

Effect of Value Added Tax, Customs and Excise Duties on Nigeria Economic Growth

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Abstract: *The study examines the effect of Value Added Tax and Customs and Excise Duties on Nigeria Economic Growth. Secondary sources were explored in data gathering while simple regression technique was employed in data analysis for test of the study hypotheses. Furthermore, correlation analysis was applied in the assessment of the relationship between the non-oil revenue sources and Nigeria Gross Domestic Product. The outcome reveals that all the non-oil tax revenue affects Nigeria Gross Domestic Product. On the side of the relationship among the variables studied, the strength of their relationship is very high for all the variables. The researcher concludes that Value Added Tax and Customs and Excise Duties are some of the major contributors to Nigeria Gross Domestic Product. The revenue sources could be used to predict the value and status of the nations' Gross Domestic Product as indicated by the strength of the relationship between the variables. The federal, state and local authorities therefore could finance a reasonable proportion of their capital and recurrent budget through non-oil tax revenue.*

Keywords: VAT, Customs, Excise, GDP, Duties, Regression, Government, Nigeria.

1. INTRODUCTION

It is worthy of note that in Nigeria, taxation is one of the oldest means by which the cost of providing essential services for the generality of persons living in a given geographical area is funded by government which is also saddled with the responsibility of providing some basic infrastructures for their citizens (Oladipupo and Ibadin, 2015). The researchers emphasized that tax under any jurisdiction is discriminatory, in that it is assessed on persons or property based on profits/income or gain, the benefit conferred on the citizens is without reference to the contributions of individual tax payers. Government also gets involved in activities geared towards stabilization of the economy, redistribution of income, maintenance of law and order, defence against external aggression, regulation of trade and business to ensure social and economic maintenance, provision of services in the form of public goods (Abiola & Asiwah, 2012). However, the serious decline in the prices of oil in recent times has led to a decrease in the funds available for distribution in the federation account to the federal, state and local governments (Afuberoh & Okoye, 2014).

In the arena of taxes on commodities and services, the global trend has been towards simplification and rationalization in the structure of taxes; that led to enlargement of the tax base resulting in value added tax (VAT) replacing the other cascade type commodity taxes (Purohit & Purohit, 2010). VAT started to be implemented internationally in the 1960s, and since then, its use has grown rapidly around the world such that by April 2001, some 123 countries had implemented VAT systems (Glenday & Hollinrake, 2005). The researchers further reiterated that because VAT is fairly demanding in terms of high standards of accounting and book keeping, it places a significant compliance burden on the private sector taxpayer and any new tax system also demands the development of adequate tax administration capacity to make it efficient and effective.

The fiscal system in Nigeria is undergoing revolutionary changes, especially in the field of taxation and most of other developing countries have reformed their tax systems by reducing the number of rates as well as exemptions (Purohit & Purohit, 2010). These reforms may involve the adoption of a Value Added Tax (VAT) in place of sales tax as done in Nigeria in 1993, the expansion of the VAT, the elimination of stamp and other minor duties as done in Kenya, the simplification and broadening of personal or corporate income or asset taxes, or the revision of the tax code to enact comprehensive administration and criminal penalties for evasion.

Value Added Tax (VAT), which is currently 5% of invoice value of goods and services except items specifically stated as exempt or zero-rated, is a tax on the supply of goods and services which is eventually borne by the final consumer but collected at each stage of the production and distribution chain by the Federal Inland Revenue Service (FIRS). It is eventually borne by the final consumer, (however sometimes multiple layers do bear part of the burden).

Economic growth has been defined as the sustained increase in a country's productive capacity (as measured by comparing the gross national product in a year with that of the previous year), increase in per capita national output or net national product over a long period of time which occurs when a nation's production possibility frontier shifts outward (Salami, Apelogun, Omidiya & Ojoye, 2015). Customs duty is the tax charged most times on the value of goods or upon the weight, dimensions, or some other criteria that will be determined by the government on imports by the customs service of Nigeria to raise revenue for the country and also to save domestic and infant industries from cut-throat competition. Customs and excise duties are the oldest forms of modern taxation and are otherwise known as import duties which are charged either as a percentage of the value of import or a fixed amount on specific quantity (Fasoranti, 2013).

The study aims at examining the effect of Value Added Tax, Customs and Excise Duties on Nigeria Economic Growth. The remaining part of the paper is arranged in four distinct sections as follows: Section 2.0 comprises the existing literature under review, Section 3 states the methodology employed for data collection and analysis, Section 4 discusses the findings, while Section 5 summarizes the entire study.

2. REVIEW OF RELATED LITERATURE

Ability to Pay Principle, also known as the equality of sacrifice theory, was propounded in Adam (1776) and it states that persons should pay taxes in proportion to their individual capacity; which means that people with higher income should pay more than people with lower income. Expediency theory states that the economy, effectiveness and efficiency of tax collection instrument should be given the desired consideration in any tax policy. These policies provide set of tools to the tax authorities and such tools are used for remedying economic and social ills of the society such as income inequalities, regional disparities, and unemployment and infrastructural decays. (Chigbu, Eze & Ebimobwei, 2011)

Oladipupo and Ibadin (2015) examines the impact of indirect taxes on economic growth of Nigeria, utilizing time series data spanning a thirty-four year period, from 1981 to 2014. The residuals, whose unit root are usually tested at level, were found to be stationary while all other variables, such as the Value Added Tax (VAT), Petroleum Profit Tax (PPT) and Custom and Excise Duties (CED), except the Real Gross Domestic Product (RGDP), were stationary at second difference, suggesting a long run relationship. Consequently, the study utilized the Error Correction Model to evaluate the impact of VAT, PPT and CED on the RGDP. The findings revealed that VAT and PPT exert a positive and significant relationship on the RGDP. It was also revealed that CED of two period lags has a positive relationship with RGDP and VAT of two-period lags showing a negative but significant relationship with RGDP. On the basis of these findings, it is suggested that some caution on the part of the government is required to identify all administrative loopholes for linkages to plug and to continue to maximize the contribution of VAT revenue to economic growth. This is important when it is realized that any action taken on VAT, as it relates to RGDP will take a year to become effective while taking two years to slow down the economy.

Okafor (2012) explores the impact of income tax revenue on the economic growth of Nigeria as proxied by the gross domestic product (GDP). The ordinary least square (OLS) regression analysis was adopted to explore the relationship between the GDP (the dependent variable) and a set of federal government income tax revenue heads over the period 1981-2007. A simple hypothesis was formulated in the null form which states that there is no significant relationship between federally collected tax revenue and the GDP in Nigeria. The regression result indicated a very positive and significant relationship. However actual tax revenue generated in most years fell below the level expected. The anomaly was attributed to dysfunctionalities in the income tax system, loopholes in tax laws and inefficient tax administration.

Mukarram (2005) examines the elasticity and buoyancy of major taxes in Pakistan over the period 1981-2001 by using the Chain Indexing Technique. The study reveals that estimates of elasticity and

buoyancy are higher for direct taxes followed by sales taxes. However, customs and excise duties appear to be relatively rigid, due to which the overall tax elasticity is also low. Further, the estimates of buoyancy are higher than their corresponding elasticities for all the taxes, confirming thereof that most of the growth in revenues has been achieved due to enhanced tax rates and broadened tax bases instead of automatic growth.

Yousuf and Jakaria (2013) applied two important measures to assess the efficiency of tax system in terms of its mobilization capacity. They are tax buoyancy – total response of tax revenue to change in national income and discretionary change in tax policy over time; and tax elasticity – automatic response of tax revenue to GDP changes less the discretionary tax changes. In this study, the researchers used Exponential Smoothing Method and Slope Dummy to address the big policy changes for eliminating the effects of the Discretionary Tax Measures (DTM) on historical Time Series Data for the period 1980-2011 to estimate the elasticity of the Bangladesh tax system. The study reveals that estimates of elasticity and buoyancy are higher for Direct Taxes followed by Sales Tax and VAT. However, Customs Duties appear to be rigid, due to which the overall tax elasticity is relatively low. Further, the estimate of buoyancy is higher than their corresponding elasticities for all the taxes, confirming thereof that most of the growth in revenues has been achieved due to discretionary changes instead of automatic growth.

Dragos (2014) explained that the economic crisis that began in 2007 led to lower global economic growth, which generated lower revenues, including the decrease of the taxes. At EU level, the researcher stated that at the beginning of the financial crisis the share of taxes in GDP was 39.3% in 2008, recorded a downward trend in 2009 and 2010, increasing to 38.8% in 2011. In Romania the share of tax revenues in GDP has experienced a steady upward trend, from 17, 72% in 2009 to 19.41% in 2012. The evolution of VAT and of the excise duties is analyzed in this article, starting from the official data of the European Union, focusing on the Romanian official statistics for the period 2008-2012, which I processed and interpreted. The analysis shows that in Romania, the VAT and the excise duties had a growth of the absolute values between 2008 - 2012 and also, an increase of their share in GDP. At European level there is an increase in the share of VAT in GDP by 0.4 percentage points in 2009-201, reaching 7.1%, and a relative increase in excise duties (0.1 pp) and indirect taxes (+ 0.5 pp).

The impact of Value Added Tax on the economic growth of Nigeria was investigated by Adereti, Adesina & Sanni (2011). Time series data on the Gross Domestic Product (GDP), Vat Revenue, Total Tax Revenue and Total (Federal Government) Revenue from 1994 to 2008 was collected for analysis using multiple regression technique. The findings showed that the ratio of VAT Revenue to GDP averaged 1.3% compared to 4.5% in Indonesia and indicated a positive and significant correlation between VAT Revenue and GDP. The study further revealed that no causality ran from GDP to VAT Revenue at a lag of two years. Contribution of VAT to the development of the Nigerian economy was assessed by Izedonmi and Okunbor (2014). Time series data on the Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and Total (Federal Government) Revenue from 1994 to 2010 was employed. The tool of analysis was multiple regression. VAT Revenue was found to have accounted for 92% variations in Nigeria's GDP. There was a positive but insignificant correlation between VAT Revenue and GDP.

VAT and its effect on revenue generation in Nigeria was examined by Onaolapo, Aworemi and Ajala (2013). The secondary data collected was analysed using stepwise regression analysis technique. Value Added Tax was found to have statistically significant effect on revenue generation in Nigeria. The impact of value added tax (VAT) on the economic growth of Nigeria was studied by Onwuchekwa and Aruwa (2014). Ordinary Least Square technique was applied to test the formulated hypotheses. VAT was found to have contributed significantly to the total tax revenue of government as well as the economic growth of Nigeria. VAT revenue was found to have grown consistently over the period under study.

Effect of VAT on output growth in Nigeria was examined by Bakare (2013) using the Ordinary least Square regression technique. A positive and significant relationship between VAT and output growth in Nigeria was found. Furthermore, it was found that the past values of VAT could be used to predict the future behaviour of output growth in Nigeria. The implication of the findings is that Value Added Tax has the potential to assist in the diversification of revenue sources, thereby providing enough funds for economic growth and development and reducing over dependence on oil for revenue.

Impact of taxation on the growth of the Nigerian economy from 1976-2006 was examined by Salami, Apelogun, Omidiya and Ojoye (2015) using both simple and multiple linear regression analysis in the form of the ordinary least square method. The aim of the study was to determine the impact of the exogenous variables, PPT, CIT, CED and VAT on the endogenous variable, RGDP. All the exogenous variables, including CED, had significant impact on the economy. Olatunji (2009) studied the effectiveness of the administration of VAT to improve government revenue and boost economic growth in Nigeria using simple percentage and chi-square for data analysis. The findings reveal that a positive correlation between VAT and GDP existed. The extent to which VAT had contributed to Nigeria's total federally collected revenue and its position among the other tax components from 1994-2012 was examined by Okoli and Matthew (2015), using the Error Correction Model (ECM) for the analysis. Findings show that VAT was the second long term source of the total federally collected revenue.

The impact of non-oil tax revenue on economic growth from 1993 to 2012 in Nigeria was assessed by Ayuba (2014). Central Bank of Nigeria (CBN) 2012 was the main source of time series data employed for the analysis, using the ordinary least square regression technique. Findings reveal that there is the existence of a positive impact of non-oil tax revenue on the economic growth in Nigeria. Ebiringa and Emeh (2012) investigated the impact of various taxes on the economic growth in Nigeria, using a time period of 1985-2011. Results show that customs and excise duties was negatively related to gross domestic product which implies that an inverse relationship existed between customs excise duties and economic growth in Nigeria.

3. METHODOLOGY

3.1. Data

Time series data was obtained for GDP, VAT and Custom Duties from the Central Bank Statistical Bulletin and website of Federal Inland Revenue Service for the relevant years under consideration.

Table1. Description of Variables under Study

ACRONYM	DETAILS	DESCRIPTION
GDP	Gross Domestic Product	Monetary measure of the market value of all final goods and services produced in a period
VAT	Value Added Tax	Tax collected incrementally based on the value added at each stage of production
CUSEXC	Customs and Excise Duties	Tax charged on goods produced within the country (excise) and on goods from outside the country (customs)

Source: Authors Arrangement

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$$GDP_{t,i} = \beta_0 + \beta_1VAT_{t-1,i} + \beta_2CUSEXC_{t-1,i} + \epsilon_t \tag{1}$$

Where,

VAT = Value Added Tax

CUSEXC = Customs and Excise Duties

β_0 = Coefficient (constant) to be estimated

t = Current period

t-i (i = 1) = One year lag period

ϵ = Stochastic disturbance (error) term

Regression and correlation analysis are the tools of analysis to test the effect and the relationship between VAT, CUSEXC and GDP in Nigeria. EViews Statistical software is employed for the analysis to provide the signs and significance for interpretation of the result for test of hypotheses. The Null Hypothesis states that VAT and CUSEXC have no significant effect on GDP in Nigeria. The output from Eviews Statistical Software tallies with the decision rule that the coefficient is significant if the p-value is equal to or less than 0.05 (Inyiama, 2014).

4. DISCUSSION OF FINDINGS

4.1. Descriptive Statistics of the Variables and Graphical Representations

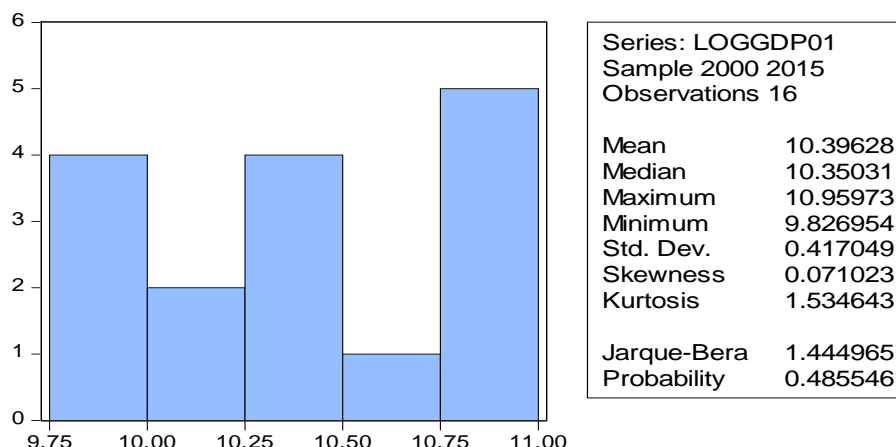


Figure1. Representation of Gross Domestic Product

Source: EView 8.0 Statistical Software.

The mean value for Gross Domestic Product is 10.39628 while the median is 10.35031. The standard deviation is 0.417049 which is not volatile while the insignificant Jarque-Bera Statistic of 0.485546 depicts a normal distribution of the time series data. The GDP graph shows some fluctuations resulting from instability in economic indices.

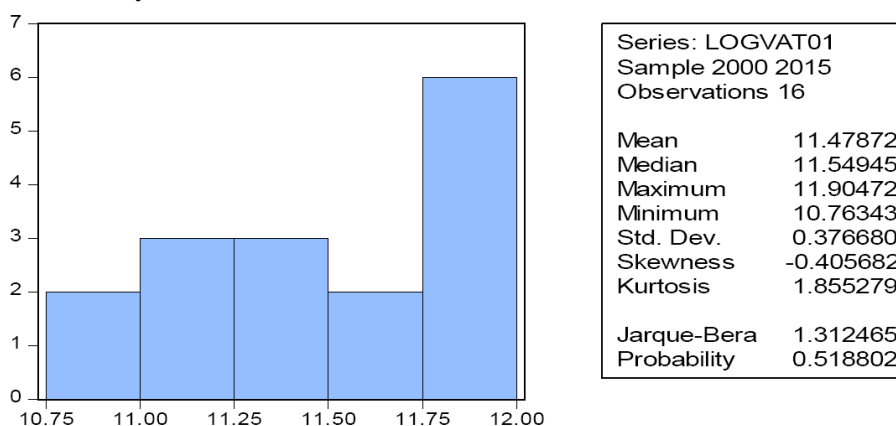


Figure2. Representation of Value Added Tax

Source: EView 8.0 Statistical Software.

The mean value for Value Added Tax is 11.47872 while the median is 11.54945. The standard deviation is 0.376680 which is not very volatile while the insignificant Jarque-Bera Statistic of 0.518802 shows a normal distribution of the time series data for VAT. The VAT graph depicts some level of gyrations occasioned by disproportionate VAT revenue collection.

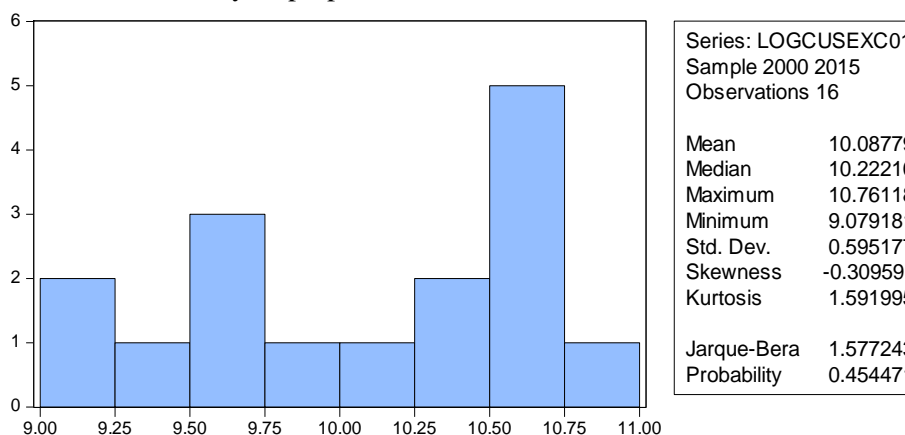


Figure3. Representation of Customs and Excise Duties

Source: EView 8.0 Statistical Software.

The mean value for Customs and Excise Duties is 10.08779 while the median is 10.22210. The standard deviation is 0.595177 which is not very volatile also while the insignificant Jarque-Bera Statistic of 0.454471 reveals a normal distribution of the time series data for CUSEXC. The CUSEXC graph shows some level of fluctuations resulting from unsteadiness in CUSEXC revenue collected annually.

Figures 1 to 3 present the characteristics and statistics of the model variables under study. The annexed tables show the mean values for all the variables as well as the standard deviations. It reveals that the skewness coefficient of all the variables (Gross Domestic Product, Value Added Tax, Custom and Excise Duties) is substantially less than one (1). This signifies a normal frequency distribution for all the time series data.

The Kurtosis coefficients of all the variables are all below three (3), which goes on to support the position of the skewness coefficient. Jarque-Bera statistic reveals no significant probability values which also confirm the normality of the frequency distribution of the time series data set. The standard deviations were not significantly volatile. The maximum and minimum values for Value Added Tax, Custom and Excise Duties and Gross Domestic Product were also disclosed in the annexed tables.

Test of Hypothesis One:

Hypothesis One states that Value Added Tax has no significant effect on Gross Domestic Product in Nigeria.

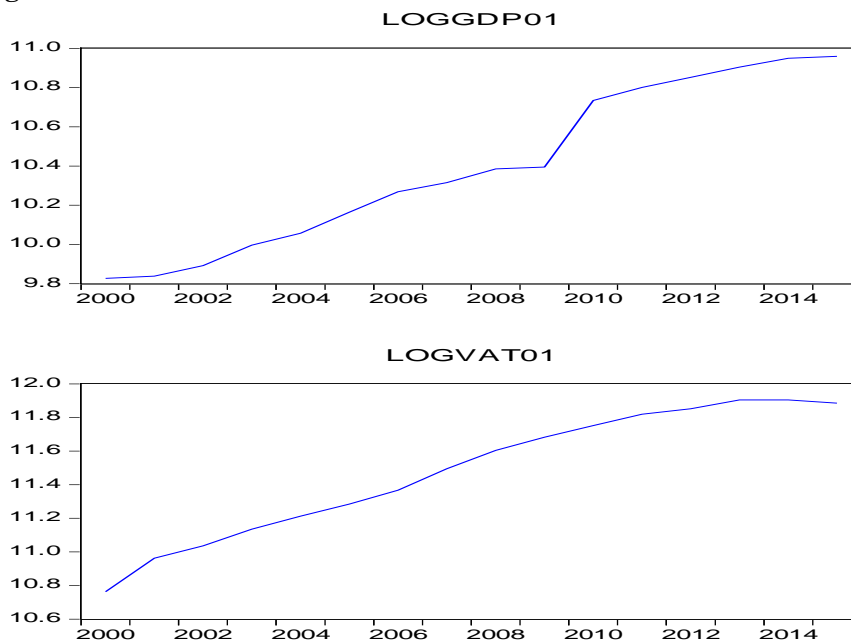


Figure4. Graphical Representation of Customs and Excise Duties

Table2. Regression Analysis Results

Dependent Variable: LOGGDP01				
Method: Least Squares				
Date: 08/21/16 Time: 09:19				
Sample: 2000 2015				
Included observations: 16				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGVAT01	1.072928	0.073021	14.69346	0.0000
C	-1.919565	0.838608	-2.288990	0.0381
R-squared	0.939103	Mean dependent var		10.39628
Adjusted R-squared	0.934754	S.D. dependent var		0.417049
S.E. of regression	0.106528	Akaike info criterion		-1.524343
Sum squared resid	0.158876	Schwarz criterion		-1.427769
Log likelihood	14.19474	Hannan-Quinn criter.		-1.519397
F-statistic	215.8978	Durbin-Watson stat		0.836434
Prob(F-statistic)	0.000000			

Source: EView 8.0 Statistical Software.

Table 2 discloses the regression analysis of the effect of Value Added Tax on Gross Domestic Product in Nigeria. The table shows that Value Added Tax has a positive and significant effect on Gross Domestic Product in Nigeria. The decision rule is that the null hypothesis will always be rejected when the t-statistic is above two (2) or when the probability (p-value) as calculated is less than 5% level of significance (< 0.05). In this case, the t-statistic is 14.69346 which is well over 2.0000. Secondly, the probability value is also far less than 0.05. Therefore, the null hypothesis is rejected and the alternate upheld.

The adjusted R-Squared is 0.934754. This means that about 93% of the variations in Gross Domestic Product is explained by Value Added Tax while a meager 7% could be ascribed to other indices, tax components and the stochastic error term. The F-statistic shows a significant probability value which means that the effect of Value Added Tax on Gross Domestic Product in Nigeria did not happen by chance. This means that the effect is sustainable both in the short and long term.

Hypothesis Two (2) states that Customs and Excise Duties have no significant effect on Gross Domestic Product in Nigeria.

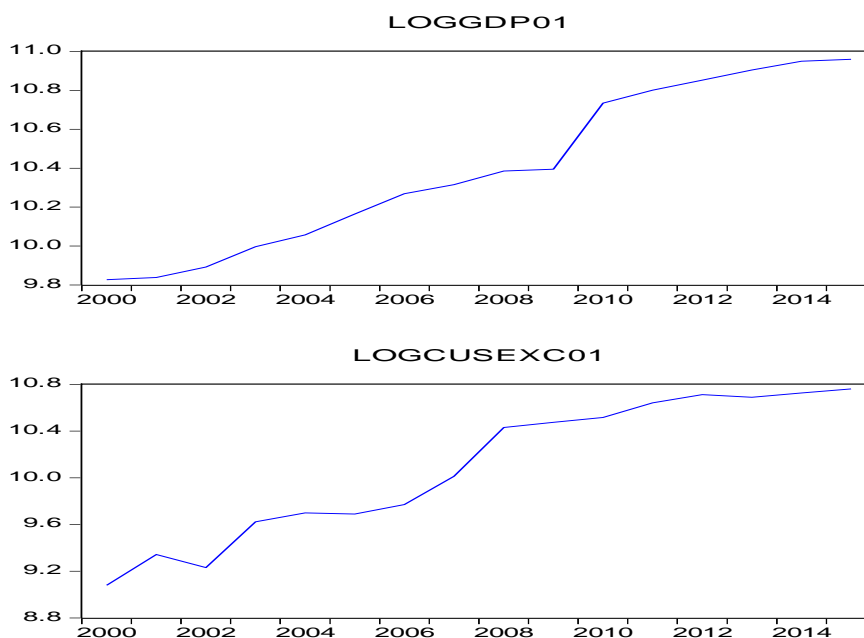


Figure 5. Graphical Representation of Customs and Excise Duties

Table 3. Regression Analysis Results

Dependent Variable: LOGGDP01				
Method: Least Squares				
Date: 08/21/16 Time: 09:22				
Sample: 2000 2015				
Included observations: 16				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCUSEXC01	0.671370	0.053628	12.51913	0.0000
C	3.623636	0.541865	6.687336	0.0000
R-squared	0.917998	Mean dependent var		10.39628
Adjusted R-squared	0.912141	S.D. dependent var		0.417049
S.E. of regression	0.123617	Akaike info criterion		-1.226782
Sum squared resid	0.213938	Schwarz criterion		-1.130209
Log likelihood	11.81426	Hannan-Quinn criter.		-1.221837
F-statistic	156.7286	Durbin-Watson stat		1.147477
Prob(F-statistic)	0.000000			

Source: EView 8.0 Statistical Software.

Table 3 indicates that Customs and Excise Duties exert a positive and significant effect on Gross Domestic Product in Nigeria. The decision rule is that the null hypothesis will always be rejected when the t-statistic is above two (2) or when the probability (p-value) as calculated is less than 5% level of significance (< 0.05). The t-statistic is 12.51913 which is above 2 and the p-value is also below 0.05. Therefore, the null hypothesis is rejected and the alternate hypothesis accepted.

The F-statistic is 156.7286 with a significant probability value which means that the short run cointegration is sustainable in the long run. The Adjusted R-squared is 0.912141 which implies that about 91% of the changes in Gross Domestic Product is ascribed to variations in customs and excise duties while about 9% of the variations could be accounted for by the error term and other unexplained variables.

Table4. *Correlation Analysis Results*

	LOGVAT01	LOGCUSEXC01	LOGGDP01
LOGVAT01	1.000000		
LOGCUSEXC01	0.988309	1.000000	
LOGGDP01	0.969073	0.958122	1.000000

Source: *EView 8.0 Statistical Software.*

Table 4 reveals that the relationship between Customs and Excise Duties, Value Added Tax and Gross Domestic Product is very strong. The strength of the relationship between Customs and Excise Duties and Gross Domestic Product stands at 95.81% while that of Value Added Tax and Gross Domestic Product stands at 96.9%. Relationship between VAT and CUSEXC stands at 98.83%.

5. SUMMARY

The outcome of the analysis of data did not disappoint the researcher as the findings are in line with prior unproved expectations. In Nigeria and beyond, taxation is the main source of fund to federal, state and local government authorities. The positive effect of Value Added Tax and Customs Duties on Gross Domestic Product is expected but the researcher is interested in the extent of the effect. The outcome reveals that all the non-oil tax revenue affects Nigeria Gross Domestic Product. On the side of the relationship among the variables studied, the strength of their relationship is very high for all the variables.

The researcher concludes that Value Added Tax and Customs and Excise Duties are some of the major contributors to Nigeria Gross Domestic Product. The revenue sources could be used to predict the value and status of the nations' Gross Domestic Product as indicated by the strength of the relationship between the variables. The federal, state and local authorities therefore finance a reasonable proportion of their capital and recurrent budget through non-oil tax revenue.

5.1. Recommendations

The researcher recommends as follows:

- i. That the federal, state and local governments should harness their potentials in terms of legislation, machineries and procedure for collection of Value Added Tax.
- ii. Customs and Excise Duties leak away at the borders, wharfs, airports and seaports through the activities of Customs Officials and other security agents at such places. Government should strengthen patrols and controls at those places and also fish out bad-eggs who use their positions for personal benefits. This will surely enhance revenue through customs and excise duties and GDP by extension.

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Presentation of Data for Analysis

YEAR	GDP (₦B)	VAT(₦B)	CUSEXC(₦B)
2000	6,713.574,835	58,000,000,000	1,200,000,000
2001	6,895.198,327	91,700,000,000	2,200,000,000
2002	7,795.758,355	108,600,000,000	1,700,000,000
2003	9,913.518,187	136,400,000,000	4,200,000,000
2004	11,411.066,910	163,300,000,000	5,000,000,000
2005	14,610,881,450	192,700,000,000	4,900,000,000
2006	18,564,594,730	232,700,000,000	5,900,000,000
2007	20,657,317,670	312,600,000,000	10,300,000,000
2008	24,296,329,290	401,700,000,000	27,000,000,000
2009	24,794,238,660	481,400,000,000	29,900,000,000
2010	54,204,795,120	564,900,000,000	32,900,000,000
2011	63,258,579,000	659,200,000,000	43,900,000,000
2012	71,186,534,890	710,800,000,000	51,600,000,000
2013	80,222,128,320	802,700,000,000	48,900,000,000
2014	89,043,615,260	803,000,000,000	53,300,000,000
2015	94,144,960,450	767,300,000,000	57,700,000,000

Source: Annual Report and Accounts of the Firms

Table2. *Logged Data for Analysis*

YEAR	LogGDP	LogVAT	LogCUSEXC
2000	9.826953834	10.76342799	9.079181246
2001	9.838546762	10.96236934	9.342422681
2002	9.891858369	11.03582983	9.230448921
2003	9.996227808	11.13481437	9.62324929
2004	10.05732625	11.21298618	9.698970004
2005	10.16467642	11.28488171	9.69019608
2006	10.26868547	11.36679638	9.770852012
2007	10.31507393	11.49498897	10.01283722
2008	10.38554066	11.60390183	10.43136376
2009	10.39435078	11.68250609	10.47567119
2010	10.73403771	11.75197157	10.5171959
2011	10.80111943	11.8190172	10.64246452
2012	10.85239785	11.85174742	10.7126497
2013	10.90429418	11.90455326	10.68930886
2014	10.94960278	11.90471555	10.72672721
2015	10.95973266	11.8849652	10.76117581

Source: *Researchers' Computation using EViews 8.0 Software*