

VALUE ADDED TAX ADMINISTRATION AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

The administration of VAT in Nigeria is poised towards enhancing government revenue generation for growth stimulation by providing for infrastructural development; however, the economy is facing deterioration and closure of local businesses on whose products, the VAT is imposed. This necessitated the study to examine the impact of value added tax on economic growth in Nigeria from 1999 to 2019. The Auto-Regressive Distributed Lag (ARDL) model were employed using time series data. The result of the analysis in the short run, shows that VAT has a negative and significant effect on economic growth whereas in the long run, the effect was positive but insignificant on economic growth. Inflation also has a significantly positive effect, whereas interest rate has a significantly negative effect on economic growth in the long run. The study concludes that in the long run, a positive relationship exist between value added tax and economic growth in Nigeria. Hence, the Nigerian government should implement policies geared towards ensuring a stable and sustainable value added tax rate and administration through accountability, transparency and blockages of leakages in the system in order to thrive the nation's economy and bring about improvement in government revenue, thereby leading to infrastructural development in the country and ultimate growth in the economy.

Keywords: Value Added Tax, Economic growth, Inflation, Interest rate, Auto-Regressive Distributed Lag Model

INTRODUCTION

The economic goals and needs of most countries, determines their level of development. One of the major focus of many countries (Nigeria inclusive) is generating revenue is to grow the economy in which taxation would aid its achievement. A tax system represents one of the most effective means of mobilizing a nation's internal resources and it lends itself to creating an environment conducive for the promotion of economic growth for the three-tiered tax structure between the federal and other sub-national governments, each of which has different tax jurisdictions (Odusola, 2006; Nzotta, 2007). The need for taxation among others therefore, is to provide a material source of revenue for government in discharging its ever-growing obligations and commitments to its citizenry. An efficient tax system ensures the mobilization of the untapped abundant internal resources and it also stimulates an environment conducive for the promotion of growth of a nation. Therefore, tax is a compulsory levy imposed on a subject or upon his property by the government to provide security, social amenities and create conditions for the economic well-being of the society (Appah & Oyadonghan, 2011)

Value added tax is an indirect tax in which a sum of money is levied at a particular stage in the sale of a product or service. Olatunji (2009) explained that the walk towards VAT system in Nigeria started with acceptance of the recommendation of a study group on indirect taxation in November 1991. The decision to accept the recommendation was made public in the 1992 budget speech of the Head of State. This resulted in setting up the Modified Value-Added Tax (MVAT) committee on 1st June, 1992 as recommended by the study group. The recommendation of the committee that VAT should be administered by an independent commission was rejected by the government. Tax administration was nonetheless given to Federal Inland Revenue Services, which was already charged with the responsibility of administering most other taxes in Nigeria. The introduction of VAT in Nigeria through Decree 102 of 1993 marks the phasing out of the Sales Tax Decree No. 7 of 1986.

VAT is a consumption tax levied on a product at each stage of the supply chain, from production to the point of sale. It is usually borne by the final consumer of the product or service. Each person is required to charge and collect VAT at a flat rate of 5% on all invoiced amounts, on all goods and services not exempted from paying VAT, under the Value Added Tax Act 1993 as amended. Where the VAT collected on behalf of the government (output VAT) in a particular month is more than the VAT paid to other persons (input VAT) in the same month, the difference is required to be remitted to the government, on a monthly basis, by the taxable person (Oserogho & Associates, 2008). Where the reverse is the case, the taxpayer is entitled to a refund of the excess VAT paid or more practically, to receive a tax credit of the excess VAT from the government. All exports are zero rated for VAT, that is, no VAT is payable on exports. In addition, VAT is payable in the currency of the transaction under which goods or services are exchanged (Umeora, 2013).

The main reason for the popularity of VAT is that it provides a buoyant revenue base that usually yields significantly more revenue than other tax on consumption. It is relatively easy to administer and difficult to avoid. The yield from VAT is a fairly accurate measurement of the growth of an economy since purchasing power increases with economic growth (Paulo 2002). It is against this background that this study intends to assess the impact of VAT on economic growth in Nigeria over the study period. The main question is, "what effect does value added tax have on economic growth in Nigeria?" The focus of this study is to assess the impact of value added tax on economic growth in Nigeria and, in particular, whether increasing VAT revenue have positive effect on economic growth in the long run as it does to the improvement of the total tax revenue of the country. Realization of the objective of the study is aided by testing the null hypothesis (H_0): Value added tax has no significant effect on economic growth in Nigeria. There are empirical evidence in the literature about value added tax and economic growth in developed and

developing countries (Liu 2019, Owino 2019, Macek 2014, Claus, Haugh, Scobies & Torquist 2001, Alm & El-Ganainy 2012, Jiang & Jiang 2014, among others). They reveal that the revenue gains from VAT are likely to be higher in an economy with higher level of per capita income, lower share of agriculture, and higher level of literacy. Evidences from Nigeria suggest that the government should plug up all identifiable administrative loopholes for VAT Revenue to contribute more significantly to Nigeria's economic growth (Omodero 2020, Ikeokwu & Micah 2019, Akhor & Ekundayo 2016, Afolayan & Okoli 2015, Onwucheka & Aruwa 2014, Oriakhi & Ahuru 2014 among others).

Of these studies, many authors find variant effects of value added tax on economic growth in Nigeria and hence this study intend to fill the gap in the literature in terms of level and shocks effect of VAT on economic growth using a wider scope of 2000 – 2019. This is pivotal to the study because the Nigerian economy has recently been experiencing significant shocks and down turns, in the level of revenue from VAT arising from the decline in economic activities as a result of the depression in the economy. Our main results showed that value added tax had a positive effect on the country's economic growth, which confirms the theoretical knowledge.

The paper is structured as follows: Section 2 reviews some literatures on value added tax and economic growth with empirical perspective. Section 3 explains the methodology and data used. Section 4 presents the results of the analysis. Concluding remarks are set out in Section 5

LITERATURE REVIEW

Value added tax (VAT) refers to an ingestion charge imposed at every phase of the absorption sequence and suffered by the ultimate end user of the product or service (Oraka, Okegbe, & Ezejiofor, 2017). Prior to the implementation of the 2020 Finance Act in Nigeria and under the VAT Act of 1993 as emended, it was obligatory for an individual seller to levy and pull together the VAT at a uniform ratio of 5% on all billed sums for merchandises and services that are not freed from VAT. However, with the introduction and implementation of the 2020 Finance Act, all materials and business activities that are not excused from VAT attract a charge of 7.5% VAT, which accounts for 50% increase in the VAT rate. Sections 10 and 11 of VATA offers the dissimilarity amid contribution VAT and production VAT. Involvement VAT refers to the tax paid to suppliers on the purchase of taxable materials and financial undertakings while the productivity VAT is the tax received from customers on the value of taxable supplies and business activities sold or rendered (Akhor & Ekundayo, 2016).

Economic Growth Economic growth has been major concern of nations whether developed or developing around the world. Economic development and Economic growth have been used interchangeably over the years; despite the slight difference between the two concepts.

According to Organisation for Co-operation and Development (OECD), economic development is a deliberate policy intervention aimed at enhancing the economic and social well-being of people, while, economic growth is a phenomenon of an active market productivity resulting in increase in Gross Domestic Product (GDP). OECD (2014) defines Gross Domestic Product (GDP) as an aggregate measure of production equal to the sum of the gross values of all resident, institutional units engaged in production (plus any taxes and minus any subsidies, on products not included in the value of their outputs). GDP is usually used as a proxy for economic development and economic growth. Scholars have offered definitions of economic growth in line with the OECD's definition.

Theoretical Framework

This study is anchored on Laffer curve theory of taxation propounded by Arthur Laffer in 1979 cited in Afuberoh & Okoye (2014). The curve illustrates a theoretical relationship between rates of taxation and the resulting levels of government revenue. With emphasis on taxable income elasticity, the theory assumes that no tax revenue is raised at the extreme tax rates of 0% and 100%. Government collect zero (0) revenue due to changes in tax payers' behavior, in response to the tax rate either losing their incentive to do business or finding numerous ways to evade tax just like 0% tax rate where no revenue is raised.

The theory further explained the two effects of taxation namely: the arithmetic and economic effects of tax rates on revenue. The two effects have opposite results on revenue in case of decrease or increase in tax rates. According to the arithmetic effect, if tax rates are lowered, tax revenue will be lowered by the amount of the decrease in the rate. That is, the amount of the tax revenue is a function of income available for taxation multiplied by the tax rate. Thus Revenue R is equal to $t \times B$ where t is the tax rate and B is the taxable base ($R = t \times B$). The economic effect however recognized the positive impact that lower tax rate has on work, output, employment and entrepreneurship growth. At a high tax rate with multiple imposition, negative economic effect like tax evasion and disinvestment will dominate arithmetic effect leading to decline in tax revenue (Lawal & Aduku, 2016).

Empirical

Simionescu and Albu (2016) analyzed the impact of the standard VAT rate on economic growth of five Central and Eastern European Countries (CEE-5), which include Bulgaria, Czech Republic, Hungary, Poland, and Romania. The study made use of panel data models including random effect model, dynamic panel, panel vector-autoregression, and data that spanned from 1995 to 2015. The findings revealed that VAT rate had a significant positive impact on economic growth. The study further applied bilateral Granger causality and Bayesian linear models, and the result indicated that VAT rate had a positive influence on the GDP rate of Hungary only. Bazgan (2018) studied the impact of direct and indirect taxes on economic growth of Romania from 2009 to 2017. The econometric model included direct taxes, indirect taxes, and GDP. The examination gave a result, which showed that positive changes implemented in the indirect tax structure had a strong positive

influence on economic growth, while such variation in the direct tax structure negatively affected the economy in the immediately following fiscal year. Newhouse and Zakharova (2007) studied the impact of VAT modification in Philippines and evaluated the various methods that were adopted to mitigate the expected consequences faced by poor households. Their survey revealed that as VAT was reformed, real household consumption experienced reduction in both poor and high income households. Further, they revealed that poor relied more upon unrefined agricultural products for consumption as they were exempt from VAT. They also found that by lessening measures aimed at social protection, hostile effect of VAT reform could be reduced.

Uwaoma and Geroje (2015) investigate the impact of value-added tax on corporate financial performance of quoted companies. The population elements include the General Managers, Chief Accountants, Finance Managers, Chief Internal Auditors, External Auditors, and Tax Administrators of the selected companies. A total of forty (40) respondents were considered for this study. A well-structured questionnaire designed in five-point Likert Scale was administered on the respondents to elicit their responses. The data generated for this study were presented in tabular form and analyzed using frequencies and simple percentages while the stated hypotheses were statistically tested with the simple regression analysis and the t-test. Their findings indicated that Value- Added Tax (VAT) impacted negatively on the financial performance of agribusinesses though the impact is of insignificant value. Akenbor and Arugu (2014) investigated state government taxation in Nigeria with a view to determine its impact on economic growth. To achieve this purpose, it was hypothesized that state government taxation has no significant impact on economic growth in Nigeria. In line with the above, related literature were critically reviewed. The data for this study were generated from the Central Bank of Nigeria (CBN) Statistical Bulletin for a period of 13 years (1999-2012) the data were analyzed with multiple regression analysis. The findings revealed that state government taxation has a significant impact on economic growth in Nigeria. Based on the above, it was recommended that state government should rise to the challenge of boosting its revenue base by ensuring that all available sources of revenue are adequately tapped and also ensure that tax administration and collections become more effective and efficient in Nigeria.

Obiakor, kwarbai and Okwu (2015) employed ex-post facto research design to investigate the effects of value added tax on consumption expenditure pattern and consumer price index in Nigeria. The study considered value added tax revenue, house hold consumption expenditure on durable and non-durable goods as well as consumer price index for the period 1994 - 2014. Data used for analysis were extracted from National Abstract of Statistics of the National Bureau of Statistics and the Statistical Bulletin of the Central Bank of Nigeria. The tools of analysis were multiple regression models on households' durable and non-durable goods consumption expenditures and consumer price index with lagged valued variants. Results showed that value added tax and one-period lagged

consumption expenditure on durable goods significantly affected households' consumption expenditure on durable goods. Further, positive significant effects were established for value added tax in relation to households' consumption expenditures on non-durable goods; and VAT, its variants and previous spending levels did not discourage households' consumption expenditures; and value added tax did not bear significant relevance on consumer price index.

Yakubu and Jibrin (2013) center their study on analyzing the impact of value added tax (VAT) on economic growth of Nigeria. Data analysis used Johansen Co integration test. The result shows that value added tax have positive impact on economic growth of Nigeria. The researcher draw conclusion that the policy makers in Nigeria should continue this fiscal policy with other macroeconomic indicators .pursuing this policy will enhance the Nigeria economy positively, more specifically in time of economic crisis in the world.

The literatures reviewed, are in contrast and this tend to unpredictability of the results. With focus on economic growth, the variables of interest for value added tax were considered individually whereas some did not take into consideration, all the variables of interest. This study will add to the literature using these independent variables (value added tax, inflation and interest rate) to analyze the effects, on economic growth in Nigeria.

METHODOLOGY

Model Specification

This study is anchored on Laffer curve theory of taxation propounded by Arthur Laffer in 1979 cited in Afubero & Okoye (2014). This research adapted the estimated model of Akhor & Ekundayo, 2019 with some modifications. The functional relationship between dependent and independent variable in this research is specified as follows:

$$\text{GDP} = f(\text{VAT}, \text{INF}, \text{INT}) \dots\dots\dots (1)$$

The above equation can be transformed into an econometric model in a semi log form as follows:

$$\ln \text{GDP} = \beta_0 + \beta_1 \ln \text{VAT} + \beta_2 \text{INF} + \beta_3 \text{INT} + \mu \dots\dots\dots (2)$$

Where, GDP is Gross Domestic Product; VAT is Value Added Tax; INF is Inflation consumer prices; INT is Interest rate; μ is stochastic variable or error term. β_0 is constant term; β_1 , β_2 , and β_3 , are parameters for value added tax, inflation rate, interest rate respectively and Ln = Natural Logarithm of the variables used to smoothen possible scholastic effect from variables at level (the logged variables are gross domestic products

and value added tax). The likelihood of multi-collinearity between value added tax and the variables in the study was rebutted by using the centered value of variance inflator factor (Finch, Bolin & Kelly 2014).

Method of Data Analysis

Phillip Perron (PP) test on each of the variables using the null hypothesis with intercept and trend were carried out to analyze the existence of stationarity or otherwise. Since the stationarity result reveals cointegration at first order difference I(I), the Autoregressive Distributive Lags (ARDL) of Pesaran, Shin, & Smith, (2001) is employed to estimate and assess the parameters and effects of the model. Wald bounds testing approach (F statistic) was applied, restricting the long-run estimated coefficients of lagged level (lag three) of each of the variables to be equal to zero, that is, ($H_0: \beta_0 = \beta_1 = \beta_2 = \beta_3 = 0$) for equation (2).

Data Description and Sources

Secondary time series data on three variables on economic growth was adopted in this study. The independent variables include value added tax (VAT), inflation rate (INF) and interest rate (INT); while the dependent variable is gross domestic product (GDP). The period 1999 to 2019 for which data are available was covered as various schemes of value added tax occurred during this period. Central Bank of Nigeria Statistical Bulletin (2019) and the World Development Indicators (WDI) were sources of the data, used on E-views 9 econometric tool.

RESULTS AND DISCUSSION

Preliminary Analysis

Figure 1 present the line and symbolic basic graph of the variables. LNGDP, LVAT, were relatively stable throughout the period with the highest and lowest range respectively. INT had a continuous reduction except between 2000 and 2002 where it slightly increased whereas INF was largely unstable with the highest increase in 2001 for the period of study (1999 – 2019).

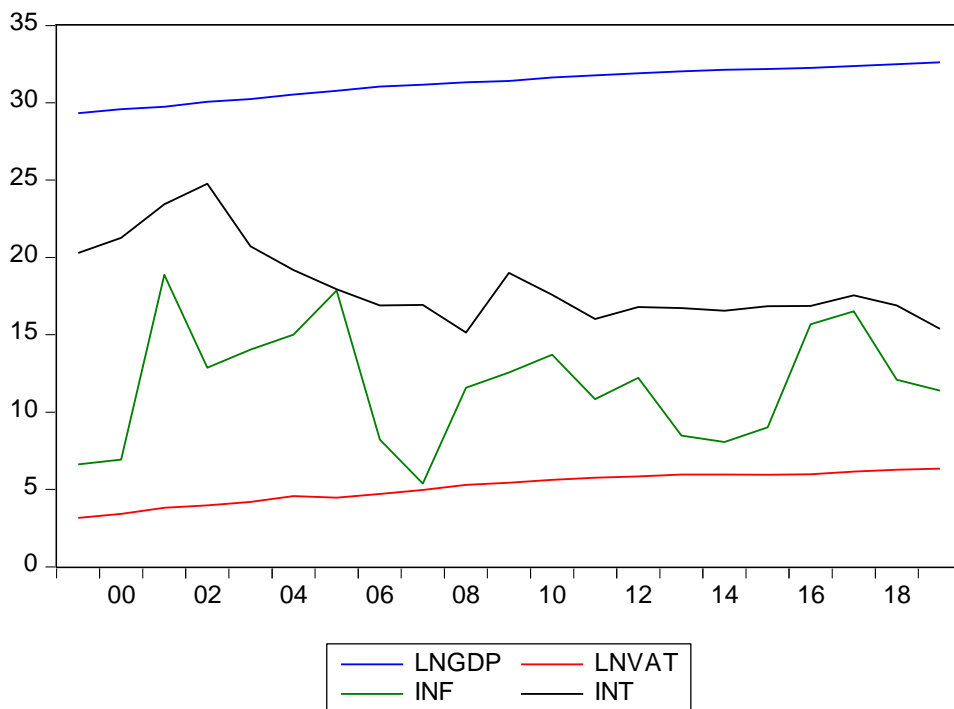


Figure 1: Line and symbol basic graph
 Source: Author's computation 2021

Descriptive Statistics

Summary statistics (mean, median, maximum, minimum, standard deviation, skewness, kurtosis and Jarque-Bera) for value added tax and gross domestic products in the model for the period of 1999 – 2019 are reported in table 1. In the table, INF's standard deviation is relatively higher compared to other variables, revealing that inflation is more volatile and unpredictable. Positive skewed values to the right, was observed for INF and INT variables, while, LNGDP and, LNVAT are negatively skewed to the left. Kurtosis statistics of INT is greater than 3 indicating that it is highly leptokurtic, whereas, the distribution of LNGDP, LNVAT and INF are highly platykurtic. Jarque-Bera statistics and P-values presented that LNGDP, LNVAT and INF are normally distributed while the null hypothesis was rejected for INT variables.

Table 1: Descriptive Statistics of the variables

| | Mean | Median | Max. | Min. | Std. Dev. | Skewness | Kurtosis | Jarque-Bera | Observations |
|---------------|--------|--------|--------|--------|-----------|----------|----------|-------------|--------------|
| LNGDP | 31.267 | 31.403 | 32.612 | 29.332 | 1.019 | -0.484 | 1.990 | 1.711 | 21 |
| LN VAT | 5.135 | 5.435 | 6.336 | 3.167 | 0.990 | -0.564 | 2.019 | 1.954 | 21 |
| INF | 11.807 | 12.095 | 18.873 | 5.388 | 3.764 | 0.107 | 2.153 | 0.667 | 21 |
| INT | 18.228 | 16.939 | 24.771 | 15.136 | 2.557 | 1.188 | 3.595 | 5.256 | 21 |

Source: Author's computation 2021

Unit Root Tests

Table 2 present the summary result of the unit root test using Philip Perron test statistics. The decision is made on trend and intercept as all variables were stationary at first difference I(1). This implies a need for long-run relationship among the variables of which ARDL model can capture.

Table 2: Summary and Decision for Unit Root Test

| Variables | Philips Perron Test Statistics (At Levels) | Critical Values @ 5% | Philips Perron Test Statistics (At 1st Diff.) | Critical Values @ 5% | Order of Integration |
|---------------|---|----------------------------|--|----------------------------|-------------------------|
| LNGDP | -1.0458 | -3.6584 | -5.0907 | -3.6736 | I(1) |
| LN VAT | -1.2108 | -3.6584 | -4.9995 | -3.6736 | I(1) |
| INF | -3.4655 | -3.6584 | -6.1945 | -3.6736 | I(1) |
| INT | -2.2565 | -3.6584 | -4.4615 | -3.6736 | I(1) |

Source: Authors computation 2021

VAR Lag Order Selection Criteria

The optimal lag length of the variables included in the ARDL model with a critical band of 5% significant level, was selected based on the FPE, AIC, SC and HQ, indicated an optimal lag length of three (3) as seen in table 3.

Table 3: VAR Lag Order Selection Criteria

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|-----|-----------|-----------|-----------|------------|-----------|------------|
| 0 | -85.2403 | NA | 0.238006 | 9.915589 | 10.11345 | 9.942871 |
| 1 | -19.07417 | 95.57330 | 0.000959 | 4.341575 | 5.330877 | 4.477986 |
| 2 | 10.25867 | 29.33284* | 0.000304 | 2.860148 | 4.640892 | 3.105689 |
| 3 | 56.21806 | 25.53300 | 3.36e-05* | -0.468674* | 2.103511* | -0.114004* |

*Indicate lag order selected by the criterion (each at 5% level). LR = Likelihood Ratio test; FPE = Final Prediction Error; AIC = Akaike Information Criterion; SC = Schwarz Information Criterion; HQ = Hannan–Quinn Information Criterion
Source: Authors computation 2021

Stability Test

The Recursive CUSUM test results in figure 2 indicated no break in the regression coefficients and no departure of the parameters from the constancy on the straight line that represents critical band at 5% significant level.

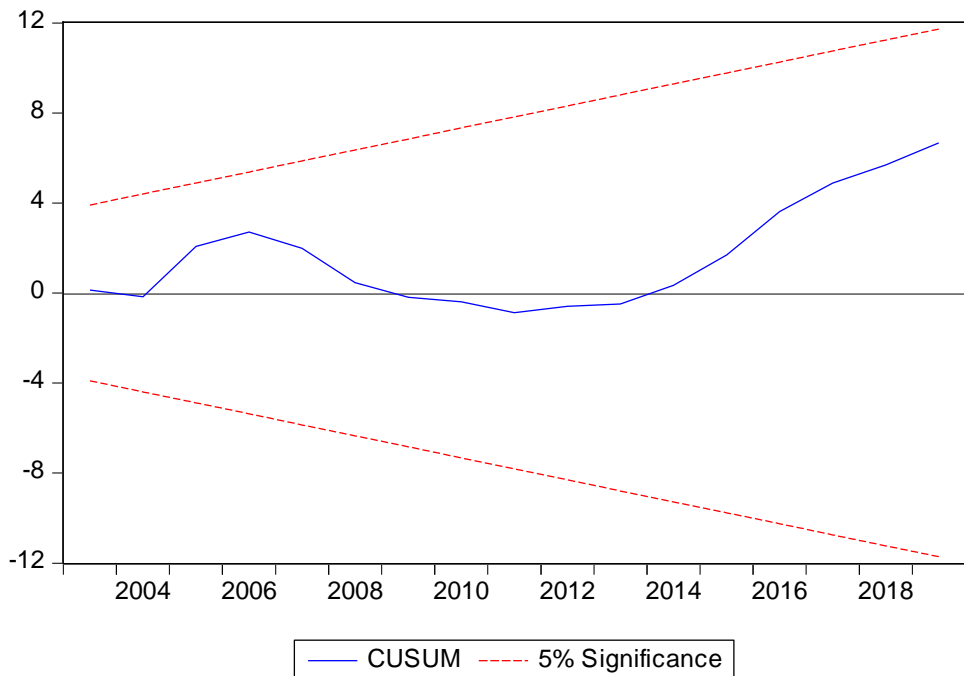


Figure 2: Cumulative Sum of Recursive Residual
 Source: Author's computation 2021

The Recursive CUSUM of squares results in figure 3 indicated no break in the regression coefficients and no departure of the parameters from the constancy on the straight line that represents critical band at 5% significant level.

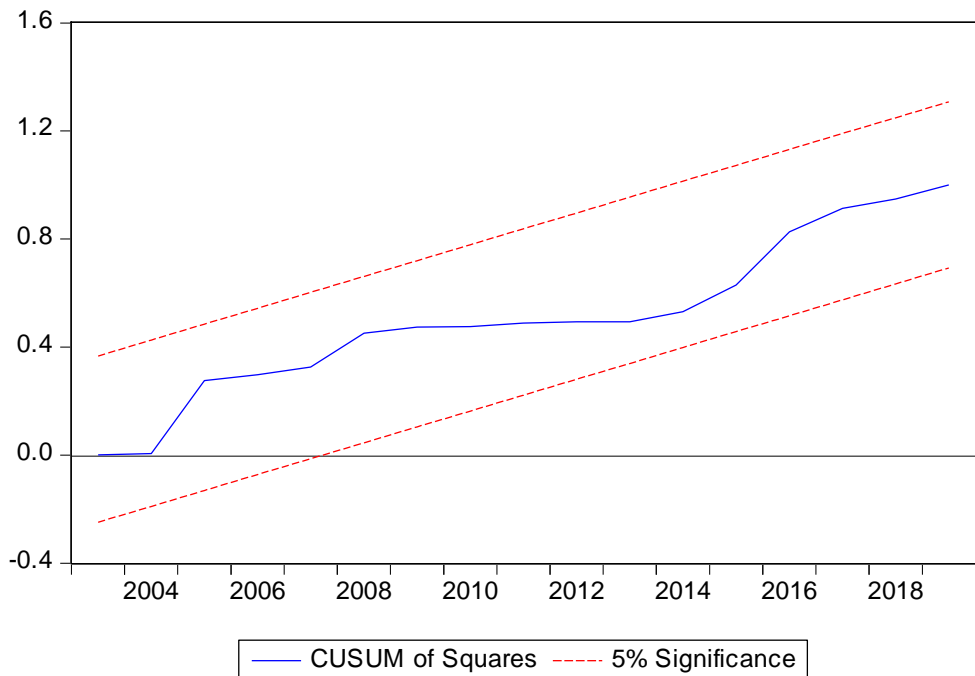


Figure 3: Cumulative Sum of Squares of Recursive Residual
 Source: Author's computation 2021

Variance Inflation Factors

The result of the variance inflation factors for each of the variable are stated in table 4. Using the centered VIF, it implies that there is absence of severe multi-collinearity between the variables since all the values are less than ten (10). This establish the non-linear relationship of the independent variables.

Table 4: Variance Inflation Factors

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|----------|-------------------------|-------------------|-----------------|
| LNVAT | 0.002265 | 85.95236 | 2.941394 |
| INF | 6.64E-05 | 14.11300 | 1.245442 |
| INT | 0.000361 | 169.8533 | 3.124675 |
| C | 0.279783 | 388.7675 | NA |

Source: Author's computation 2021

Short Run Analysis

Table 5 displayed the estimated results of the short run relationship between the Gross Domestic Product (GDP) and Value Added Tax (VAT) and as well as other intervening variables (such as Inflation (INF) and Interest rate (INT)) in Nigeria. The estimation results revealed that explanatory variables jointly account for 99 percent of the variations GDP and is statistically significant. Based on the short run analysis in Table 5, VAT has a negative and statistically significant relationship with the GDP at 5% level of significance.

Table 5: Short Run Coefficient of ARDL (2, 3, 3, 3)

| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
|--------------------|-------------|--------------------|-------------|----------|
| LNGDP(-1) | -0.177329 | 0.126883 | -1.39758 | 0.2567 |
| LNGDP(-2) | 0.874479 | 0.125425 | 6.972146 | 0.0061 |
| LN VAT | -0.245273 | 0.055522 | -4.417565 | 0.0215 |
| LN VAT(-1) | 0.199022 | 0.049105 | 4.053003 | 0.0271 |
| LN VAT(-2) | 0.014068 | 0.054099 | 0.260032 | 0.8117 |
| LN VAT(-3) | 0.101508 | 0.036551 | 2.77714 | 0.0692 |
| INF | 0.00631 | 0.003327 | 1.896403 | 0.1542 |
| INF(-1) | 0.013364 | 0.001174 | 11.38362 | 0.0015 |
| INF(-2) | 0.013075 | 0.002734 | 4.781782 | 0.0174 |
| INF(-3) | 0.009504 | 0.0035 | 2.715701 | 0.0728 |
| INT | -0.011435 | 0.007489 | -1.526958 | 0.2242 |
| INT(-1) | -0.003818 | 0.004108 | -0.929305 | 0.4213 |
| INT(-2) | -0.011926 | 0.005127 | -2.326209 | 0.1025 |
| INT(-3) | -0.01882 | 0.005919 | -3.179662 | 0.0501 |
| C | 9.841273 | 1.386345 | 7.098719 | 0.0058 |
| R-squared | 0.999957 | Mean dependent var | | 31.55334 |
| Adjusted R-squared | 0.999754 | S.D. dependent var | | 0.78149 |
| F-statistic | 4931.375 | Durbin-Watson stat | | 3.276808 |
| Prob(F-statistic) | 0.000004 | | | |

Source: Author's computation 2021

Bound Test

Long run trend between dependent variable (LNGDP) and the independent variable in the model (LN VAT, INF and INT), was arrived at by a co-integration analysis, using ARDL bounds test, where null hypothesis of no co-integration ($H_0: \beta_0 = \beta_1 = \beta_2 = \beta_3 = 0$) is tested. Table 6 reveals that the Wald F-statistic of 11.88548 is above both the upper and lower

critical bounds of 3.23 and 4.35 at 5% significant level, implying rejection of the null hypothesis and affirming a long-run relationship among the variables for the period as established by Pesaran et al. (2001).

Table 6: ARDL Bound Test for Co-integration Analysis

Gross Domestic Product

Wald F-statistic: 11.88548; K = 3

Dependent variable

| F-statistic | Lower bound | Upper bound |
|----------------------------|--------------------|--------------------|
| Bounds level | I(0) | I(1) |
| 10% critical bounds value | 2.72 | 3.77 |
| 5% critical bounds value | 3.23 | 4.35 |
| 2.5% critical bounds value | 3.69 | 4.89 |
| 1% critical bounds value | 4.29 | 5.61 |

Source: Author's computation 2021

Long Run Analysis

Table 7 displays the long run impact of LNGDP. It showed that LNVAT increases the impact of the LNGDP in Nigeria but not significantly. The coefficient of LNVAT is positive, which implies one percentage increase in value added tax increases gross domestic products by 0.23 percent and same percentage decrease in value added tax decreases gross domestic product in Nigeria. The coefficients of INF showed a positive relationship with LNGDP and it is significant. This implies that one percent increase in inflation increases gross domestic product by 0.14 percent. The coefficient of INT showed a negative and significant relationship. This implies that one percent decrease in INT would increase gross domestic product by 0.15 percent.

Table 7: Long Run Coefficient of ARDL (2, 3, 3, 3)
Long Run Coefficient

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| LNVAT | 0.228907 | 0.117407 | 1.949695 | 0.1463 |
| INF | 0.139517 | 0.02515 | 5.547408 | 0.0116 |
| INT | -0.151888 | 0.025351 | -5.991501 | 0.0093 |
| C | 32.495445 | 1.0648 | 30.5179 | 0.0001 |

Source: Author's computation 2021

Discussion of Findings

The results of each of the variables reviewed in this work varies from one another. Whereas a positive relationship existed between value added tax and inflation rate, the contrary nexus was obtained for interest rate. Conformity with the Laffer curve theory of taxation predictions on value added tax was established, as the value and level of VAT positively impacted on economic growth. The implication of this is that increase in government revenue in value and level of VAT is desirable and essential, but it should be synchronized with other fiscal policy measures in Nigeria; by encouraging accountability, transparency and blockage of leakages in the system. Ensuring a stable and sustainable VAT rate and administration will aid improvement in government revenue, lead to infrastructural development in the country and ultimately, growth in the economy. This is in line with the findings of Omodero (2020), Okwori & Ochinyabo (2014) and Frank & Angaye (2020), but contrary to that of Akhor & Ekundayo (2016).

The positive impact of inflation rate recorded in this study is consistent with the findings of Houng, Nguyen & Lien 2020. It is therefore desirable to improve the inflation rate to create a good foundation for the stability of economic growth in Nigeria. The negative results of this study on interest rate is consistent with the findings of Latief & Lefen (2018) as increase in interest rates; reduces the growth rate of a nation.

CONCLUSION AND POLICY RECOMMENDATIONS

Conclusion

This study analyzed the impact of VAT on economic growth in Nigeria from 1999 to 2019. The results revealed that in the long run, firstly, VAT had a positive relationship with economic growth, though insignificant, but a sustainable level should be maintained. Secondly, inflation had a positive and significant relationship with economic growth, which confirms the theoretical knowledge. Lastly, interest rate has a negative and significant relationship with economic growth. From the variables used to measure the effect of the VAT on economic growth, it is concluded that the policies put in place by the Fiscal authorities in Nigeria should be such as to encourage stable and sustainable VAT level in a conducive economic and political environment, using the technology of the tax collection in the areas of tax instruments, administration and compliance. This will bring about improvement in the nations productivity and revenue, lead to infrastructural development and ultimately, growth in the Nigerian economy.

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