Research Paper

Dynamic Impact of Value Added Tax on Economic Growth in Nigeria

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ABSTRACT
The study examined the dynamic impact of value added tax on economic growth in Nigeria from 1994-2018. The secondary data used for the study covered the period of 1994 to 2019 and sourced from CBN statistical Bulletin and National Bureau of Statistics. The method of ADF unit root test and dynamic ordinary least square (DOLS) regression was employed in analyzing the data. The ADF test showed that both the dependent and independent variables were stationary at first difference. The DOLS results showed that the R^2 is 94%, thus the model is a good fit. Also, VAT has positive relationship with economic growth. It was evident from the results that a percentage increases in VAT increased economic growth by 9.3%. Based on these findings, the study recommended amongst others that government should put in place adequate measure to ensure that revenue generated from VAT is successfully utilized to advance the economy through appropriate infrastructural development.
KEY WORDS: DOLS, Dynamic, Economic, Growth, Value added

I.   INTRODUCTION

Every nation needs a good deal of revenue to provide and sustain critical services for her inhabitants. Thus, an essential revenue base for government the imposition of various forms of taxes. A tax is a fee that is levied on both individuals and corporate organizations and it is required by government entity to finance her activities. Tax could be classified into direct or indirect**.** A direct tax which is enforced on individuals and factors of productions include; petroleum profit tax and personal income tax. But indirect which the consumers bear the final burden include but not limited to value added tax and custom duties (Obayori & Omekwe, 2019)

One of the attempts to reduce tax evasion in order to increase government revenue is through value added tax (VAT). Thus, value-added tax is a consumption tax placed on a product whenever value is added at each stage of the supply chain. In Nigeria, the value added tax was introduced in the year 1994 to replace the sales tax which was narrow in scope in terms of tax revenue from goods and services (Ofishe, 2015). Value added tax has been a main contributor to overall government tax revenues to numerous developing countries in Africa such as Benin Republic, Cote d'ivore, Guinea, Kenya who adopted the value added tax system (Ajakaiye, 2000). The remarkable performance of VAT in other countries as well as the intent of Nigerian government to grow her non-oil revenue base accounted for the introduction of the VAT tax system.

Meanwhile, the need to re-organize the priorities of the Nigerian economy became urgent as the nation approached the new millennium. The global price of crude oil which is the nation major foreign exchange earner, was dwindling and Nigeria was faced with the inevitable vulnerability of a monoculture economy. For a nation that had gone through an unprecedented economic boom in the seventies, it was a terrible experience. The Nigerian tax system, which went through a terrible periods in the 1980's and 1970's as revenue from petroleum plays dominant role within the economy, was expected through the introduction of this effective tax system to come back to life (Afolayan & Okoli, 2015). Also, the cost of running the government continue to increase and the instability in oil price and coupled with economic recession, attention of managers of the nation's economy is now turn to sustainability of taxes, especially value added tax. While the performance of VAT as a source of revenue in Nigeria is encouraging, it remains difficult to find

attempts to systematically evaluate the impact of VAT on the economy. Also, current empirical works on the impact of taxation on the Nigerian economy lumped up all the various taxes together without isolating VAT. However this study examined the impact of VAT on economic growth in the Nigerian economy. Thus, the objective of the study is to examine the impact of value added tax on the growth of the Nigerian economy from 1994-2018. The choice of the scope was premised on the fact that VAT in Nigeria started in the year 1994.

II. THE ABILITY TO PAY THEORY OF TAX

The study is anchored on the ability to pay theory of tax. The theory premised that tax should be pay based on the income of the individual, business and organization. Here taxes are paid to the government base on the ability of the citizens. It is the most popular and mostly accepted principle of equitable taxation unlike the modem discussion. People that receives higher income are to pay higher taxes than those who receive lower income under this principle. The reason for the choice of this theory is based on the fact that as taxes are paid on the basic income of the individual and organization, it will enable higher earners to pay more tax which if well utilized in providing sustainable public goods or infrastructures such as road, electricity and hospital will in the long run improve economic development.

III. VALUE ADDED TAX AND THE NIGERIAN ECONOMY

Empirically, George-Anokwuru, Olisa and Obayori (2020) used DOLS to empirically investigated indirect tax and employment generation in Nigeria. The empirical results, showed that indirect tax measures by value added tax (VAT) and custom duties has a direct link and significant impact on employment generation in Nigeria. Also, Obayori and Omekwe (2019) used ARDL model to examine indirect tax and economic growth in Nigeria. The empirical results showed that VAT as an indirect tax has direct influence on economic growth in Nigeria since its inception in 1994. Gatawa, Aliero and Aishatu (2016) examined the impact of VAT on economic growth in Nigeria. The study used the method of Johansen co-integration test. The study found evidence of a significant positive impact of VAT on economic growth. In the same vein, other government revenues other than VAT was also found to be positively related to economic growth. Afolayan and Okoli (2015) examined the impact of value added tax on the Nigerian economic growth by employing the error correction model and granger causality test. A positive and insignificant correlation exists between VAT revenue and real GDP. Granger causality test also revealed that the relationship between VAT and real GDP is unidirectional.

Similarly, Onwuchekwa and Aruwa (2014) observed that VAT contributes significantly to the total tax revenue of government as well as economic growth in Nigeria. Their study was on the value added tax and economic growth in Nigeria. Umeora (2013) investigation on the effects of value Added tax (VAT) on economic growth and total tax revenue in Nigeria. The result of his findings shows that VAT has significant effect or impact on economic growth (GDP) and total tax revenue. Adereti, Sanni and Adesina (2011) empirically evaluated the contribution of value added tax (VAT) to economic growth in Nigeria between1994-2008. From their time series data of GDP and VAT revenue, it was observed that VAT revenue to total tax Revenue averaged 12.4% which was considered very low when compared to other countries in Africa. The study also observed that there is no causality between VAT revenue and Nigeria Gross Domestic product.

Samimi and Abdolahi (2011) scanned the impact of implementing value added tax on exported goods and services in selected countries. Their findings based on Mean Statistical Difference test indicated positive impact of value added tax on exported goods and services. Owolabi and Okwu (2011) empirically asserted in their study on the contribution of value added tax (VAT) to the development of Lagos state economy as positively related. The analysis showed that VAT revenue contributed positively to the seven strategic economic sectors of Lagos. The sectors are: Agriculture, infrastructure, education, environment, transportation, health, Youth and social development sectors. Among all these the study indicated that Agricultural sector was the only one that is statistically significant with positive contributions to the economic growth and development. Similarly, the impact of VAT on economic development of emerging nations was the research carried out by Unegbu and Irefin (2011). The study was focused on Adamawa state of Nigeria. The study revealed that VAT allocations alone accounted for 91.2% of variations in expenditure pattern in the state. And they showed very significant impact on the economic growth and development. However, data obtained from primary sources indicated minimum VAT impact. They however, recommended that similar research should be replicated in other states of Nigeria to ascertain the impact of VAT on economic growth and development.

Ekeocha (2010) work focused on how the value added tax rate could be increased from its initial 5% to 15%. This may be due to the fact that the 5% is not significant enough to address positive economic changes. Denis (2010) investigated the relationship between value added tax and gross domestic product (GDP) in Nigeria, the study discovered that VAT is not effective as a revenue earner. This implies that significant parts

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of GDP which represent aggregate national income as well as aggregate national expenditure are not taxed. A cursory backward view at the work done by Ajakaiye (2000) in his study of the microeconomic effect on value added tax on Nigeria since inception revealed that VAT revenue is a significant source of fund to the country.

IV.   METHODOLOGY

The quasi -experimental research design was used in analyzing the various data collected. This is because; the study is quantitative in nature and thus demanded the use of time series variables to determine the relationship between the economic variables under consideration. The data ranges from the period of 1994 to 2018. This data was mainly sourced from the publications of the Central Bank of Nigeria (CBN) statistical bulletin and National bureau of statistics publications. In economic and econometrics analysis, techniques of study are divided into qualitative and quantitative techniques. This study adopted both techniques. While the descriptive statistics was used to test the reliability of data via mean, median skewness and standard deviation, the econometrics of method Ordinary Least Square multiple regression was used to explored the effect of the explanatory variables on the dependent variable.

Model Specification
The model was specified in the log form in the equation below;

$$\text{LnRGDP} = \beta_0 + \beta_1 \text{LnVATt} + \sum_{i=1}^{n} \Delta\beta_1 Ln VATt - 1 + Ut \qquad (1)$$

Where; RGDP is real gross domestic product; VAT is value added tax; U is error term; t is time frame; β_0 is intercept parameter; β_1 is the slope parameter and $\sum$ is summation

V.   RESULTS AND DISCUSSION
5.1 Analysis and Discussion of Descriptive Statistics of the Variables
The descriptive statistics shows the variables mean, median, standard deviation, skewness and kurtosis amongst others.

Table 4.1 Descriptive Statistics of the Variables

VARIABLES	GDP	VAT
Mean	604289.9	305564.9
Median	578876.5	168800.0
Maximum	999068.2	710200.0
Minimum	275450.6	7261.000
Std. Dev.	268912.4	281763.8
Skewness	0.214970	0.385227
Kurtosis	1.553906	1.381752
Jarque-Bera	2.276037	3.212324
Probability	0.320453	0.200656

Source: *Extracted from e-view 10*

The descriptive statistics reported in Table 1 indicated that the approximate mean of real gross domestic product (GDP) and value added tax (VAT) are 604289.9 and 305564.9 respectively. In response, the standard deviation of real gross domestic product (GDP) and value added tax (VAT), are; 268912.4 and 281763.8 respectively. The skewness test which measures the slope of the variables showed positive values for both the dependent and independent variables. Thus, they variables are positively slope. The probability of Jarque-Bera statistics showed that the null hypothesis of the variables were accepted. Thus, the variables were not normally distributed.

5.2 Analysis and Discussion of Stationarity Test
The unit root test via Augmented Dickey Fuller (ADF) test was used to investigate the order of integration of the variables.

Table 2: Unit Root Test at Level and First Difference

Variables	ADF Test @ Level	Critical Value @ 5% (level)	Order of Integration	ADF Test Statistic @ 1st Difference	Critical Value @ 5% (1st Diff.)	Order of Integration
GDP	-0.894866	-3.012363	Not Stationary	-5.577993	-3.020686	1(1)
VAT	-0.435512	-3.004861	Not Stationary	-6.046837	-3.012363	1(1)

Source: *Researcher's Computation from (E- view 9)*

The order of each of the series as presented in Table 2 using the ADF tests showed that both the dependent and independent variables was not stationary at level. Thus, the variables were subjected to first difference and they became stationary at first difference. Given the stationarity of the variables, the best regression results was obtained when estimating the DOLS.

5.3. Analysis and Discussion of Dynamic Ordinary Least Square (DOLS) Result
This section analyzed and discuss the regression result in line with the objectives of the study in a bid to ascertain the validity of economic theory. Also, the test of hypotheses were discussed.

Table 3 Dynamic Ordinary Least Square Regression Result
Dependent Variable: Real Gross Domestic Product (GDP)

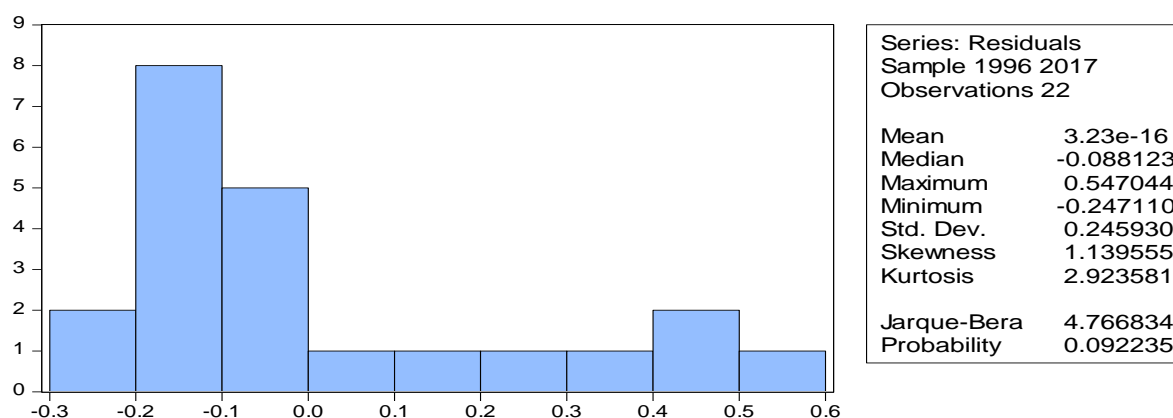| Dependent Variable: Real Gross Domestic Product (GDP)				
Variables	Coefficients	t-statistics	t-table	Probability
C	-1.289335	-1.370464	2.0796	0.1884
VAT	0.932359	12.38006	2.0796	0.0000
R-Squared	0.942359	f-statistics	5331.058	Prob(F-stat) =0.0000

Source: *Extracted from e-view 10*

The results of the estimated model as presented in Table 3 showed that the R-squared (R^2) is 94%, this showed that the model is a good fit.

Furthermore, the estimated results in Table 4.3 showed that in the short-run, the value added tax (VAT) has a positive relationship with economic growth (RGDP). Thus, a percentage increase in VAT revenue causes an increase in RGDP by 9.3%. The estimated results in Table 3 showed that VAT t-statistic; 12.38 > t-table, 2.0796. Thus, the alternative hypothesis which states that there is a significant relationship between VAT and economic growth was accepted. The finding invalidates the work of Adereti, Sanni and Adesina (2011) as well as Denis (2010) when the examined the nexuses between VAT and GDP and observed that VAT has no significant impact on GDP. On the other hand, the finding corroborate the work of Obayori and Omekwe (2019), who averred that VAT has a direct and significant impact on economic growth in Nigeria. Thus, the study discovered that VAT is effective as a revenue earner. This implies that significant parts of GDP which represent aggregate national income as well as aggregate national expenditure needed to be taxed to impact on economic growth.

5.4 Post Estimation Test: The Normality Test
The normality test in Figure 1 showed that the error terms are normally distributed. This is because the probability values of the Jerque-Bera statistic (J-B stat) which is 0.092235 is greater than 0.05 critical value. Thus, the study concluded that the sample data fit a standard normal distribution. Thus, the result of the post estimation test meet the statistical criteria and authenticate the reliability of the estimated model for policy formulation and recommendation.

Series: Residuals	
Sample 1996 2017	
Observations 22	
Mean	3.23e-16
Median	-0.088123
Maximum	0.547044
Minimum	-0.247110
Std. Dev.	0.245930
Skewness	1.139555
Kurtosis	2.923581
Jarque-Bera	4.766834
Probability	0.092235

Figure 1: Normality Test Result

VI.   CONCLUSION

This work empirically explored the impact of value added tax (VAT) on economic growth in Nigeria from 1994–2018. This study was informed by the need to solve the problem of shortage government revenue in order to accelerate economic growth. Time series data on the real GDP and VAT revenue was sourced from CBN statistical bulletin. Using the DOLS technique, the empirical result showed that the value of VAT has a positive and significant relationship with economic growth (GDP) in Nigeria. Hence it can be concluded

that value added tax (VAT) as a subset of the entire tax system in Nigeria has direct relationship with economic growth in Nigeria since its inception in 1994. It has greatly contributed to the total revenue of this nation by reducing tax evasion by many people. Resulting from the empirical findings, the subsequent recommendations were made: Government should put in place adequate measure to ensure that revenue generated from VAT is successfully utilized to advance the economy through appropriate infrastructural development. Also, other sources of indirect tax revenue should be well managed to have a positive impact on GDP and hence the national income.

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