ECONOMIC GROWTH AND THE EFFECT OF VALUE ADDED TAX IN NIGERIA: A CRITICAL REVIEW

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ABSTRACT
This study examined the contribution of value added tax to economic growth in Nigeria from 1994 to 2021 with the objective to ascertain the influence of value add tax on economic growth in Nigeria. Secondary data was obtained from the Central Bank of Nigeria statistical bulletin and the Federal Inland Revenue Service annual reports for the various years within the period under review. To measure the data collected, a multiple linear model was built to capture the contributions of value added tax to real gross domestic product. The data generated was analysed using Descriptive tests, Diagnostic tests and Ordinary Least Square Regression test. The vector error correction model was used to smoothen out fluctuations in the relationship between the dependent and independent variables while the T-test, F-test, coefficient of multiple determinations (R-squared) and autocorrelation test were used to evaluate the robustness of the regression results. The findings from the study revealed that value added tax had positive and significant effect in measuring real gross domestic product meaning it's contributions to federally collected revenue has significant effect on economic growth in Nigeria.

Keywords: value added tax, gross domestic product, real gross domestic product, economic growth.

INTRODUCTION

Tax revenue is seen as a major source of government revenue all over the world. As posited by Edewusi and Ajayi (2019) Governments use tax proceeds to render their traditional functions, such as the provision of public goods, maintenance of law and order, defence against external aggression, regulation of trade and business to ensure social and economic maintenance. The primary goal of any developing country like Nigeria is to increase the rate of economic growth and per capital income which leads to a higher standard of living, thus taxation can be used as a stimulus to accelerate such growth of the Nigerian economy. In line with this, Obaretin and Uwaifo (2020) asserts that VAT is the most productive indirect tax in Nigeria judging by its contributions to the national treasury having increased from #7.26 million in 1994 to #802.98

million in 2014. It further states that though there was a 0.04% reduction in 2015 with #767.33 million VAT revenue it increased to #828.20 million in 2016, #972.35 million in 2017, #1.108 billion in 2018 and #1.1886 billion in 2019. To this end, different countries all over the world look for ways to boost their revenue and this facilitated many countries to introduce Value Added Tax (VAT) on goods and services (Orisade & Fayose, 2022).

VAT is a consumption tax levied at each stage of the consumption chain and borne by the final consumer of the product or service (Obaretin & Uwaifo, 2020). VAT has become a veritable source of revenue in many developing countries of Africa; it's adoption in Nigeria can be traced to the report of the committee set up by the Federal Government in 1991 to review the entire tax system with a view to expanding the financial base for revenue generation so as to boost the economic growth of Nigeria (FIRS 1993). The introduction of VAT in Nigeria through decree 102 of 1993 marked the phasing out of the sales tax decree No. 7 of 1986 (Nmesirionye, Jones & Onuche, 2019). It stated further that the decree took effect from 1st December 1993 but by administrative arrangement invoice for the purpose of VAT did not commence until 1st January 1994. VAT is payable on the goods and services consumed by any person, whether government agencies, business organizations or individuals. The target of VAT is consumption of goods and services and unless an item is specifically exempted by law, the consumer is liable to tax. Some of the goods and services exempted include: basic food items, medical and pharmaceutical products, educational materials, agricultural equipments and veterinary medicines, agricultural fertilizers, goods for export, baby products and services such as those of mortgage institutions, micro finance banks, plays and performance conducts by educational institutions as part of learning as well as religious services (FIRS 1993).

Successive Nigerian governments, however, have expressed concern about low level of productivity of the Nigerian tax system (Ndekwu, 1991; Ariyo, 1997). In order to improve revenues from tax the rate of VAT was increased from 5% to 7.5% effective from 1st February, 2020. Therefore, this study aims at determining the extent to which VAT has contributed to Nigeria's economic growth using RGDP as a parameter for measuring economic growth.

Objective of the Study

The objective of the study is to ascertain the influence of VAT on economic growth in Nigeria.

Hypothesis

The hypothesis for the study has been stated in null form:

H_O: Value added tax has no significant effect on economic growth in Nigeria.

literature and Theoretical Review

Conceptual Review

Omokhuale (2016) described VAT simply as the goods and services tax which is levied on the value added that results from each exchange. It further stated that as an indirect tax it is collected from someone other than the person who actually bears the tax burden. As provided in the FIRS Information Circular 1993, although VAT is a multi stage tax, it has a single effect and does not add more than the specified rate to the consumer price no matter the number of stages at which the tax is paid. The circular further states that VAT is a self assessment tax that is paid when returns are being rendered and in-built in it is the refund or credit mechanism which eliminates the cascading effect that is a feature of retail sales tax. The input-output tax mechanism in VAT also makes it self-policing. The input VAT is what is charged on business purchases and expenses. These include goods and services supplied in Nigeria or imported. Output VAT on the other hand is that which is due on VATable supplies. It is derived by multiplying the tax value of the aggregate supply by the tax rate. In essence, it is the output tax less the input tax that constitutes the VAT payable. It is the equivalent of the VAT paid by the final consumer of the product that will be collected by the government (Federal Inland Revenue Service information circular, 1993).

Ojo (2003) defined VAT payable as the excess of VAT output over VAT input and this is to be remitted to the Federal Inland Revenue Service (FIRS) through a designated bank. However, it also stated that the 1998 amendment to the VAT decree 102 of 1993 defined the VAT input that would be treated as allowable deductions against VAT output. It iterated that input tax allowable was redefined in the new provision thus:

> An input tax is only allowed if it is a tax on goods produced or imported directly for resale and goods which form the stock-in-trade used for the direct production of any new product on which the output tax is charged. Input tax on any overhead services and general

administration of any business which otherwise can be expended through the income statement and on any capital item and asset shall not be allowed as input tax.

The Organization of Economic Cooperation and Development (OECD) defines Gross Domestic Product (GDP) as an aggregate measure of production equal to the sum of the gross values added of all resident and institutional units engaged in production (plus any taxes, and minus subsidies on products not included in their output). Samuelson and Nordhaus (2010) described GDP as the final goods and services produced within a country during a given year. It further stated that GDP equals the total production of consumption and investment goods, government purchases and net export to other countries (GDP=C+I+G+X). It is commonly estimated without factoring in capital expenditures (or deductions for depreciation and/or inflation).

Real gross domestic product (RGDP) is a measurement of economic output that accounts for the effect of inflation or deflation and it provides a more realistic assessment of growth than nominal GDP (Kimberly, 2014). It states further that without RGDP it would seem like a country is producing more when actually it is only that prices have gone up. Therefore real gross domestic product is the sum total of the economic output produced in a year's values at a predetermined base market price; it takes inflation into account hence it can be called inflation adjusted GDP. It is pertinent to note that unlike the nominal gross domestic product RGDP can be compared with the previous financial years and economic growth can be analysed easily from it.

Dwivedi (2006) defined economic growth as a sustained increase in per capital national output or net national product over a long period of time. This implies that the net increase in total output must be greater than the rate of population growth. Economic growth, being the growth in output per capital is an important objective of government since it is associated with rising average real increases in living standard. Samuelson and Nordhaus (2010) define economic growth as the expansion of a country's potential GDP or national output. Putting it differently, economic growth occurs when a nation's production possibility frontier (PPF) shifts outwards. It iterates that a closely related concept is the growth rate of output per person which determines the rate at which the country's living standard is rising.

Empirical Review

Apere and Durojaye (2016) worked on the impact of value added tax (VAT) on government revenue and economic growth in Nigeria. The study adopted the Ordinary least Square (OLS) technique and the Phillips Perron (PP) (1998) Unit Root test to test for stationarity and the order of integration of the variables and it employed time series secondary data spanning from 1994 to 2014. The study revealed that value added tax (VAT) granger causes GDP and that value added tax (VAT) has the capacity to induce growth in Nigeria's economy.

Ogwuru and Agbaraevoh (2017) investigated the impact of VAT on economic growth and development in Nigeria. In the study economic growth was proxy by GDP while economic development was proxy by HDI. The first model which had GDP as a proxy for economic growth showed that VAT had a positive and significant relationship with economic growth while the second model which had HDI as a proxy for economic development revealed that VAT has a negative and significant relationship with economic development proxied by HDI. This negative relationship could be due to non utilisation of the tax revenue from VAT on social services like education and health facilities.

Jones, Nwawuru, and Nmesirionye (2018) used time series data from 1994 to 2012 to investigate the impact of the value added tax on Nigerian economic growth. *Ex-post facto* analysis was used in the study, with variables including value added tax and real gross domestic product collected from several Central Bank of Nigeria data bulletins. It employed the Engle Granger General Error Correction Model (ECM) data analysis approach to show that value added tax has a negative significant association with gross domestic product under both short and long term equilibrium conditions, concluding that value added tax has a major impact on Nigeria's economic growth.

Nmesirionye, Jones, and Onuche (2019) used data from the Central Bank of Nigeria and the National Bureau of Statistics to assess the influence of indirect taxes on Nigeria's economic performance from 1994 to 2017. The dependent variable, economic growth, was proxied by RGDP, whereas the independent variable was proxied by VAT and CEXD. The Augmented Dickey-Fuller test was used to examine the stationarity and co-integration of the data utilized in the study, which used an *ex-post facto* research approach. Multiple regressions based on ordinary

least squares (OLS) were used to evaluate the data. CEXD had a positive and large influence on Nigeria's RGDP during the study period, whereas VAT had a positive but minor influence on the country's RGDP during the study period.

Obaretin and Uwaifo (2020) examined the impact of VAT on economic development in Nigeria for the period 1994 to 2018. The study employed a longitudinal research design and the data used were generated from the office of the Federal Inland Revenue Service, and United Nation Data bank. The data generated were analysed using the Auto-Regressive Distribution (ARDL) regression estimation technique. The result from the finding unveiled that VAT has a positive and significant impact on economic development in Nigeria. The study recommended that Government should ensure the revenue generated from VAT is expended on projects that will impact on the citizens of the country and regularly, tax audit should be carried out on registered VAT collectors to ensure that the tax collected is remitted to the appropriate authority.

The effect of VAT on economic growth in Nigeria from 1994 to 2020 was examined by Orisadare and Fasoye (2022) using consumer price index (CPI) as a threshold. A technique of Threshold Vector Autoregressive (TVAR) was employed and the results revealed that a VAT above the 10 percent threshold value endangers the economy while a VAT below the 7.59 percent threshold value does not harm the economy; rather, it improves people's well-being. It therefore recommended that the Nigerian economy should maintain the lower VAT threshold to cushion the effect of ever rising CPI on the citizens.

Despite the positive results of most researches into the impact of taxation on the economic growth of Nigeria, the country’s economy has continued to contract even to the point of falling into recession, first in 2016 due to fall in global oil price and a second time in 2020 due to the impact of the COVID-19 pandemic and low oil prices on economic output.

Theoretical Framework

This study was anchored on the theory of optimal taxation as developed by Frank P. Ramsey in 1927. The theory posits that a tax system that is chosen should maximize a social welfare function subject to a set of constraints (Mankiw and Weinzierl, 2009). The essential assumption is that individuals have different abilities reflecting on their wages, therefore having higher wage

earning ability put some individuals in a potentially better situation thus giving reason for redistributive taxation. Also, it is very unlikely that all individuals have identical utility functions.

METHODOLOGY

This study adopted the *ex-post facto* research design. This was because the data needed for the research already existed. The study covered Nigeria's economic growth with time series rather than cross-sectional data being used. Data relating to revenues from VAT and RGDP was collected for the years 1994-2021.

The data for this study was obtained mainly from secondary sources. The secondary data that relates to relevant information that depicts the tax structure and characteristics of Nigeria were collected from the Central Bank of Nigeria statistical bulletin and the Federal Inland Revenue Service (FIRS). The data for economic growth was made up of real gross domestic product (RGDP) of Nigeria from 1994-2021 while the data for tax revenue covers the same period and captures revenues from value added tax (VAT) and total tax revenue less VAT.

Model Specification

To examine the effect of VAT on Nigeria's economic growth, a multiple linear model was built to capture the contribution of value added tax (VAT) and total tax revenue less VAT to RGDP. This was represented in the following function:

RGDP= f (VAT, OTR)

From the above function, the following model is derived:

$RGDP= \alpha +\beta 1VAT +\beta 2OTR+e$

Where: RGDP is the real Gross Domestic Product

VAT is Value Added Tax

OTR is Total Tax Revenue less VAT

α is constant

$\beta 1$& $\beta 2$ are the coefficient of the parameter estimates

e is the error term

Table 1: **Operationalization of Variables**

S/N	Variables	Type	Measurement	Source
1	Real Gross Domestic Product (RGDP)	Dependent	Captured using the annual RGDP for the country	CBN Statistical Bulletin (Various Editions)
2	Value Added Tax (VAT)	Independent	Captured using the annual total Value Added Tax received by FIRS	CBN Statistical Bulletin (Various Editions)

Source: Researcher's compilation, 2022

ESTIMATION OF RESULT AND DISCUSSION OF FINDING

Table 2: Descriptive Statistics

	RGDP	VAT
Mean	43770971	406.1534
Median	41458956	255.6000
Maximum	71387827	1188.581
Minimum	19979123	8.200000
Std. Dev.	19048571	377.6181
Skewness	0.141938	0.594143
Kurtosis	1.457380	2.021743
Jarque-Bera	2.665283	2.566428
Probability	0.263780	0.277145
Sum	1.14E+09	10559.99
Sum Sq. Dev.	9.07E+15	3564886.
Observations	26	26

Source: Author's computation 2022 using E-views 10

The descriptive statistical analysis of dependent and independent variables is shown in Table 2. In average, the size of Real Gross Domestic Product (RGDP) being the dependent variable stood at 43770971. The RGDP has a minimum and maximum value of 19979123 and 71387827, respectively. The Value Added Tax (VAT) is a significant tax source that has remained largely untapped for decades. The result yielded a mean value of 406.1534. Given that the federal government had announced an increase in the VAT chargeable which took effect from February,

2020, the mean value above could indicate that if tax administration and management are efficient, high returns from VAT collections can be expected. The minimum and maximum values are 8.200000 and 1188.581 respectively.

Regression Diagnostic Test

In other to avoid spurious regression result the following diagnostic test was done on the data.

Test for Autocorrelation

The Breusch-Godfery Serial Correlation LM Test:

Table 3: Breusch-Godfrey Serial Correlation LM Test

F-statistic	4.546659	Prob. F(2,15)	0.2861
Obs*R-squared	9.058098	Prob. Chi-Square(2)	0.1080

Source: Researcher's Computations from E-views 9

The Breuch-Godfrey serial correlation was used to test for the presence of serial correlation and as it can be seen from the result in Table 3 there is no presence of serial correlation since the probability value is higher than 5% which was the chosen level of significance.

Table 4: Unit Root Test Results.

Variable	**Level**				**1st Difference**				**Order of integration**
	ADF Statistic	5% Crit value	P-value	Remark	ADF Statistic	5% Critical value	P-value	Remark	
RGDP	-2.9273	-3.0299	0.0607	Non-stationary	-4.2948	-2.9919	0.0038	Stationary	I(1)
VAT	1.5863	-2.9862	0.9991	Non-stationary	3.9437	-2.9919	0.0063	Stationary	I(1)

Source: Author's computation 2022 using E-views 10

From Table 4 above, the result reveals that none of the variables was stationary at level because at this point, the ADF statistics were less than the 5% critical values in absolute terms, and their

p-values were each greater than 0.05. At first difference though, all the variables became stationary following the decision criteria set out above. As indicated in the last column of the table, the variables were each integrated of order one (1), that is, I(1); hence they have the same order of integration. Consequently, Johansen cointegration method was employed to test for the existence of cointegration or long-run relationship among the variables of the study model which is shown on table 5 below.

Table 5: Summary of Johansen co-integration test result

Variables of the study model	**Trace test**	**Max-eigen value test**
RGDP, VAT	2 cointegrating equations	2 cointegrating equation

Source: Researcher's computations from E-views 9, 2022

According to the summary of the result of Johansen cointegration test in Table 5, the Trace test indicated the existence of 2 cointegrating equations among the variables of the model at the 5% level of significance while the Max-eigen value test indicated the existence of 2 cointegrating equation at the same level of significance. Both results suggest that the factors in the study have a long-term relationship. Because the variables are cointegrated the study used the vector error correction mechanism (VECM) to estimate the short-run and long-run effects of VAT on Nigerian economic growth in order to determine how quickly the short-run connection adjusts.

Vector Error Correction Mechanism Result

The presence of cointegrating equations implies that the connection between the dependent and independent variables is subject to short-term volatility. In order to smoothen out these fluctuations, the vector error correction model (VECM) was employed. This process is meant to tie the short-run dynamics of the co-integrating equations to their long-run static dispositions. The result is presented in Table 6 below.

Table 6: Summary of VECM Result

Dependent variable: RGDP			
Independent variables	**ECT**	**VAT**	**Constant**
Long-run result			
Regression coefficients	N/A	45664.88	-8901353
T-statistics		1.66459	N/A
Short-run result			
Regression coefficients	-0.063517	14422.64	310934.6
T-statistics	-1.871717	4.073726	0.907925
P-values	0.0000	0.0008	0.3766

Stat properties: R-squared = 0.7359; Adj. R-squared = 0.6426; F-statistic = 7.8935 Prob(F-statistic) = 0.0004

Source: Researcher's computations from E-Views 9

The upper panel of Table 6 shows the long-run relationship while the short-run relationship is shown in the lower panel. As for the long-run the result shows that the regression coefficient of value added tax (VAT) revenue is about 45664.88 with T-statistic 1.66459 which suggests that the variable has a positive effect on the dependent variable, real gross domestic product (RGDP), in the long run.

For the short-run relationship, the study transformed the regression into system format which was estimated by Ordinary Least Squares (OLS) so as to obtain relevant statistics of the result such as the p-values which the VECM method did not contain. The result in Table 6 shows that the regression coefficient of the error correction term (ECT) is -0.06 with T-Statistics -1.87 and P-value 0.000. It is the speed of adjustment of the estimated relationship from the short-run to the long-run. The result is interpreted to mean that about 6% of the errors arising from disequilibrium in the previous period are corrected in the current period. Thus, the relationship is expected to return to steady-state or stable condition within few years. The p-value (less than 0.05) indicates that the result is statistically significant at the 5% level of significance. In conclusion, the speed of adjustment is no doubt fast enough to ensure a return to equilibrium as quickly as possible.

The result further shows that the regression coefficient of value added tax (VAT) revenue is 14422.64 with T-statistic 4.073726 and p-value 0.0008. This suggests that there is a positive relationship between real gross domestic Product (RGDP) and VAT such that a 1% increase in the latter would result in positive rise in RGDP. The T-statistic (greater than 2.0) and the p-value (less than 0.05) indicate that the result is statistically significant at the 5% level of significance

Evaluation of the estimated model

The T-test and F-test Statistical criteria are employed to evaluate the robustness of the regression results.

T-test: This is used to ascertain whether the individual parameter estimates are statistically significant. In this study, the test is anchored on the 5% level of significance. A rule of thumb is that if the estimated t-statistic is greater than 2.0, then the result is statistically significant at 5% level. Consequently, going by the regression result in Table 6, the results of the long-run effects of VAT is not statistically significant at 5% level while for the short-run results VAT is statistically significant at the 5% level.

F-test: This is used to see if the explanatory variable's influence on the dependent variable is statistically significant. The result in Table 6 shows an estimated F-statistic of about 7.8935 with p-value of 0.0004. Since the p-value is less than 0.05, the conclusion is that the impact of VAT on the dependent variable, economic growth (RGDP), is statistically significant at the 5% level.

Coefficient of multiple determinations (R-Squared)

The estimated R^2 is 0.73 and the Adjusted R^2 is 0.64. Since the value of the R-squared ranges between 0 and 1, the result suggests that the independent variable is explained by about 73% of the total variations in the dependent variable, RGDP and about 64% after adjustment. Both values are high, implying that the model has high explanatory power.

Conclusion and Recommendation

The study examined the contribution of value added tax to economic growth in Nigeria and data for a sample period of 1994-2021 were analyzed by utilizing descriptive indicators and econometric diagnostic tests while the autoregressive distributed lad model estimation was employed for the determination of impact analysis. The study concluded that value added tax

(VAT) has a positive and significant effect in measuring real gross domestic product (RGDP) in the long run meaning it's proceeds as a source of government revenue has significant effect on economic growth in Nigeria and does not have inverse relationship with the country's RGDP. Therefore, the paper recommended that Government should ensure efficiency of the tax authorities in realizing the huge prospects of value added tax by meticulously implementing the financial legislations on VAT.

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