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Determinants of Value-Added Tax and Economic Performance in Nigeria

Andabai Priye Werigbelegha
&
Oyakegha Ekiyeghazi Samuel
Department of Banking and Finance
Niger Delta University, Bayelsa State, Nigeria
priyehc@yahoo.com

Abstract
This study assessed the effect of value-added tax (VAT) on Nigeria's economic performance, spanning the years 1994 to 2023. Utilising secondary data obtained from the Central Bank of Nigeria bulletin, 2023, the study employed an ex post facto design. VAT and federal government revenue are considered independent variables of the dependent variable, gross domestic product (GDP). To verify the formulated hypotheses, the Ordinary Least Squares estimation was employed. According to the findings, VAT has a substantial and positive implication on Nigeria's GDP according to the study's findings. Additionally, government revenues have a substantial negative effect on Nigeria's GDP. The coefficient of determination suggests that changes in the value-added tax variables account for approximately 72% of the observed variations. The study found that VAT has made a substantial contribution to the Nigerian economy's expansion and progress. Hence, the study advises that the government and tax and revenue agencies should implement proactive measures and procedures to oversee the flow of taxes and revenues received by the nation, as well as ensure the efficient distribution of revenues among different economic sectors. An expansion of VAT bases is necessary to incorporate the informal sector into the VAT system, thereby potentially deterring evasion. This will empower the government to generate sufficient revenue to address the challenges posed by its expenditures, including the provision of social amenities and operational costs.

Keywords: Value, Added, Tax Economic, Performance, Government Revenue, Expenditure.

Introduction
The topic of revenue mobilisation has garnered significant scholarly interest in numerous developing economies (Zulal, 2017; Mario & Grégoire, 2023). Numerous developing economies have garnered attention for implementing stabilisation and adjustment policies that require more effective and efficient revenue-raising methods. The primary objective of these policies is to mitigate superfluous dependence on external assistance, effectively address macroeconomic obstacles, impose limitations on borrowing, and augment overall economic efficacy. According to Emmanuel (2010), Nigeria's government came to this realisation at a critical juncture when its primary revenue generator for decades, oil, experienced an unparalleled crisis and decline as a result of the worldwide decline in oil prices. This had an impact on the nation's overall revenue and government performance at

multiple levels. To achieve these objectives, the government has implemented economic policies that promote enhanced growth, establish a strategic competitive edge, and facilitate increased international trade and investment (Kiabel & Nwokah, 2019; Tran, 2018). These infrastructure projects require substantial financial investments and resources. Additionally, value-added taxation serves as a method to finance infrastructure advancements that support the provision of social goods. These goods may include necessities like defence against external aggression, upholding law and order and controlling commerce and business to guarantee long-term social and economic viability (Edame & Okoi, 2014).

In the interim, the implementation of effective taxation strategies could contribute to the enhancement of the government's revenue position, the reduction of public sector financing needs, the mitigation of dependence on aid and commodity exports, and the promotion of national ownership over development agendas. Furthermore, enhanced revenue mobilisation and improved tax management could strengthen the relationship between the private sector and civil society while bolstering tax revenue performance. Furthermore, increased confidence in the government's ability to judiciously use tax revenue to provide fundamental services contributes to a solid foundation of trust in the government, which in turn increases tax compliance.

Statement of the Problem

The value-added tax has emerged as a significant revenue stream for the government. In light of its significance to the nation's income base, the Federal Government of Nigeria anticipates to increase in the rate of VAT levied on products. However, the perception of the populace differs (Afuberoh & Okoye, 2022). However, despite the substantial revenue generated by VAT tax and stamp duty in Nigeria for governmental treasuries, concerns remain regarding the insufficiency of funds to support various sectors such as healthcare, education, infrastructure, transportation, housing, power, road construction, and national defence. Nigerian citizens have voiced their discontent regarding substandard facilities, stagnant economic growth, elevated unemployment rates, and inadequate power infrastructure. As an illustration, Emmanuel and Charles (2015) assert that the majority of the population in Nigeria continues to languish in abject poverty, subsisting on less than one US dollar per day.

Several scholars, including Nwadialor and Ekezie (2016) and Akwe (2014), have documented that VAT has had a substantial influence on economic expansion. Conversely, the examination of the relationship between VAT and economic performance has produced inconclusive results. The valuable added tax has a substantial effect on per capita income and economic growth, according to the findings of an Indian study on the determinants of VAT. In contrast, Alm et al. (2004) demonstrate through the use of time series data that the stamp duty rate is inversely proportional to development. The contention posits that the prevalence of tax evasion and avoidance among taxpayers is substantial, resulting in diminished government revenues that subsequently curtail government spending, ultimately impeding economic activity and development. Given the divergent viewpoints and inconsistent empirical results, it is imperative to conduct an inquiry into the effects of VAT on the performance of Nigeria's economy.

Research Hypotheses

The below hypotheses guided the study.

1. Value-added tax has no substantial influence on Nigeria's GDP.
2. The government's revenue has no substantial influence on Nigeria's GDP.

Conceptual Review

Value Added Tax

The value-added tax (VAT) is a fiscal imposition on the consumption of goods and services by individuals, corporations, or any other entity. Value Added Tax can be alternatively described as a fiscal imposition on expenditures and consumption, imposed at all levels of the transaction, yet ultimately borne by the ultimate consumer of said products (Ugwa&Embuka, 2022). As per the scholarly work of Onwuchekwa and Aruwa (2014), taxation can be defined as an obligatory remittance made by all stakeholders to the governing body of a nation in return for essential services. It is worth noting that this payment does not necessarily entail a comprehensive elucidation of the allocation of funds or the alignment of services rendered with the corresponding financial resources.

According to Bird's (2005) elucidation, value-added tax can be characterised as a multifaceted tax that is levied upon the incremental value derived from the progression of

products across diverse phases of production and distribution. This tax is ultimately borne by the ultimate user, yet it is collected at every phase of the production and contribution chain. This explanation highlights the three distinct features of VAT. It is a tax imposed on consumption. The ultimate recipient of VAT assumes the financial burden. Value-added tax is a complex and multifaceted fiscal mechanism. As per Jones (2003), VAT is a tax that is enforced at every phase of the supply chain. This phenomenon may manifest itself in the context of manufactured commodities at various tiers, namely the primary producer, manufacturer, wholesaler, or retailer. The ultimate onus lies with the esteemed patron.

As per Osiegbu and Nnamdi (2019), the inception of income tax in Nigeria dates from 1904 onwards, when the esteemed Lord Lugard of Britain, in his wisdom, implemented the concept of community tax in the northern region of Nigeria. The historical origins of Nigeria's taxation can be traced back to its ancient northern territory. The locale in question proved to be an opportune site for the implementation of the direct taxation system, owing to the local populace's familiarity with the practice of tax payment. During the tenure of the Fulani administration, the endorsement of taxation was deemed congruent with the principles of Islam, owing to the widespread adherence to the Muslim faith among the populace. The legislative enactments promulgated by the British commissioner encompassed as follows: the Direct Taxation Ordinance of 1940, the Native Revenue Ordinance of 1917, and the Native Revenue Proclamation of 1906.

The aforementioned tax system was implemented in the northern and western regions of Nigeria. It was subsequently implemented in the eastern region of Nigeria in 1928. It was during the era of the federal system of government taxation in 1950 that the esteemed Raisman Fiscal Commission put forth a recommendation for the implementation of a uniform basic principle in the taxation of income in 1958. It is an undeniable truth and a moral imperative that all individuals, regardless of their residency status in Nigeria, whether engaged in gainful employment or entrepreneurial pursuits, or individuals who obtain their earnings from Nigeria, along with companies conducting operations within the country, bear the responsibility of fulfilling their tax obligations. Noncompliance with a tax deduction and remittance, or failure to fulfil tax obligations in any form, elicits punitive fines and penalties.

Similar to its counterparts in various nations, the primary purpose of the Nigerian tax system is to engender fiscal resources to facilitate the functioning of the government across all tiers and to furnish essential infrastructure to the populace. An efficacious tax drive is attained using a streamlined tax administration and the implementation of comprehensive tax system reforms leads to an operational tax drive. These aforementioned components also substitute a tax culture, thereby reducing the incidence of corruption and tax evasion.

Theoretical and Empirical Review

One of the most common tax ideas is the ability-to-pay hypothesis. According to the principle, taxes should be dependent on how much money individuals make. For example, individuals who earn more are projected to pay a greater tax rate--and hence a larger share of their earnings than those who earn little (Tina, 2019). The ability-to-pay approach to taxes does not account for how much of these services people utilise. For example, even if they do not have children enrolled in public schools, all taxpayers contribute to them. Friedman (2000) proposes that the ability-to-pay method separates government income and spending. Taxes are based on taxpayers' capacity to pay; there is no trade-off. Taxpayers see tax payments as a sacrifice, which raises the question of what each taxpayer's sacrifice should be and how it should be measured.

Denis (2020) researched the link between VAT and GDP in Nigeria and found that VAT is ineffective as a revenue source. This observation suggests that significant proportions of the GDP, which encompass both the overall national income and the overall national expenditure, are exempt from taxation. Contrary, Samimi and Abdolahi (2021) investigated

the effect of adopting a VAT on export products and services in many nations. Their results suggested that VAT had a favourable influence on exported products and services.

Afolayan and Okoli (2014) used the Error Correction Model to determine how VAT has influenced Nigerian economic development. They discovered a favourable and negligible association between VAT revenue and actual GDP because several issues limit its effectiveness. The causality test also found that the link between VAT and real GDP is unidirectional and that a lag time of four years existed. That is, real GDP growth generates VAT income; so, policymakers should prioritise all economic growth-determining elements for VAT to contribute considerably.

Owolabi and Okwu (2021) found a favourable relationship between VAT and the growth of the Lagos state economy. The investigation revealed that VAT collection had a favourable impact on Lagos' seven important economic sectors. The sectors encompassed within this comprehensive framework consist of agriculture, infrastructure, education, the environment, transportation, health, youth, and social development. Among the various sectors under investigation, it was determined that the agricultural domain stood out as the sole sector that exhibited statistical significance and made a positive contribution to the overall expansion of the economy.

Unegbu and Irefin (2021). The research focuses on Nigeria's Adamawa state. The allocation of VAT explained a substantial majority of the fluctuations in the state's expenditure pattern, according to the analysis. Their influence was significant in shaping the course of economic growth and progress. However, evidence showed that VAT had little influence. They did, however, urge that comparable studies be conducted in other States in Nigeria to determine the influence of VAT on Nigeria’s economic advancement.

Adereti, Sanni, and Adesina (2011) explored the effect of VAT on the development of Nigeria's economy from 1994 to 2008. Based on time series data about GDP and VAT income, the average proportion of revenue from VAT to total tax revenue turned out to be 12.4%, a figure that was considered relatively modest in comparison to other African countries. In addition, the study revealed that no direct link exists between VAT revenue and Nigerian GDP. Both findings imply that VAT income has no substantial influence on Nigeria's economic progress. This is not the case with Umeora's (2013) analysis of the impact of VATon economic expansion and overall tax income in Nigeria. His results indicate that VAT has a considerable implication on economic expansion and overall tax income.

Enokela (2022) investigated the Nigeria data set to determine the link between VAT and economic expansion using various regression models. The findings suggest that VAT had a favourable and substantial link with GDP. According to Onwuchekwa and Aruwa (2019), VAT adds considerably to both overall government tax income and economic development in Nigeria. Their study centred on the relationship between value-added tax and Nigeria's economic development. Basila (2010) explored the link between VAT and gross national product (GNP) in Nigeria by utilising data from the Central Bank of Nigeria containing VAT revenue and GNP figures spanning the years 1994 to 2008. The examination of the correlation between the GNP and VAT figures for the specified period yielded a robust correlation coefficient of approximately 96.

Methodology

The process of research design necessitates the systematic arrangement of the inquiry to ascertain the veracity of various hypotheses and their interconnectedness. This tool serves the purpose of acquiring data to facilitate the researcher's examination of the hypotheses posed (ThankGod, 2014). This study employs the ex post facto design, which attempts to ascertain the cause-and-effect connection.

Model Specification

In this scholarly investigation, we have employed the statistical technique of multiple regression to ascertain the veracity and reliability of the study. Based on the aforementioned premise, the present study, as elucidated in the preceding chapter, embraces the theory of ability to pay, taking into account its proximity and functional correlation with the current investigation.

The functional model (1) is given as: $GDP = f(VAT, FGR)$ (1)

The model is specified as follows: $GDP=\beta_0+ \beta_1 VAT + \beta_2 FGR +\mu$ (2)

Where:

GDP= Gross Domestic Product,

FGR=Federal Government Revenue,

VAT=Value Added Tax.

Where $\beta_0>0$, $\beta_1>0$ $\beta_2>0$, β_0, β_1, β_2 = constant parameters,

μ = the error term.

Data Presentation

The dataset employed for this analysis comprises secondary data sourced from the CBN bulletin, spanning the temporal span from 1994 to 2023. The investigation of the influence of value-added tax on economic performance in Nigeria shall encompass the examination of VAT and government revenue as autonomous variables, with gross domestic product serving as a surrogate measure for economic performance. The empirical data about the study is duly presented in Appendix 1.

Table 1: Descriptive Statistics Analysis

	VAT	FGR	RGDP
Mean	117.2406	3538.541	25978.59
Median	44.91000	1906.160	8134.140
Maximum	397.0600	11116.90	101489.5
Minimum	0.000000	12.60000	202.4400
Std. Dev.	145.0144	3806.296	32348.39
Skewness	0.950162	0.735232	1.119790
Kurtosis	2.302018	2.113108	2.853430
Jarque-Bera	5.293781	3.808919	6.506387
Probability	0.070871	0.148903	0.138651
Sum	3634.460	109694.8	805336.4
Sum Sq. Dev.	630875.1	4.35E+08	3.14E+10
Observations	30	30	30

Source: E-view output, version 10.1

Table 1 elucidates that the dataset under consideration exhibits qualitative characteristics, thereby rendering it suitable for comprehensive analysis. The computed value-added tax exhibits a mean value of 117.2406 billion, a maximum value of 397.0600 billion, and a cumulative sum of 3634.460. According to the data presented in Table 4.1, the federal government revenue (FGR) exhibits a mean value of N3495.006 billion, a maximum value of N11116.90 billion, and a minimum value of N12.60000. The gross domestic product exhibits a mean value of 25978.59 billion, a maximum value of 101489.5 billion, a minimum value of 202.4400 billion, and a sum of 805336.4 billion, respectively. The table further elucidated that the dataset exhibits favourable characteristics for generalisation, as evidenced by its fortified skewness and kurtosis. To determine the normality attributes of the series, the findings from Table 2 indicate that all the series exhibit a normal distribution at a significance level of 5%.

Unit Root Test

To ascertain the stationarity of the variables, the ADF Unit Root Test was employed. The findings presented in Table 2 indicate that all the variables exhibit integration at levels denoted as 1(1), with statistical significance at either the 5% or 1% level.

Table 2: **Unit Root Test Analysis**

Variables	ADF test Statistics	Mackinnon (5%) critical value	No of the time difference	Remark
GDP	1.5547626	-3.9123460	1(I)	Stationary
VAT	-3.8235254	-1.7523436	1(I)	Stationary
FGR	-4.7324870	-4.7957686	1(I)	Stationary

Decision rule: For the unit root to exist, the critical value must be greater than the test statistical value.

Test for Co-Integration

Upon determining the stationarity of all variables at the first difference, the subsequent course of action entails conducting the Johansen co-integration procedure to ascertain the co-integration of gross domestic product, value-added tax, and federal government in a consistent order. The outcomes of the examination are delineated in Table 3.

Table 3:Multivariate Johansen's Co-Integration Test Result.

Nullhypothe	Alternative hypotheses	Eigen value	Likelihood Ratio	Critcalvales 5%	Criticalvalue 1%	Hypothesized No. of CE(s)
r=0	r=1	0.7346372	56.7023235	64.84	46.02	None**
rd<1,	r=2,	0.645348	53.325245	52.21	36.42	At most 1
rd<2	r=3	0.564354	42.645213	46.32	24.31	At most 2

Data Analysis

The dataset employed for this analysis comprises secondary sources spanning the temporal span from 1994 to 2023. The present study endeavours to elucidate the intricate link between the VAT and its implication on the economic performance in Nigeria. The analysis employed multiple regression techniques. The dependent variable in this context is the GDP, while the independent variables encompass the VAT and government revenue.

Table 4. Multiple Regression Analysis

Dependent Variable: **GDP**				
Included observations: 30				
Variable	***Coefficient***	***Std. Error***	***t-Statistic***	***Prob.***
C	0.116647	0.231412	0.242766	0.2243
VAT	0.205875	0.137222	0.341632	0.0000
FGR	-0.422636	0.414216	-0.434527	0.0019
R-squared	0.721199	Mean dependent var		25978.59
Adjusted R-squared	0.704235	S.D. dependent var		32348.39
S.E. of regression	3788.405	Akaike info criterion		19.40904
Sum squared resid	4.022708	Schwarz criterion		19.54782
Log-likelihood	-297.8402	Hannan-Quinn criteria.		19.45428

F-statistic	10.79664	Durbin-Watson stat		0.877279
Prob(F-statistic)	0.000000			

Source: E-view output, version 10.1

Test of Hypotheses

The hypotheses will be tested on a 5% level degree of freedom. That is:α0>0,α1>0, α2>0.

Hypothesis One:H_0: Value-added tax has no substantial influence on Nigeria's GDP.

Hence, based on the data presented in Table 4, it can be inferred that the probability value of 0.0000 exhibits a level of significance below the conventional threshold of 5%. The inferred consequence entails the rejection of the null hypothesis. Henceforth, the scholarly investigation deduces that the imposition of VAT exerts a substantial influence on the real gross domestic product within the Nigerian context.

Hypothesis Two: Ho: Government's revenue has no substantial influence on Nigeria's GDP.

The impact of federal government revenue on gross domestic product in Nigeria is deemed to be statistically insignificant. Henceforth, based on the data presented in Table 4, it can be deduced that the probability value of 0.0019 exhibits a level of significance below the conventional threshold of 5%. The inferred consequence entails the denial of the null hypothesis. Consequently, the analysis concludes that government income and Nigeria's gross domestic product are significantly correlated.

F-Test

The research employs the F-test, wherein the computed F-value surpasses the computed F-value at a significance level of 5%, thereby implying that the model is adequately defined. Table 4 demonstrates that the influence of VAT on economic performance in Nigeria exhibits an F-statistic of 10.79664. Furthermore, the probability of this impact is 0.000000, which is below 0.05alpha. Consequently, it inferred that the observed impact is substantial. Hence, the null hypothesis is hereby refuted. It is settled that the implementation of VAT has a notable and beneficial outcome on the economic performance of Nigeria. This assertion is further substantiated by the F-probability, which exhibits a statistically trivial value. Henceforth, the investigation subsequently deduces that the comprehensive framework is adequately delineated, thereby indicating its statistical significance.

Conclusion

The research findings posit that the implementation of VAT has played a substantial role in fostering the advancement of the Nigerian economy. This paper aimed to examine the role of VAT in augmenting the government's revenue stream and its consequential effects on general economic expansion represented by GDP. The empirical analysis conducted in this study has provided compelling evidence that the implementation of VAT in Nigeria has consistently exhibited a noteworthy and affirmative correlation with the country's economic growth. Put simply, the revenue generated from the VAT has exerted a substantial influence on the economy of Nigeria. The comprehensive statistical analysis has revealed that the value-added tax (VAT) assumes a pivotal role in exerting influence over the level of productivity within the nation. This outcome underscores the significance of the Central Bank's role in the trajectory of a nation's national growth and development.

Recommendations

The subsequent suggestions entail the imperative task of rectifying tax administrative loopholes, thereby enabling tax revenue to make substantial contributions towards the advancement of the economy. This is particularly crucial, given the historical influence of value-added taxes on economic expansion. Furthermore, to attain an optimal policy thrust, the agents of VAT must demonstrate unwavering dedication and integrity in their duties regarding the collection and payment of VAT. Additionally, it is crucial to provide these agents with comprehensive remuneration, training, and retraining opportunities, all to augment the overall impact of these taxes on economic growth. One must exercise prudence

and remain vigilant when considering any policy trajectory about the imposition of taxes on imports and exports, to prevent the policy from functioning as a deterrent to economic growth.

It is imperative that the government and tax and revenue agencies undertake proactive measures and undertake necessary steps to diligently oversee the flow of revenue accumulated by the nation, as well as to ensure the efficient allocation of said revenue across diverse sectors within the economy. It is imperative to expand the scope of value-added tax bases to encompass the informal sector, thereby mitigating the potential for tax evasion. This will facilitate the government's ability to generate sufficient revenue to address the challenges posed by its spending in terms of providing social services and covering the operational costs of the government.

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