk, 2010). It aims to find the tax structure and tax rates that can strike a balance between generating necessary government revenue and minimizing the distortionary effects of taxation on economic behaviour. The theory assumes that individuals and businesses seek to maximize their own utility or profits and will respond to changes in tax policy by altering their behaviour (Samuelson, 1951). It also assumes that there are diminishing marginal returns to income, implying that as income increases, the impact of taxation on economic decisions becomes more significant (Slemrod, 1990).

The theory states that there exists an optimal tax structure and tax rate that maximizes economic welfare by considering the trade-off between government revenue generation and the distortionary effects of taxation on economic behaviour (Fredriksson, 1997; Jacobs, 2013). The optimal tax theory analyses the effects of taxation on various economic decisions, such as labour supply, savings, investment, and consumption (Hassett & Hubbard, 1997). It recognizes that higher tax rates can reduce the incentive to work, save, invest, and engage in productive activities. Conversely, lower tax rates can encourage these activities by providing individuals and businesses with more incentives to participate in the economy (Holter et al., 2019). The relevance of the theory lies in its potential to guide policymakers in designing tax policies that can foster economic growth while ensuring sufficient government revenue. By understanding the trade-offs involved,

policymakers can strive to strike a balance that maximizes economic welfare (Hassett & Hubbard, 1997; Chirinko, 1986; Hayashi, 1982).

C. The Laffer Curve Theory

The Laffer curve theory, named after economist Arthur Laffer, suggests a relationship between tax rates and tax revenue. Arthur Laffer postulated this theory in the 1970s as a response to the prevailing belief that increasing tax rates would always lead to higher tax revenues (Laffer, 2004). Laffer (2004), argued that there exists an optimal tax rate beyond which further increases would have a detrimental effect on tax revenue (Trabandt & Uhlig, 2009). This theory gained prominence due to its implications for economic growth and fiscal policy. According to the Laffer curve theory, tax revenue is affected by the tax rate applied to individuals and businesses. At very low tax rates, the government collects minimal revenue because there is little incentive for individuals to work, invest, or report their income (Gordon & Slemrod, 1998). Conversely, at very high tax rates, the theory suggests that tax revenue may decline due to the disincentives it creates for productive activities (Hsing, 1996). The Laffer curve visualizes this relationship in the form of a curve. At low tax rates, as the tax rate increases, tax revenue initially rises due to the increase in taxable income. However, at a certain point, further increases in the tax rate lead to diminishing returns (Laffer, 2004). Taxpayers become discouraged from engaging in economic activities, as the burden of taxation outweighs the benefits (Mirrlees, 2012). This results in a decline in tax revenue despite the higher tax rate.

In the context of Nigeria's economic growth, the Laffer curve theory suggests that excessively high tax rates could hamper economic activity and reduce tax revenue. If tax rates in Nigeria are beyond the optimal point on the Laffer curve, lowering the tax rates could potentially stimulate economic growth by incentivizing individuals and businesses to work, invest, and report their income. The theory implies that finding the appropriate tax rate is crucial for maximizing tax revenue while supporting economic growth.

III. METHODS AND DISCUSSION OF RESULTS

This study's motivation for doing an empirical examination came from Etim et al.'s (2020) recommendations as well as the Laffer Curve. Thus, value added tax (X_2), corporation income tax (X_3), petroleum profit tax (X_4), and personal income tax (X_1) were taken into account in relation to economic development (Y).

Equation 1 specifies the functional form.

$$Y = f(X_1, X_2, X_3, X_4) \dots \dots \dots \quad (1)$$

To enhance the numerical accuracy of the estimate, all the variables were used in their logged form. Equation 1 therefore converts to the econometric form represented by Equation 2:

$$\ln Y = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + \varepsilon \dots \dots \dots \quad (2)$$

Table 1. Description of Variables

Variable	Description	N	Mean	Std. Deviation
Y	Gross Domestic Product (₹ Trillion)	26	26.09125	0.853120
X ₁	Personal Income Tax (₹ Billion)	26	5.745928	0.427837
X ₂	Value Added Tax (₹ Billion)	26	6.449790	0.642763
X ₃	Company Income Tax (₹ Billion)	26	6.544955	0.610719
X ₄	Petroleum Profit Tax (₹ Billion)	26	8.235804	0.622482

where ε is the model's stochastic term and β₁ are the target parameter values of the variable coefficients. The study utilized secondary time series datasets from Federal Inland Revenue Service (2022) and World Bank Indicators (2021) spanning the years 1996 to 2021. The Augmented Dickey-Fuller (ADF) test was utilized in the unit root test to discover the stationarity level of each variable and to choose the model to be used. Table 2 displays the summary of the findings.

Table 2: Result for the Augmented Dickey Fuller unit root test

Variables	Test Statistic At Level		Test Statistic At 1 st Difference		Order of Integration
	ADF	Critical Value (5%)	ADF	Critical Value (5%)	
LnY	-1.9071	-2.9862	-3.1824	-2.9919	I(1)
LnX ₁	-1.3781	-2.9919	-12.510	-2.9919	I(1)
LnX ₂	-1.7594	-2.9862	-5.1578	-2.9919	I(1)
LnX ₃	-3.4168	-2.9919			I(0)
LnX ₄	-1.0542	-2.9862	-4.5374	-2.9981	I(1)

Source: Author's Compilation using EVIEWS12

The stationarity level of the model's variable is displayed in Table 2. Company income tax (X₃) was found to be stationary at level, or order I(0), at the 5 percent significance level. Other taxes, on the other hand, were found to be stationary at first difference, or order I(1). The study used the Autoregressive Distributive Lag (ARDL) model for parameter estimation since the variables' levels of stationarity vary. Lag 3 was found to be the maximum of the ARDL model using the VAR Lag Order Selection Criteria and the Akaike Information Criterion (AIC). Furthermore, it was determined that the model has a long-term connection based on the results of the ARDL Bounds test, which are displayed in Table 3 (where the F-statistic value is proven to be bigger than the lower bound). Consequently, a long-term model was calculated and is shown in Table 4.

Table 3. ARDL Bounds Test

Test Statistic	Value	k
F-statistic	6.602012	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Null Hypothesis: No long-run relationships exist; Included observations: 24

Table 4: Autoregressive Distributed Lag (ARDL) Test Result
Dependent variable: Y

Included observations: 24 after adjustments				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (2 lags, automatic): LnX ₁ LnX ₂ LnX ₃ LnX ₄				
Fixed regressors: C		Number of models evaluated: 162		
Selected Model: ARDL(2, 1, 0, 0)		Maximum dependent lags: 2 (Automatic selection)		
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LnY(-1)	-0.1542	0.1063	-1.4512	0.1660
LnX ₁	-1.2365	0.9288	-1.3313	0.2018
LnX ₁ (-1)	-0.1473	0.0598	-2.4649	0.0254
LnX ₂	-0.2278	0.6056	-0.3761	0.7118
LnX ₃	2.9338	1.2917	2.2714	0.0373
LnX ₄	1.7219	1.6204	1.0626	0.9195
C	1.8640	18.1635	0.1026	0.9195

<i>R-squared</i>	0.9915	<i>Mean dependent var</i>	26.2081
<i>Adjusted R-squared</i>	0.9878	<i>S.D. dependent var</i>	0.7784
<i>Sum squared resid</i>	0.1184	<i>Akaike info criterion</i>	-1.8069
<i>Log likelihood</i>	29.6828	<i>Durbin-Watson stat</i>	1.9443

*(**) = significant at 5% (1%)

F-statistic = 266.64

Prob(F-statistic) = 0.00

R^2 (0.9915) in the ARDL model indicates that the independent factors predict 99.1% of the dependent variable. The whole model is statistically significant when the F-statistics probability of 0.00 is less than 0.05 and the coefficient of the F-statistics is 266.64, which is more than an absolute value of 1.96. According to the results, personal income tax was predicted for the current year and lag 1. It was shown to have no major impact on GDP in the current year, but in the lag 1 year, it had a substantial impact at 5%. Stated differently, the impact of personal income tax on economic development in Nigeria is not very large in the near term, but it is substantial over the long term. Additionally, the outcome demonstrates that the GDP's lag 1 has a negligible ($p < 0.05$) impact on the GDP's growth in the current year. Remarkably, lag 1 had a detrimental impact. This suggests that if the GDP growth in the prior year was not significant, then the influence of GDP in the prior year has a negative effect on the GDP growth in the current year. According to the correlation between the GDP of the current year and its lag (1), Nigeria's economic development is often unstable and unsustainable. Value-added tax effects are one of the issues affecting GDP growth. The outcome demonstrates that the value added tax has a small but detrimental impact on economic expansion. However, it was discovered that one of the main drivers of Nigeria's economic expansion was the corporation income tax. The regression result illustrates that, at the 5 percent level, corporate income tax had a positive and substantial influence on GDP. This suggests that raising the company income tax stimulates economic growth. The outcome also demonstrates that, despite the recent sharp drop in oil prices and, consequently, oil income, the petroleum profit tax has a positive impact on GDP, although one that is not statistically significant.

IV. CONCLUDING REMARKS AND SUGGESTIONS

This study looked at how taxes affected Nigeria's economic expansion. The study's scope encompassed the years 1996–2021. Data on yearly time series within a range of years were used in the study. A thorough examination of the tax system and its effects produced a number of important conclusions. The impacts of Value Added Tax (VAT), Company Income Tax (CIT), Personal Income Tax (PIT), and Petroleum Profit Tax (PPT) on Nigeria's Gross Domestic Product were particularly examined in this study. The findings showed that while personal income tax and value added tax have a short-term negative impact on economic growth, corporation income had a considerable beneficial impact on Nigeria's economic expansion. Furthermore, over time, the petroleum profit tax has a small but favorable impact on economic growth. Nonetheless, the personal income tax has a notable adverse impact on Nigeria's economic development in the near term.

Therefore, striking the right balance between tax rates, economic incentives and compliance is crucial. The Laffer curve theory provides valuable insights into finding the optimal tax rate that maximizes revenue. This can be done balancing the incentives for economic activity against the burden of taxation, finding the optimal rate varies depending on various economic factors and the taxpayer behaviour. Nigeria can create more conducive tax environment that promotes economic growth, attracts investment and ensure a fair distribution of the tax burden. To achieve this, the tax system should be fair, transparent and simplified as possible, and the government should reduce red tapes, desists from corrupt practices such as embezzlement of public fund and manipulation of tax figures as the simplification of tax code, reducing administrative complexities, introducing clearer tax regulations can enhance taxpayer understanding and compliance. There should also be concerted effort towards maximizing the social welfare of the citizens such as improved quality education, health care system, protection of lives and properties etc; as this would help the tax payers to realise the essence of their tax contribution thereby mitigating the adverse effects of tax avoidance and evasion in the Nigerian economy. In addition, offering targeted tax incentive for investments, innovation, and entrepreneurship. These incentives can include tax breaks for specific sectors, research and development activities, and job creation initiatives.

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