Total Tax Revenue in Nigeria: The Contribution of Import and Non-Import Vat

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Abstract
This work looked at the forms of VAT and how it impacted on total tax revenue in Nigeria. The work empirically analysed the effect on import and non import VAT on total tax revenue. Epos factor research design was adopted, also post estimation and estimation test was used to clean up the data used for this study. Vector Error Correction Model (VECM) through the use of E-views version 10.0 was used to test the hypotheses stated and the findings review that Import VAT has a positive and insignificant relationship with the total tax revenue in Nigeria, while NIMPVAT has a negative and insignificant relationship with total tax revenue in Nigeria. It was recommended among others that Import Value Added Tax (IMPVAT) and Non-Import VAT should be properly channeled to developmental project to benefit the citizens. Government should look into the funds generated from VAT and ensure that the revenue is not mismanaged.

1.0 INTRODUCTION

1.1 Background of the Study

The political, economical and social development of any country depends on the amount of revenue generated for the provision of infrastructure in that given country. According to Azubike (2009) one means of generating the amount of revenue for providing the needed infrastructure is through well-structured tax system. Taxation is the system of imposing levy by the government against the income, profit or wealth of the individual, partnership and corporate organizations (Tabansi, 2001). Most economies rely on income from taxation for its development. Aside from its uses as a means of raising government revenue, taxation is also often used as an instrument of regulating the economy, redistributing wealth and inducing preferred modes of behavior particularly consumption patterns and investment choices (Naiyeju,1996; Oyebode, 2010). In the present dispensation of Nigeria economy, taxation has always been a means by which communities

are provided with common facilities such as roads, recreational facilities, security, amongst others from time immemorial (Obadimi, 1994).

In Nigeria Value Added Tax (VAT) is one of the instruments the federal government introduced to generate additional revenue to reduce over-dependence of the economy on oil. Ajakaiye (2000) observes that VAT has become a major source of revenue in many sub-saharan Africa countries including Nigeria. Yet most prominent Nigerians and interest groups had spoken against its introduction. It would appear that VAT is froth with some problems. After its adoption into theNigeria tax system, it has become a controversial issue that generates debate among several authors like Naiyeju (2009) that the purpose of introducing VAT as one of the methods of taxation in Nigeria is yet to be known. That notwithstanding, looking at the enormous revenue that flows into government treasury as the third revenue source in Nigeria and going by the collections, it is imperative to examine the effect that VAT in its dimension has on total tax revenue (TTR). This study therefore attempts to address the effect of VAT on TTR in Nigeria, looking at it from the view point of noimportvat and impotvat in Nigeria.

In other to achieve the above aim, the study has the following specific objectives are to:

1. Examine the effect of import VAT on total tax revenue in Nigeria.
2. Explore the influence of non-import VAT on total tax revenue in Nigeria

In line with the objectives of the study, the following hypotheses have been formulated in the null form:

$H_{O1:}$ Import VAT has no significant effect on total tax revenue in Nigeria.

$H_{O2:}$ Non-import VAT has no significant influence on total tax revenue in Nigeria.

2.0 LITERATURE REVIEW

Value Added Tax

Value Added Tax (VAT) is a consumption, multi-stage tax where incidence is borne by the final consumer of the product or service.VAT is simply called the goods and services tax (GST), it is levied on the value added that result from each exchange. VAT is a tax on spending. It is an indirect tax collected from someone other than the person who actually bears the cost of the tax. It was invented by a French economist, Maurice Laure in 1954 and was first introduced in France on 10th April, 1954 although a German industrialist Dr. Willem Von Siemens proposed the concept in 1918. Soyode and Kajola (2006) defined VAT as a consumption tax, charged at five percent on all VATable goods and services. They go further to state the attributes of VAT as follows; it is consumption tax; a multi-stage tax and the incidence of VAT is on the final consumer. According to Owolabi and Ekwu(2011) VAT is a tax consumption; the more you buy the more tax pay. It is also a neutral tax on businesses in that it does not represent a real cost to anyone but the end consumer. Everybody pays tax to the government whenever they purchase goods or services. This tax is collected for the government by the supplier of those goods and services. VAT revenue has become a significant source of government revenue in Nigeria. Therefore the primary objective of fiscal policy is to be able to raise more revenue through value added tax. The tax authorities have been guided by the need to design equitable and efficient VAT system capable of complementing

government expenditure and thus, reduce resource to public borrowing. VAT rate in Nigeria has been determined in a way that minimizes disincentive effects on economic activities.

Ola (2001) asserts that VAT is a tax paid at each stage of value added tax. It is a multi-stage tax which applies whenever goods and services are supplied by the producers. He went on that VAT are levied on the value gained or added on the products before being sold, VAT is an output tax less input tax. According to him also VAT is one of the indirect taxes collected by the government in this case the incidence of tax is borne by either the producer or the final consumer or shared by both.

The concept of VAT refers to the additional value of a commodity over the cost of commodities used to produce it from the previous stage of production. It is the value added that is levied upon. Consequently, VAT on goods and service is tax on exchanges at different points. Personal and end consumers of products and services cannot recover VAT on purchases, but businesses are able to recover VAT on the materials and services they use as input on goods directly or indirectly sold to end users.

Anyawu (1993) described VAT as consumption tax economic operations including imports except those exempted as per the provision of the decree. The system attracts flat rate of five percent and initially covers items of goods and services. The tax is covered on behalf of the government by businesses and organizations which have registered with the Federal Inland Revenue Service (FIRS) for VAT services.

These businesses and organizations can claim credit for this tax (called input tax) when goods are sold for or services rendered. VAT returns also have to be rendered monthly to the FIRS by these registered agents. The five percent VAT is called “the output tax”. Therefore VAT payable is the output tax less the input tax and is equivalent to the VAT paid by the final consumer of the products that will be collected by the government.

VAT is replacement to Sales tax which has been in operation under Federal Government legislated Decree No.7 of 1986. The aim was to increase the revenue base of government and make funds available for development purposes that will accelerate economic growth. It operated on the basis of residence. Sales Tax covers only nine categories of goods plus sales and services in registered hotels, motels and similar establishments. The narrow base of sales tax negates the fundamental principle of consumption tax which by nature is expected to cut across all consumable goods and services. Only locally manufactured goods were targeted by the sales tax Decree 1986. Consumption taxes have a wider coverage since the cause of adverse variance can be adequately controlled under proper administration (Leach, 2003). The revenue generated from consumption taxes can help to boast the financial base of any economy. This however involves exploiting the potentials and adopting the type of consumption tax that will recognize the tax payers as utility minimizing individuals and safe guarding their evading behavior. The essential consideration in choosing a consumption tax option from other tax options includes; assessment of administrative feasibility of each tax and determining its relative revenue potentials, its degree of voluntary compliance, its neutrality, its equity and the efficiency of these criteria. One can easily see under lying reasons why government replaced a Retail Sales Tax (RST) with Value Added Tax (VAT) as consumption tax.

VAT base is broader and includes most professional services and banking transaction which are high profit- generating sectors. VAT is neutral in nature. Under VAT; a considerable part to be realized is from imported goods. This means that under VAT; locally manufactured goods will not be placed at a disadvantage relative to imports. Since VAT is based on the general consumption behavior of the people, the expected high yield from it will boost the state government with the minimum resistance from the payers of tax.

In France, VAT is the most important source of state finance, accounting for nearly 50 percent of state revenue (Thacker, 2009). France's favorable experience in the administration of VAT persuaded the original five member state of the European Economic Community (ECC) to adopt the VAT. The adoption of the tax by ECC countries was made obligatory under the treaty of Rome signed in 1957 (Summerfield, 1980). VAT became operational in Nigeria on the 1st of January 1994. Though Nigeria joined the league of country operating VAT just of recent she has very unique features in the operation of the policy. VAT is charged at a flat rate of 7.5% on some items of goods and services. VAT was introduced in Nigeria following a study group set up by the federal government of Nigeria in 1991 to review the nation's tax system. It was this group that proposed VAT and in that same manner, a committee was set up to conduct a feasibility study on the implementation of the VAT (Thacker, 2009).

The above definitions and discussions vividly agree on the fact that VAT is a consumption tax levied at each stage of consumption chain and the incidence is borne by the final consumer of the product or services. Each person is required to charge and collect VAT at a flat rate of 7.5% on all invoice amounts, on all goods and services not exempted from paying VAT, under the Value Added Tax Act 2020 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 government, on a monthly basis, by the taxable person (Oserogho and Associates, 2008). Where the reverse is the case, the tax payer 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, i.e. no VAT is payable on exports. Also, VAT is payable in the currency of the transaction under which goods or services are exchanged. Every person, whether resident in Nigeria or non- resident in Nigeria under the VAT Act (as amended) is obligated to register for VAT within six months of its commencement of business in Nigeria. Registration is with the Federal Board of Inland Revenue (FBIR). The VAT ACT(as amended) provides that a foreign non-resident person or company that carries on economic activities in Nigeria is also obligated to register for VAT using the address of the person with whom it has a subsisting economic activity for purposes of correspondence with FBIR and for compliance with the VAT law. The foreign non-resident person or company is required upon registration for VAT at 7.5% percent with instructions to the receiver of the goods and services to remit the VAT in the currency of the transaction to the Nigerian government on behalf of the foreign non-resident person. A taxable person who fails to register under the Act, is guilty of an offence and liable on conviction to a fine of #50,000and, if after one month, the person is not registered, the premises where the business is carried on shall be liable to be sealed up by the FBIR (VAT Act section 32(as amended).

The collection of VAT is not different from the current system of collecting withholding taxes operated at all levels of government. Essentially the withholding tax requires the payer to withhold

(deduct) percentages specified by law from his payment and to remit such to the government. The law imposes the liability for the underlying obligation being paid as that of the year. The computation of VAT is calculated by deducing from the value of goods or services the cost of inputs of other goods or services that were used up in the process of the production of the goods or delivery of the services.

Import VAT and Tax Revenue

Import VAT is a tax that is payable on goods that are imported into Nigeria from another country. Import VAT is often payable in addition to customs duty. Businesses will almost always have to pay import VAT and customs duty if they import goods into Nigeria from outside the country (Odunsi, 2022).

Import VAT is usually charged at the rate of VAT that would have applied to the goods if they had been purchased in the Nigeria. Some goods, such as works of art, antiques and collectors' items, are subject to a reduced rate of VAT. FIRS provides more information about when businesses can pay a reduced amount of import VAT and customs duty on its website (Efuntade, 2020). FIRS will sometimes allow businesses to reclaim the import VAT they pay on goods imported into Nigeria. VAT-registered businesses can use the postponed VAT accounting method to declare and pay import VAT. Under this method, the payment of import VAT is postponed until the business completes and files its VAT return. Businesses that use this method may be able to reclaim the VAT as input tax on the same VAT return.

Alternatively, a business can choose not to wait until its VAT return date to pay import tax and can pay import VAT at the point of importation instead. The business may then be able to reclaim the import VAT as input tax on its VAT return, subject to the normal rules for reclaiming VAT. FIRS provides more information about accounting for import VAT on its website. Businesses that are not registered for VAT are unable to reclaim import VAT (Onuora&Ezejiofor, 2017).

Non-Import VAT and Tax Revenue

Non-import VAT is a form of value added tax that is levied on the locally manufactured goods and non-imported services. Non-import VAT is also levied on other services that result to value added in the local economy and its current rate is 7.5% on the income generated from the sales of goods or services.

Non-import VAT is a tax that is payable on goods that are manufactured in Nigeria. Onuora and Ezejiofor (2017) asserts that Non-import VAT is a tax paid at each stage of value added tax. It is a multi-stage tax which applies whenever goods and services are supplied by the producers. The researchers went on that VAT are levied on the value gained or added on the products before being sold, VAT is an output tax less input tax. According Onuora and Ezejiofor (2017), non-import VAT is one of the indirect taxes collected by the government in this case the incidence of tax is borne by either the producer or the final consumer or shared by both.

2.2 Review of Theory

IbnKhaldun's Theory of Taxation

This theory is explained in term of two different effects, the arithmetic effect and the economic effect which the VAT rate has on revenue. The two effects have opposite result on revenue in case of VAT rate are increased or decreased. According to the Arithmetic effect, if VAT rates are lowered, the VAT revenue will be lowered by amount of the decrease in the amount the rate. The reverse is the case for an increase in VAT rates (Ishahi, 2006)

The economic effect however recognizes the positive impact that lower VAT rates have on work output and employment and thereby the tax base by providing incentives to increase these activities whereas raising VAT have the opposite economic effect by penalizing participation in taxed activities. At a very high VAT rate, negative economic effect dominates positive arithmetic effect, thereby, the VAT revenue declines (Ishlahi, 2006).

Going by the above theory, it is fruitless to work with high VAT rates because of the negative economic effects which dominate the positive arithmetic effect.

To work towards achieving the object of taxation in general and VAT in particular, the rate of increase should consummate with the degree of positive effect on the total tax revenue of Nigeria. In other words, VAT rates should not be increased without considering the effect on total tax revenue of the economy.

2.3 Review of Empirical Literature

Desai *et al* (2004) stated that governments have at their disposal many tax instruments that can be used to finance their activities. These tax alternatives include personal and corporate income taxes, sales taxes, value added taxes, capital gain taxes and others. It is not uncommon for a country to impose all of these taxes simultaneously, contrarily, in choosing what tax instruments to use and what rates to impose. Governments are typically influenced by their expectations of the effects of taxation on investment and economic activity, including foreign direct investment (FDI). They stated that there is extensive empirical study that high corporate income tax rates are associated with low level of FDI. The yield from VAT is a fairly accurate measurement of growth of an economy, since purchasing power will determines yield increase with economy growth.

Izedonmi and Okanbor (2014) examine the contribution of VAT to the development of the Nigeria economy. Time series data on the Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and (Federal Government) Revenue from 1994 to 2010 sourced from Central Bank of Nigeria (CBN) were analyzed, using both simple regression analysis and descriptive statistical method. Findings showed that VAT Revenue and total revenue account for 92 percent of variations in the GDP. Also a positive and insignificant correlation exists between VAT Revenue and GDP. Both variables fluctuated greatly over the period though VAT Revenue was more stable.

Olawale (2014) carried out a research work on the impact of Value Added Tax on revenue generation in Nigeria. Secondary data used were collected from CBN Statistical Bulletin, journals and textbooks with related materials to the research topic within the study period of 1994 to 2014. The findings of the analysis show that there is significant relationship between Value Added Tax and consolidated revenue generation in Nigeria.

Okoye and Gbegi (2013) studied the influence of value added tax on wealth creation in Nigeria. They used secondary data generated from Federal Inland Revenue Service and Federal Bureau of

Statistics. Statistical analyses with the aid of a table and simple percentages are used, while the hypotheses formulated are tested using the product movement correlation coefficient and student t-test. The findings indicate that revenue generated through VAT has a significant influence on wealth creation in Nigeria and also that revenue generated through VAT has a significant effect on total tax revenue in Nigeria. The significant aspect of their findings is that VAT is the bedrock of wealth as it contributes significantly to the nation's gross domestic product (GDP). Therefore, government should give adequate attention to taxation in general and VAT in particular under a stable and conducive socio-political and economic atmosphere.

Onaolapo *et al*. (2013) carried out an assessment of value added tax and its effect on revenue generation in Nigeria. They made use of stepwise regression analysis. Their findings show that VAT has a statistically significant effect on revenue generation in Nigeria. The results from their analysis reveal that VAT is beneficial to the Nigerian economy. An important implication of their findings is that for Nigeria to attain its economic growth and development, she must be able to generate enough revenue in order to meet up with the challenge of her expenditures in terms of provision of social amenities and the running costs of the government. The highlight of their result is that if more goods and services are produced and taxed, the revenue base of the country will increase.

Adesina and Dada (2013), attempt to determine the long-run equilibrium relationship and direction of causality between VAT revenue and state investment spending in Nigeria between 1994 and 2010. Time series data on variables (state investment expenditure and VAT revenue) covering the period (1994-2010) are used. The unit root property of each of the variables is investigated using Augmented Dickey-Fuller (ADF) and Philips-Perron- (PP) unit root tests. The study also employed Johnansen Co-integration technique to find out if group of I (i) variables converge to a long-run equilibrium, Vector Error Correction Mechanism (VECM) is used to find out the causal link between the two variables. The result shows that both variables are 1 (1) process. Also the two 1 (1) variables are found to converge to a long-run equilibrium.
Also the VECM results indicate that long-run bidirectional causality exists between VAT revenue and state investment spending. The result also reveals short-run causal evidence between VAT revenue and state investment spending. This implies that VAT revenue influenced state investment spending and state investment spending also influences VAT revenue.
Umeora (2013) investigates the effects of VAT on economic growth (GDP) and total tax revenue in Nigeria. Simple linear regression method is used to analyse time series data relating to VAT, GDP and total revenue for period 1994 to 2010 and computation done with the assistance of Statistical Package for Social Sciences- (SPSS). The regression analysis results show that VAT has significant effect on GDP and also on total tax revenue.

Adereti, *et al*., (2011) examine VAT and economic growth of Nigeria. Times series data on GDP, VAT revenue, total tax revenue and total (Federal Government) revenue from 1994 to 2008 are analysed, using both simple regression analysis and descriptive statistical method. The findings show that the ratio of VAT Revenue to GDP averaged 1.3 percent compared to 4.5 percent in Indonesia, though VAT revenue accounts for as much as 95 percent significant variations in GDP

in Nigeria. It is established from the findings that a positive and significant correlation exists between VAT revenue and GDP.

Unegbu and Irefin (2011) examine the impact of VAT on economic development of emerging nations. In their study, they made use regression discriminant analysis and ANOVA. The finding shows that VAT allocations have a very significant impact on expenditure pattern of the state during the same period. It also observes that VAT has a minimum impact level on the economic and human development of Adamawa state from 2001 to 2009.

Nwafor (2010) in his study on the effect of VAT on the Nigerian economy from 1997 to 2007 used regression analysis. The empirical result shows that VAT has a significant positive effect on Nigerian economy as well as on consumption patterns of Nigeria. Evidence from her result also shows that there is no significance difference between inflation rate before the introduction of VAT and after the introduction of VAT. However, she argued that the introduction of VAT in the Nigeria economy has contributed significantly to increase Economic growth and increased standard of living.

Olaoye (2009) reviews VAT administration in Nigeria. Simple percentages and chi-square $(X)^2$ are used for data analysis. The findings show that VAT is properly and effectively administered, the problem it faces now is that of inadequate and well trained personnel. VAT has economic implication on consumption pattern. VAT has high impact on government revenue. The existing tax laws on VAT are adequate for efficient collection and returns. A substantial population of Nigerians is aware of the existence of VAT. Though VAT has been known to be detective in some areas, it has been able to serve the purpose for which it was introduced to a considerable length. Finally, the decision by the government to replace the former sales tax with Value Added Tax has been a worthwhile one.

Aruwa (2008) analyses the relevance and the problems of VAT in Nigeria. Both secondary and primary data are used for the analysis and descriptive statistics as tool for analysis. In the study VAT has been found to have high capacity to improve tax revenue generation in Nigeria. However, increase in tax rate might not significantly improve revenue generation as expected if the framework for assessment and collection of VAT remains ineffective. There will be a negative impact on public consumption and savings patterns, more seriously, if revenues earned are not judiciously spent on key public expenditure sectors. Efurueze and Ekezie (2004) in their study of Nigeria tax system economic growth: A times analysis found that indirect tax (VAT and CED) contribution to total revenue and economic growth glucoses more than direct tax. This implies that indirect tax shows future growth prospects rate than direct tax.

METHODOLOGY

3.1 Research Design

The study adopts the historical researchmethod in an attempt to evaluate the effect of Value Added Tax (VAT) on Total Tax Revenue in Nigeria. The purpose of historical research is to obtain a better understanding of the present through the evaluation of the past and intelligent prediction of the future (Adefila, 2008).

The issues relevant to the design are presented as follows: study period, variable specification, data collection techniques, validation and reliability of instrument and data analysis techniques.

3.2 Population / Sample Size of the Study

To achieve the stated objectives of this study, annual time series data for the period 2000-2022 are used, covering a period of twenty-three (23) years. This period gives sufficient observation for the use of statistical tool for data analysis. The researcher also believes that the sample of the study is a good representation of the study area.

3.3 Sources of Data/Data Collection Techniques

The major source of data for this study is through the secondary sources. Again, to achieve the stated objectives of this study, annual time series data for the period 2000-2022 were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin and records from Federal Inland Revenue Service (FIRS). Other available sources of data used include journals, Books and Magazines etc which are relevant to this study.

3.5 Model Specification

The objective here is to estimate the deterministic relationship between the variables in line with theoretical postulations. The simple regression model is specified as follows;

TTR = F(IV,NIV) …….. (1)

Where,

TTR=total tax revenue

F=function

IV= Import VAT

NIV=Non-import VAT

The explicit form of the model is shown below;

$TTR = b_0 + b_1 IV + b2 NIV + U$ …… (2)

Where

b_1 and b2 are the coefficient of determination

U = Error (stochastic) term that covers other sources of VAT revenue not covered here.

It is pertinent to note that the variable is TTR. *A priori* expectation of the models is:

$b_0>0$, $b_1>0$.

3.6 Methods of Data Analysis

Descriptive analysis of the series was done and diagnostic test were executed on the residuals of the series in the model. As a matter of fact, normal distribution of variables is requisite in a parametric statistical method; hence skewness and kurtosis give indications as to the nature of distribution of variables. Therefore, to test for normality of the non-trimmed and trimmed data, Jarque Bera residual test was employed. The Jarque-Bera test discussed extensively in Jarque and Bera (1980) is a diagnostic of departure from normality based on the sample Kurtosis and Skewness. To avoid the consequences of autocorrelation and spurious analysis, test for stationarity are performed on the data to ensure that the series are stationary. The data are tested for unit roots, using the Augmented Dickey-Fuller (ADF) test. Co-integrationTest was also carried out and this is to establish whether there is a long run co-integrating relationship among the variables. To test for the existence of short run dynamics the Vector Error Correction Mechanism was carried out, assuming the variables are co-integrated. VECM was popularized by Engle and Granger in 1987(Kareem, 2007). It is used for the treatment of the error term. **Regression Analysis**

It mainly used to establish whether one variable is dependent on another or a combination of other variables. It entails establishing the coefficients(s) of regression for a sample and then making inferences on the population. To test for the hypothesis, the multiple regression equation model adopted from Akinlo (2004) with modification to suit this study was used. Multiple regression model was used to analyze the hypotheses of the study.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.2 Descriptive Statistics

The descriptive statistics shows the description of the data in the study. The descriptive statistics describes the mean, median, mode, standard deviation and normality test. Table 4.1 shows the descriptive statistics of the variables for the time period.

Table 4.1 Descriptive Statistics

	TTR	IMPVAT	NIMPVAT
Mean	7009.520	151.0809	572.7787
Median	7303.670	164.6400	492.0600
Maximum	11116.85	521.5000	1990.020
Minimum	1731.840	8.770000	49.70000
Std. Dev.	3102.739	143.0907	495.0926
Skewness	-0.326880	1.167925	1.348961
Kurtosis	1.831383	3.727215	4.486437
Jarque-Bera	1.718355	5.735660	9.092938
Probability	0.423510	0.056822	0.010605
Sum	161219.0	3474.860	13173.91
Sum Sq. Dev.	2.12E+08	450449.1	5392567.
Observations	23	23	23

The descriptive statistics of the dependent and independent variables in the model are displayed in table 4.2. From 2000 to 2020, the mean value of Total Tax Revenue (TTR), Import Value Added Tax (IMPVAT) and Non Import Value Added Tax (NIMPVAT)are ₦7009.52 billion,₦151.0809 billion and ₦572.7787 billion respectively. These figures may be compared with the respective maximum values of TTR, IMPVAT and NIMPVAT which are ₦11116.85 billion, ₦521.5 billion and ₦1990.02 billion respectively. It can be concluded that the means of all the variables are significantly lower than their maximum values. Skewness is a measure of asymmetry of the distribution of series around its mean. The skewness of all the variables apart from the dependent variable (TTR) is above zero. This indicates that the independent variables (IMPVAT and NIMPVAT) have a positive skewness. Thus, there is a right long-tailed distribution for the observation of each of the independent variables. Meanwhile, the dependent variable (TTR) is negatively skewed. The Kurtosis of a normal distribution is 3. Table 4.2 further shows that TTRhas a Kurtosis that is less than three, indicating that TTR is platykurtic. Meanwhile, the kurtosis of IMPVAT andNIMPVAT are greater than 3 indicating the distributions are leptokurtic.

4.3.1 Unit Root Test

In determining the characteristics of time series variables, a preliminary analysis is to test if the series are stationary or not. In other words, this preliminary analysis is conducted to test for the presence of a unit root in the series. The Augmented Dickey Fuller (ADF) unit root test was applied and the results are shown in table 4.3.1.

Table 4.2 Summary of the Augmented Dickey Fuller Unit Root Test

Variable	ADF Stats	5% Critical Level	Remarks
TTR	-1.971381	-3.004861	Not stationary
IMPVAT	-1.584879	-3.004861	Notstationary
NIMPVAT	-0.160122	-3.012363	Not Stationary
ΔTTR	-4.549842	-3.012363	Stationary
ΔIMPVAT	-4.605851	-3.012363	Stationary
ΔNIMPVAT	-3.529246	-3.012363	Stationary

The empirical results of the Augmented Dickey Fuller (ADF) unit root test at 5 percent critical levels in table 4.3.1 indicates that all the variables (TTR, IMPVAT andNIMPVAT) are not stationary at levels. However, all the variables became stationary after first differencing. Hence, the variables are of the same order of integration 1(1). This conclusion is based on comparison of the Augmented Dickey Fuller statistics and the critical values provided by Mackinnon (1996). Since the variables are 1(1) series, this permits us to conduct the Johansen cointegration test to know if a long run relationship exists among the variables.

4.3.2 Cointegration Test

A cointegration test can only be performed after we have established the fact that our variables of interest have first differenced stationarity. A cointegration test tells us that there exists a long run relationship between or among the variables and that they will not wander far apart away even though on the short run they exhibit random walk behavior. Table 4.3.2 below shows the two types of test statistics, the trace and the maximum eigenvalue statistics, which indicate that there are two (2) cointegrating equations respectively. We can now move on and estimate our vector error correction regression model.

Table 4.3 Johansen's Cointegration Test

Date: 09/03/23 Time: 01:04
Sample (adjusted): 20032022
Included observations: 20 after adjustments
Trend assumption: Linear deterministic trend
Series: TTRIMPVATNIMPVAT
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.834032	86.64605	47.85613	0.0000

At most 1 *	0.716853	43.54301	29.79707	0.0007
At most 2	0.404635	13.26004	15.49471	0.1056
At most 3	0.033352	0.814098	3.841466	0.3669

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.834032	43.10304	27.58434	0.0002
At most 1 *	0.716853	30.28298	21.13162	0.0020
At most 2	0.404635	12.44594	14.26460	0.0950
At most 3	0.033352	0.814098	3.841466	0.3669

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

4.4Test of Hypotheses

In an attempt to test the two hypotheses stated in chapter one of this study, the variables were tested using the Vector Error Correction Model (VECM) through the use of Eviews version 10.0 to determine the extent to which the independent variables (IMPVAT and NIMPVAT) influence the dependent variable (TTR) in this study.

Table 4.4Impact of Value Added Tax on TTR in Nigeria

Vector Error Correction Estimates
Date: 09/03/23 Time: 21:02
Sample (adjusted): 2003 2022
Included observations: 20 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
TTR(-1)	1.000000
IMPVAT(-1)	0.295163 (0.31915) [0.92484]
NIMPVAT(-1)	-0.683991 (0.38875)

	[-1.75946]		
C	-2.615519		

Error Correction:	D(TTR)	D(IMPVAT)	D(NIMPVAT)
CointEq1	-0.808426	-0.129011	-0.153602
	(0.20760)	(0.16951)	(0.06015)
	[-3.89413]	[-0.76109]	[-2.55357]
D(TTR(-1))	0.153238	0.084555	-0.089800
	(0.20817)	(0.16997)	(0.06032)
	[0.73612]	[0.49746]	[-1.48881]
D(IMPVAT(-1))	0.541418	-0.067150	0.254915
	(0.40637)	(0.33180)	(0.11774)
	[1.33233]	[-0.20238]	[2.16499]
D(NIMPVAT(-1))	0.139603	0.799141	0.704795
	(0.61854)	(0.50505)	(0.17922)
	[0.22570]	[1.58232]	[3.93256]
C	0.048584	0.050411	0.037526
	(0.04561)	(0.03724)	(0.01322)
	[1.06521]	[1.35365]	[2.83961]
R-squared	0.606949	0.321024	0.762584
Adj. R-squared	0.577669	-0.075046	0.624092
Sum sq. resids	0.099699	0.066468	0.008370
S.E. equation	0.091150	0.074425	0.026410
F-statistic	9.647199	0.810524	5.506324
Log likelihood	24.63451	28.68884	49.40946
Akaike AIC	-1.663451	-2.068884	-4.140946
Schwarz SC	-1.265159	-1.670591	-3.742653
Mean dependent	0.038500	0.075500	0.066500
S.D. dependent	0.115543	0.071780	0.043076

HO_1:There is no significant relationship between Import Value Added Tax and the total tax revenue in Nigeria.

In reading a regression result, a variable is considered significant when the value of the t-statistic is greater than +2 or is less than -2 or the p-value is at least 0.05. In Table 4.4 above, Import Value Added Tax(IMPVAT) has a coefficient of 0.541418in the short run which is statistically

insignificant with a t-statistic of 1.33233. Also, in the long run, IMPVAT was found to have a positive coefficient of 0.295163which is insignificant with a t-statistic of 0.92484. This implies that Import VAT has a positive and insignificant relationship with the total tax revenue in Nigeria. For the variable coefficient, a 1% change in IMPVAT leads to about0.29-unit increase in Total Tax Revenue (TTR), all things being equal.

Since the T-statistic value (0.92484) of IMPVAT is less than 2, the null hypothesis is hereby accepted and we conclude that Import VAT has no significant relationship with the total tax revenue in Nigeria.

HO_2: There is no significant relationship between Non Import Value Added Tax and the total tax revenue in Nigeria.

Table 4.4 above also shows that NIMPVAT has a positive coefficient of 0.139603in the short run whichis statistically insignificant with a t-statistic of 0.22570. In the long run, NIMPVAT was found to have a negative coefficient of -0.683991which is statistically insignificant with a T-statistic of -1.75946. This implies that NIMPVAT has a negative and insignificant relationship with total tax revenue in Nigeria. For the variable coefficient, a 1% change in NIMPVAT leads to a 0.68-unit decrease in TTR in the long run, all things being equal.

Since the T-statistic value (-1.75946) of NIMPVATis less than 2, the null hypothesis is hereby accepted and we conclude that Non-Import VAT has no significant relationship with the total tax revenue in Nigeria.

Model Summary

The value of the Adjusted R-Squared of 0.577669implies Import Value Added Tax (IMPVAT) and Non Import Value Added Tax (NIMPVAT) explained about 57.8% systematic variations in the dependent variable (TTR) over the observed years while the remaining 42.2% variations are explained by other determining variables outside the model.The F-statistic shows a significant value of 9.647199which is greater than2. This means that the effect of the independent variables (IMPVAT and NIMPVAT) on the dependent variable (TTR) did not happen by chance.

Serial Correlation Test

Serial autocorrelation test was conducted to make sure that the estimated results are reliable. Table 4.5 shows the result of the VEC Residual Serial Correlation LM Test.

The VEC residual Serial Correlation LM Test shows that there is no serial correlation since the probability statistics of the F Statistics is greater than the 5% level of significance.

Table 4.5VEC Residual Serial Correlation LMTest

VEC Residual Serial Correlation LM Tests
Date: 09/03/23 Time: 01:10
Sample: 20002022
Included observations: 20

Null hypothesis: No serial correlati

on at lag h

Lag	LRE* stat	df	Prob.	Rao F-stat	Df	Prob.
1	27.83563	16	0.0331	2.062864	(16, 34.2)	0.3073
2	26.94709	16	0.0421	1.973282	(16, 34.2)	0.4570

Null hypothesis: No serial correlation at lags 1 to h

Lag	LRE* stat	df	Prob.	Rao F-stat	Df	Prob.
1	27.83563	16	0.0331	2.062864	(16, 34.2)	0.3073
2	40.42026	32	0.1459	1.365099	(32, 27.4)	0.3150

*Edgeworth expansion corrected likelihood ratio statistic.

4.5 Discussion of Findings

In assessing the impact of Import Value Added Tax on the total tax revenue in Nigeria, two (2) explanatory variables were taken into account; Import Value Added Tax (IMPVAT) and Non Import Value Added Tax (NIMPVAT).

The results of our study showed that Import Value Added Tax (IMPVAT) has a positive and insignificant effect on the total tax revenue in Nigeria. The findings of this study are in line with the results of Izedonmi & Okanbor (2014) which stated that a positive and insignificant correlation exists between VAT Revenue and GDP.

However, Non Import Value Added Tax (NIMPVAT) was found to have a negative and insignificant impact on the total tax revenue in Nigeria. This finding corroborates the results of Olakunbi, Omalara & Oluwatosin (2022);Okoror and Onatuyeh(2018) which also revealed that VAT(local) has a negative and insignificant relationship with the GDP.

The findings of this study negate the results of Odu(2022); Odunsi (2022);Efuntade (2020); Ubesie, Igweonyia & Ubaka (2019);Ugwu,Peter,Udolu (2019); Yusuf (2018); Onuora, okegbe & Ezejiofor (2017); which opined that there is significant relationship between Value Added Tax and consolidated revenue generation in Nigeria.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study was conducted to ascertain the effect ofValue Added Taxon the total tax revenue in Nigeria. The study is carried out to determine the effect of Import Value Added Tax (IMPVAT) and Non Import Value Added Tax (NIMPVAT) on the Total Tax Revenue (TTR) of Nigeria. The data used in the study were extracted from the Central Bank of Nigeria Annual Economic Reports and Statistical Bulletins. The result from the trend analysis indicated that Import Value Added Tax (IMPVAT) has a positive and insignificant effect on the total tax revenue in Nigeria. Hence, this study concludes that that Import Value Added Tax has no significant impact on the revenue generation in Nigeria.

This study also discovered that Non Import Value Added Tax (NIMPVAT)has a negative and insignificant relationship with the total tax revenue in Nigeria. Hence, this study concludes that Non Import Value Added Tax has no significant impact on the revenue generation in Nigeria. Generally, this study concludes that there is no significant relationship between Value Added Tax and the total tax revenue in Nigeria.

5.2 Recommendations

Based on the observed key findings and conclusions drawn above, the following recommendations are made.

i. Import Value Added Tax (IMPVAT) and Non-Import VAT should be properly channeled to developmental project to benefit the citizens. Government should look into the funds generated from VAT and ensure that the revenue is not mismanaged by some corrupt officials.
ii. Government should engage in a complete re-organization of the tax administrative machineries in order reduce tolerable problems of tax evasion and avoidance.

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