

THE CO - INTEGRATION ANALYSIS OF EFFECT OF VALUE ADDED TAX AND EXCISE DUTIES ON ECONOMIC GROWTH IN NIGERIA

ADEGBITE, TAJUDEEN ADEJARE

DEPARTMENT OF MANAGEMENT AND ACCOUNTING, LADOKE AKINTOLA UNIVERSITY OF TECHNOLOGY, OGBOMOSO. OYO STATE, NIGERIA.

OLAOYE, CLEMENT OLATUNJI, Ph.D

DEPARTMENT OF MANAGEMENT AND ACCOUNTING, EKITI STATE UNIVERSITY, ADO- EKITI, NIGERIA.

Abstract:

This study examined the co-integration analysis of effect of value added tax and excise duties on economic growth in Nigeria. It also looked at the direction of causality among value added tax excise duty, interest rate, exchange rate and economic growth employing the method of Johansen co-integration and the Granger causality tests using data spanning the period 1994- 2014. Results showed that VAT has positive significant impact on GDP in the short run but has negative impact on GDP in the long run with ($\alpha = 1.296417$; $t=7.41$; $P>|t|= 0.000$) and ($\alpha = -13.38159$; $z=-3.60$, $P>|z|= 0.000$) respectively. Also, VAT does not granger cause GDP. Excise duty impacted GDP negatively in the short run but positively in the long run with ($\alpha=-1.111069$; $t=-5.16$, $P>|t|= 0.000$) and ($\alpha =37.54469$; $z = 4.07$; $P>|z|= 0.000$) respectively. It is recommended that, once the value added tax impacted economic growth positively in the short run but negative in the long run, government should increase the rate of value added tax in Nigeria, this will in turn boosting the revenue generation in Nigeria. Also, government should increase excise duty on tobacco and alcoholic so as to have positive significant impact on economic growth in the short run.

Keywords:

Value Added Tax (VAT); Co-integration; Economic growth; Excise Duties; Granger causality.

*Correspondence Author:

Email: adetajud@yahoo.com (ADEGBITE, TAJUDEEN ADEJARE)

INTRODUCTION

Background to the study

The decline in state government efforts to pay the salaries of their workers and to embark on capital projects at present is that Nigeria government dependent on the revenue generated from the crude oil. The other natural resources asserted in Nigeria include: Natural gas, tin, iron ore, coal, limestone, lead, zinc and Arable land (Angus and David 2011). This has caused a lot of chaos in Nigeria economy. There are many sectors if government develops them can generate exorbitant revenue for the government, one of the sectors is tax. Tax is defined as compulsory payment levies on individual, firms, organisation and government organisations. Value added tax (VAT) is one of the inevitable taxation instruments in realizing revenue. Vat is a consumption tax which levies on every goods and services except goods and services that are exempted by VAT act. Vat is collected each stage of the production and distribution of goods and services process. Final consumer bears the burden of this tax. Value-added tax is a multistage sales tax that is collected at each stage or point in the production and distribution process. In a typical business operation, a firm purchases raw materials from its suppliers and produces a product or service by processing, manufacturing, distributing, or otherwise "adding value" to its initial purchases of goods and materials from other firms. It is administered and managed by the Federal Inland Revenue Service (FIRS). VAT income is generated for allotment to all tiers of government in Nigeria. This helps to reduce overdependence on oil income, and guarantees a sustainable economic growth and development in Nigeria. (Denis 2010).

Excise tax is tax levied on the manufacture, sale or consumption of a single good or service or on a relatively narrow range of goods or services". Excise duties are only levied on alcohol and tobacco in Nigeria. Tax collected on imports and some exports by state authorities and is based on the value of goods. Excise rate of 20% is charged across all excisable products in Nigeria and no excise duties are levied on imported goods. It is also level on specific goods to discourage the consumption by the consumers.

Empirical studies have shown the inter links between the VAT performance of a country and its level of development. According to Ebrill et al. (2001), VAT revenue gains in an economy are likely to be higher with higher level of per capita income, lower share of agriculture, and higher level of literacy. In contrary view, Kulis and Miljenovic (1997), showed the negative effect of the multiplicity of VAT rates on the income obtained through this tax. These researchers studied the impact of value added tax on economic growth in Nigeria but their studies were confined to short run. In addition, 20% charged as excise duty rate across all excisable products, does it has significant impact on economic growth in Nigeria? This study examined effect of valued added tax and excise duties both in the short run and in the long run on economic growth in Nigeria from 1994 to 2014.

LITERATURE REVIEW

Concept of Value Added Tax in Nigeria

According to Soyode and Kajola (2006), VAT as a consumption tax, charged at 5% on all vatable goods and services. Value added tax (VAT) is one of the ways of funding infrastructural developments in an economy. VAT is a tax on consumable goods and services. It was introduced in Nigeria in 1994 to replace the sales tax. The decision to replace the sales tax with VAT was influenced by the fact that VAT is applied on a broader range of goods and services (including those that were exempted from sales tax), so it was meant to broaden government's tax revenue base (Usman and Adegbite 2013). VAT proves to be an efficient tool for revenue collection; its performance, therefore, has direct impact on fiscal mobilization, macroeconomic stability, and development. Organisation for economic co-operation and development (2007) brought out that there are many differences in the way value added taxes are implemented around the world. The features of value

added tax are:

i Value added taxes are taxes on consumption are eventually paid by final consumers.

ii The tax is levied on a broad base (as opposed to excise duties that cover specific products).

iii In principle, business should not bear the burden of the tax itself since there are mechanisms in place that allow for a refund of the tax levied on intermediate transactions between firms.

iv The system is based on tax collection in a staged process, with successive taxpayers entitled to deduct input tax on purchases and account for output tax on sales. Each business in the supply chain takes part in the process of controlling and collecting the tax, remitting the proportion of tax corresponding to its margin that is on the difference between the VAT paid out to suppliers and the VAT charged to customers. In general, countries with value added taxes impose the tax at all stages and normally allow immediate deduction of taxes on purchases by all but the final consumer.

These features give value added taxes their main economic characteristic, that of neutrality. The full right to deduction of input tax through the supply chain, with the exception of the final consumer, ensures the neutrality of the tax, whatever the nature of the product, the structure of the distribution chain and the technical means used for its delivery (stores, physical delivery, Internet).

V. Value added taxes are also neutral towards international trade according to international norms since they are destination based (even if the rule might be different for transactions made within federations or economically integrated areas). This means that exports are zero rated and imports are taxed on the same basis and with the same rate as local production. Most of the rules currently in place aim therefore at taxing consumption of goods and services within the jurisdiction where consumption takes place. Practical means implemented to this end are nevertheless diverse across countries, which can, in some instances, lead to double or involuntary non-taxation, and uncertainties for both business and tax administrations.

Goods and services exempted from value added tax in Nigeria

Taking the social, political and economic development of Nigeria into consideration, According to Abiola (2012), section 3 of the VAT Act (2004) exempts the under listed goods and services listed in the Schedule which is divided into two parts thus: the following goods exempted from VAT:

1. All pharmaceutical and medical products
2. Basic food items
3. Educational materials and Books
4. Baby products
5. Fertilizer produced locally, farming transportation equipment and farming machinery, agricultural and veterinary medicine
6. All exported goods
7. Plant and machinery imported for use in the Export Processing Zone
8. Plant, machinery and equipment bought for exploitation of gas in downstream petroleum operations
9. Tractors, ploughs, agricultural equipment and implements purchased for agricultural purposes.

According to Abiola (2012), the Services exempted from VAT are:

1. Medical services
2. Services provided by Mortgage institutions, People's Bank and Community Banks
3. All exported services and
4. Plays and performances carry out by educational institutions as part of learning.

RESEARCH METHODOLOGY

Method of data collection

The reliable data were sourced from Federal Inland Revenue service Bulletin and Central bank of Nigeria (CBN) Statistical Bulletin. This Model evaluated the impact of value added tax and excise duty on economic

growth in Nigeria in the short run. Economic growth (proxied by GDP) is the dependent variable while value added tax, excise duty, interest rate, exchange rate and inflation are independent variables.

Sample size

This study employs annual data on the rate of value added tax, excise duty, interest rate, exchange rate and inflation and economic growth (proxied by Gross domestic products) for Nigeria over the period 1994 to 2014.

DATA ANALYSIS TECHNIQUES

In order to measure the relationship between a dependent variable and independent variables in the short run regression analysis technique was used. To assess the long run effect of VAT, excise duties, inflation rate, and exchange rate on economic growth in Nigeria, a time series technique which is more appropriate for testing the temporal or lead-lag relationship between variables were employed. In addition, time series technique addresses the problem of the stationarity of the variables which the classical OLS regression technique cannot address. Augmented Dickey-Fuller (ADF) test was also used to test the non-stationarity of the variables. After examining the unit-root tests and the order of the VAR, the Johansen cointegration test which uses two tests to determine the number of cointegration vectors, namely, the Maximum Eigenvalue test and the Trace test were also applied. The Maximum Eigenvalue statistic tests the null hypothesis of r cointegrating relations against the alternative of $r+1$ cointegrating relations. If cointegration has been detected between series, we know that there exists a long-run equilibrium relationship between them. The Vector error correction model (VECM) is to evaluate the direction of Granger causality both in the short and long run.

MODEL SPECIFICATION

$$GDP = f(VAT, EXCISE, INTR, EXCH, INFL, \mu)$$

$$GDP = a_0 + a_1VAT + a_2 EXCISE + a_3INT + a_4EXCH + a_5INF + \mu$$

$$LOGGDP = a_0 + a_1LOGVAT + a_2 LOGEXCISE + a_3LOGINT + a_4LOGEXCH + a_5LOGINF + \mu \quad 1$$

where

| | |
|-------------------------|---------------------------------|
| LOGGDP | - Log of Gross Domestic Product |
| LOGEXCISE | - Log of Excise duty |
| LOGINT | - Log of Interest rate |
| LOGVAT | - Log of Value Added Tax |
| LOGINF | - Log of Inflation rate |
| LOGEXCH | - Log of exchange rate |
| μ | -error term |

The basic VECM is

$$\Delta y_t = \alpha \beta' y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \epsilon_t$$

where y is a $(K \times 1)$ vector of $I(1)$ variables, α and β are $(K \times r)$ parameter matrices with rank $r < K$, $\Gamma_1, \dots, \Gamma_{p-1}$ are $(K \times K)$ matrices of parameters, and ϵ_t is a $(K \times 1)$ vector of normally distributed errors that is serially uncorrelated but has contemporaneous covariance matrix .

PRESENTATION AND ANALYSIS OF DATA

The data collected from different reliable source like CBN Statistics Bulletin 2013 were analyzed below:

Table 1 – The Short run Effect of Value Added Tax and Excise duty on Economic Growth

| Dependent variable | Independent variables | Coefficient | Standard error | T | P>/t/ | 95%Conf. Internal) | |
|--------------------|------------------------|-------------|-------------------|-------|--------------------|--------------------|-----------|
| LOGGDP | LOGVAT | 1.296417 | .1746593 | 7.42 | 0.000 | .9190886 | 1.673745 |
| | LOGEXCISE | -1.111069 | .2153349 | -5.16 | 0.000 | -1.576272 | -.6458664 |
| | LOGINT | -.5446694 | .4522167 | -1.20 | 0.250 | -1.521624 | .4322854 |
| | LOGEXCH | .4627667 | .1125166 | 4.11 | 0.001 | .2196893 | .7058441 |
| | LOGINF | -.023276 | .081876 | -0.28 | 0.781 | -.2001584 | .1536065 |
| | CONSTANT | 13.57589 | 1.452515 | 9.35 | 0.000 | 10.43792 | 16.71386 |
| R-squared = 0.9470 | Adj R-squared = 0.9362 | | Prob > F = 0.0000 | | F(5, 13) = 110.55 | | |
| | | | | | Root MSE = .20333 | | |

Source : Authors' Computation (2015) through STATA 11

Regression plots below represented table 1 above

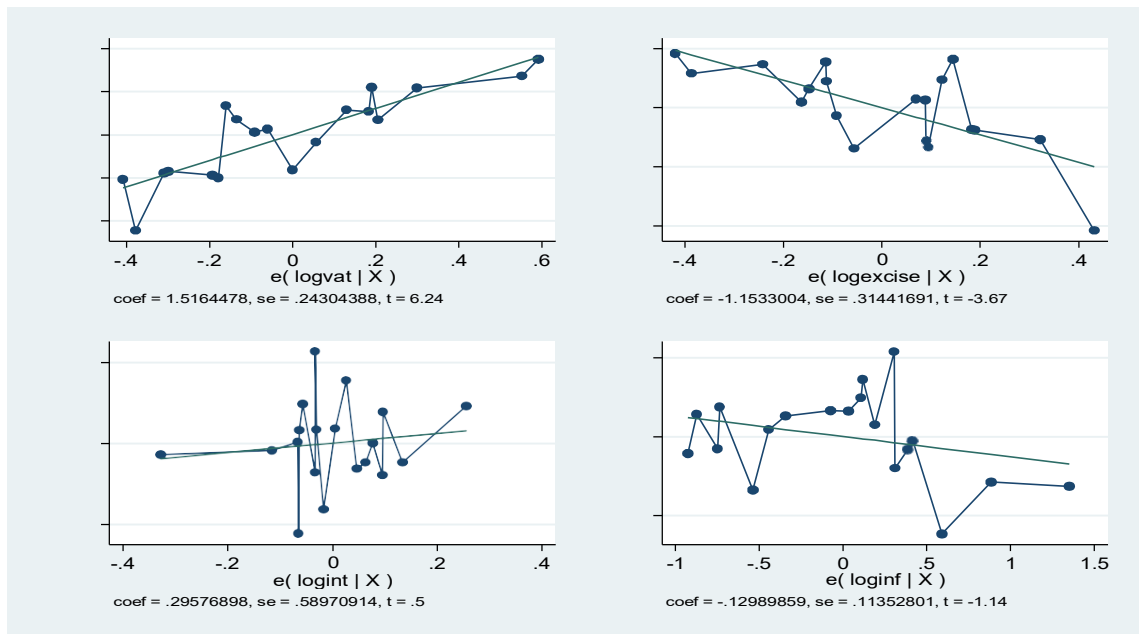


Table 1 above shows the effect of value added tax and excise duty on economic growth in Nigeria. 1% increase in VAT increases GDP by 1.29%; this shows that there is a positive relationship between VAT and GDP. The result is significant, as VAT increases GDP also increases. Also, 1% increase in EXCISE reduces GDP by 1.11%; this shows that there is a negative relationship between EXCISE and GDP, as EXCISE increases GDP reduces. Also, 1% increase in interest rate (INT) reduces GDP by 0.54%; this shows that there is also a negative relationship between INT and GDP. As INT increases GDP also reduces. Conversely, 1% increase in exchange rate (EXCH) increases GDP by 0.46%; this shows that there is a positive relationship between EXCH and GDP. As EXCH increases, GDP also increases. Lastly, 1% increase in INF reduces GDP by 0.23%; this shows that there is a negative relationship between INF and GDP. As INF increases GDP also reduces.

Given the R^2 which is the coefficient of determination as 0.9470(Approximated 95%) with high value of Adj. R^2 which is 93.6%.It connotes that independent variables incorporated into this model were able to determine the short run effect of VAT and EXCISE on GDP to the tune of 97%, significantly confirmed by

probability of F which is 0.0000.

Table 2 – Unit root test

| Variables | ADF stat | 1% critical value | 5% critical value | 10% critical value | Order of integration | Remark |
|-----------|-----------|-------------------|-------------------|--------------------|----------------------|----------------|
| GDP | -3.548** | 3.750 | 3.000 | -2.630 | I(0) | Stationary |
| EXCISE | -2.949* | 3.750 | 3.000 | -2.630 | I(0) | Stationary |
| VAT | 3.229** | 3.750 | 3.000 | -2.630 | I(0) | Stationary |
| INT | -3.875*** | 3.750 | 3.000 | -2.630 | I(0) | Stationary |
| INF | -2.992 | 3.750 | 3.000 | -2.630 | I(2) | Non Stationary |
| EXCH | -0.715 | 3.750 | 3.000 | -2.630 | I(2) | Non Stationary |

(*), (**) and (***) means stationary at 1%, 5% and 10% respectively.

Source: Authors' Computation (2014) through STATA 11

It has been a common practice, in applied econometric analyses, to test the order of integration of time series. The study applies ADF unit root test, at level and at the first difference of the time series with assumption of no drift and trend, to have the information about the order of a time series. ADF test results reported in the Table 2 are evident that we are unable to reject the null hypothesis for the presence of a unit root at level of each of the time series. All of the time series are stationary at their first difference with the exception of INF and EXCH. Since each of the time series is stationary at its first difference so the variables are cointegrated. There exists an equilibrium or long run relationship between the time series if all the variables are integrated of the same order, Engle & Granger (1987). The study applies Johansen cointegration technique. Johansen and Juselius (1991) introduced, in the multivariate cointegration test, the two likelihood ratio tests (Maximum eigen value and Trace tests) to find out the number of cointegrating vectors.

Table 3- Johansen tests for cointegration.

| Rank | Eigen Value | Parm | LL | Trace statistic | 5% critical value | 1% critical value | Eigen Value |
|------|-------------|------|-----------|-----------------|-------------------|-------------------|-------------|
| 0 | - | 42 | 1108.2953 | 189.7122 | 94.15 | 103.18 | - |
| 1 | 0.98900 | 53 | 1060.9407 | 95.0029 | 68.52 | 76.07 | 0.98900 |
| 2 | 0.85032 | 62 | 1040.9985 | 55.1185 | 47.21 | 54.46 | 0.85032 |
| 3 | 0.74119 | 69 | 1026.8059 | 26.7333*1*5 | 29.68 | 35.65 | 0.74119 |
| 4 | 0.61239 | 74 | 1016.8543 | 6.8302 | 15.41 | 20.04 | 0.61239 |
| 5 | 0.24386 | 77 | 1013.9193 | 0.9601 | 3.76 | 6.65 | 0.24386 |
| 6 | 0.04469 | 78 | 1013.4392 | | | | 0.04469 |

Source: Authors' Computation (2015) through STATA 11

Table 3 showed the results of the sample, the trend specification, and the number of lags included in the model. The table contains a separate row for each possible value of r, the number of cointegrating equations. When r = 4, all four variables are stationary. In this study, because the trace statistic at r = 0 of 189.7122 exceeds its critical value of 94.15, the null hypothesis of no cointegrating equations are rejected. Similarly, because the trace statistic at r = 1 of 95.0029 exceeds its critical value of 68.52, the null hypothesis that there is one or fewer cointegrating equation is also rejected. In the same vein, because the trace statistic at r = 2 of 55.1185 exceeds its critical value of 47.21, the null hypothesis that there is two or fewer cointegrating equation is also rejected. In contrast, because the trace statistic at r = 3 of 26.7333 is less than its critical value of 29.68, the null hypothesis that there are three or fewer cointegrating equations cannot be rejected. Because Johansen's method for estimating r is to accept as r^{\wedge} the first r for which the null hypothesis is not rejected, we accept r = 3 as our estimate of the number of cointegrating equations between these six

variables. The “*” by the trace statistic at $r = 3$ indicates that this is the value of r selected by Johansen’s multiple-trace test procedure. The eigenvalue shown in the last line of output computes the trace statistic in the preceding line.

Table 4 - Eigen Value

| Rank | Eigen Value | Parm | LL | Eigen Value | SBIC | HQIC | AIC |
|------|-------------|------|-----------|-------------|-----------|-----------|----------|
| 0 | - | 42 | 1108.2953 | Eigen Value | 111.641 | 110.0053 | 109.5519 |
| 1 | 0.98900 | 53 | 1060.9407 | - | 108.7258 | 106.6617 | 106.0896 |
| 2 | 0.85032 | 62 | 1040.9985 | 0.98900 | 108.1313 | 105.7167 | 105.0475 |
| 3 | 0.74119 | 69 | 1026.8059 | 0.85032 | 107.7945 | 105.1073 | 104.3625 |
| 4 | 0.61239 | 74 | 1016.8543 | 0.74119 | 107.5716* | 104.6897* | 103.8909 |
| 5 | 0.24386 | 77 | 1013.9193 | 0.61239 | 107.727 | 104.7283 | 103.8971 |
| 6 | 0.04469 | 78 | 1013.4392 | 0.24386 | 107.8262 | 104.7886 | 103.9466 |

Source: Authors’ Computation (2014) through STATA 11

The Hannan–Quinn information criterion (HQIC) method, Schwarz Bayesian information criterion (SBIC) method, and sequential likelihood-ratio (LR) test all chose two lags, as indicated by the “*” in the output. Both the SBIC and the HQIC estimators suggest that there are four cointegrating equations in the balanced-growth data.

Having determined that there is a cointegrating equation among the VAT, EXCISE, INT and GDP series, the parameters of a bivariate cointegrating VECM for these four series by using Vector error-correction model were estimated below.

Table 5: Vector error-correction model

| Equation | Parms | RMSE | R sq | chi2 | P>chi2 |
|------------------------------|------------------------------------|-------------------|--------------------|--------------------|-----------------------------|
| D_gdp | 8 | 1.5e+06 | 0.8199 | 59.16498 | 0.0000 |
| D_excise | 8 | 607268 | 0.7425 | 37.48427 | 0.0000 |
| D_vat | 8 | 880416 | 0.7582 | 40.76136 | 0.0000 |
| D_int | 8 | 3.17832 | 0.5780 | 17.80535 | 0.0227 |
| D_inf | 8 | 16.8951 | 0.0921 | 1.318969 | 0.9953 |
| D_exch | 8 | 19.0656 | 0.2826 | 5.119814 | 0.7447 |
| Det(Sigma_ml) s= 1.02e+46 | Log likelihood = - 1945.669\ | AIC = 106.0896 | HQIC = 106.6617 | SBIC = 108.7258 | Det(Sigma_ml) = 3.07e+36 |

Source: Authors’ Computation (2015) through STATA 11

Table 6- Johansen normalization restriction imposed

| Beta | Coefficient | Std Error | Z | P> z | [95% Conf. Interval] |
|-------------|-------------|-----------|-------|-------|----------------------|
| _ce1 GDP | 1 | . | . | . | . |
| EXCISE | 37.54469 | 9.223092 | 4.07 | 0.000 | 19.46776 55.62162 |
| VAT | -13.38159 | 3.71536 | -3.60 | 0.000 | -20.66356 -6.099616 |
| INT | 504359 | 75435.85 | 6.69 | 0.000 | 356507.4 652210.5 |
| INF | 79191.29 | 9271.861 | 8.54 | 0.000 | 61018.78 97363.81 |
| EXCH | -14707.11 | 11231.35 | -1.31 | 0.000 | -36720.15 7305.922 |
| -CONS | -1.29e+07 | | | | |

Source: Authors’ Computation (2015) through STATA 11

Table 5 also showed the results of the sample, the fit of each equation, and overall model fit statistics. The first estimation table contains the estimates of the short-run parameters, along with their standard errors, z

statistics, and confidence intervals. The three coefficients on L. ce1 are the parameters in the adjustment matrix _ for this model. The second estimation table contains the estimated parameters of the cointegrating vector for this model, along with their standard errors, z statistics, and confidence intervals. According to Johansen normalization restriction imposed table, one percent increase in EXCISE, increases GDP by 37% in the long run, this shows that there is positive and significant effect of Excise duty on GDP. Also, one percent increase in VAT, reduces GDP by 13% in the long run, this shows that there is a negative significant effect of VAT on GDP in the long run. Coefficient is statistically significant confirmed by $P > |z|$ which is 0.000. Overall, the results confirmed that the model fits well. The coefficient on VAT in the cointegrating equation is statistically significant, as are the adjustment parameters.

Table 7: Granger causality Wald tests

| Equation | Excluded | chi2 | Df | Prob> chi2 | Decision |
|----------|----------|---------|----|------------|---|
| GDP | INF | 4.1651 | 2 | 0.125 | Inflation does not granger- cause GDP |
| GDP | EXCISE | 9.0982 | 2 | 0.011 | Excise duties granger - cause GDP VAT |
| GDP | VAT INT | 3.581 | 2 | 0.167 | does not granger- cause GDP |
| GDP | EXCH | 0.48555 | 2 | 0.784 | Interest rate does not granger – cause GDP Exchange |
| GDP | ALL | 6.2036 | 2 | 0.045 | rate granger – cause GDP |
| GDP | | 33.748 | 10 | 0.000 | ALL jointly granger – cause GDP |
| EXCISE | GDP | 3.2382 | 2 | 0.198 | GDP does not granger- cause EXCISE INF |
| EXCISE | INFL | 0.96764 | 2 | 0.616 | does not granger - cause EXCISE VAT |
| EXCISE | VAT | 10.617 | 2 | 0.005 | granger- cause EXCISE |
| EXCISE | INT | 1.9908 | 2 | 0.370 | INTR does not granger – cause EXCISE |
| EXICE | EXCH | 1.4059 | 2 | 0.495 | EXCH does not granger cause EXCISE ALL |
| EXCISE | ALL | 26.447 | 10 | 0.003 | jointly granger cause EXCISE |
| INF | GDP | 3.1053 | 2 | 0.212 | GDP does not granger- cause INF |
| INF | EXCISE | 3.7854 | 2 | 0.151 | EXCISE does not granger - cause INF |
| INF | VAT INT | 1.0593 | 2 | 0.589 | VAT does not granger – cause INF INTR |
| INF | EXCH | 8.9407 | 2 | 0.011 | granger- cause INF |
| INF | ALL | 2.5471 | 2 | 0.280 | EXCH does not granger – cause INF |
| INF | | 21.734 | 10 | 0.017 | ALL jointly granger cause INF |
| VAT | GDP INF | 3.9848 | 2 | 0.136 | GDP does not granger- cause VAT |
| VAT | EXCISE | 1.0004 | 2 | 0.605 | INF does not granger - cause VAT |
| VAT | INT | 23.709 | 2 | 0.000 | EXCISE granger – cause VAT INT |
| VAT | EXCH | 2.0878 | 2 | 0.352 | does not granger- cause VAT |
| VAT | ALL | 1.7382 | 2 | 0.419 | EXCH does not granger – cause VAT |
| VAT | | 37.208 | 10 | 0.000 | ALL jointly granger cause VAT |
| INT | GDP INF | 11.789 | 2 | 0.003 | GDP granger- cause INT INF |
| INT | EXCISE | 4.6869 | 2 | 0.096 | granger – cause INT |
| INT | VAT | 0.3102 | 2 | 0.856 | EXCISE does not granger – cause INT VAT |
| INT | EXCH | 5.6764 | 2 | 0.059 | granger- cause INT |
| INT | ALL | 1.9481 | 2 | 0.378 | EXCH does not granger – cause INT |
| INT | | 23.614 | 10 | 0.009 | ALL jointly granger cause INT |
| EXCH | GDP | 6.286 | 2 | 0.043 | GDP granger- cause EXCH |
| EXCH | INFL | 15.436 | 2 | 0.000 | INF granger – cause EXCH |
| EXCH | EXCISE | 3.7881 | 2 | 0.150 | EXCISE does not granger – cause EXCH INTR |
| EXCH | VAT INT | 2.6482 | 2 | 0.266 | granger- cause EXCH |
| EXCH | ALL | 4.1092 | 2 | 0.128 | INT does not granger – cause EXCH |
| EXCH | | 26.118 | 10 | 0.004 | ALL jointly granger cause EXCH |

Source: Authors' Computation (2015) through STATA 11

To test for the granger causality, the first is a Wald test that the coefficients on the two lags of INFL that appear in the equation for GDP are jointly zero. The null hypothesis that INFL does not Granger-cause GDP cannot be rejected because Prob> chi2 is 0.125 which is greater than 0.1 significant level, therefore INFL does not granger-cause GDP. Contrarily, the null hypothesis that the coefficients on the two lags of EXCISE in the equation for GDP are jointly zero cannot be accepted because Prob> chi2 is 0.011 which is less than 0.1 significant level. So the hypothesis that EXCISE does not Granger cause GDP cannot be accepted, therefore EXCISE Granger cause GDP. Also, the null hypothesis that VAT does not Granger-cause GDP cannot be rejected because Prob> chi2 is 0.167 which is greater than 0.1 significant level, therefore VAT does not granger-cause GDP. The null hypothesis that INT does not Granger-cause GDP cannot be rejected because Prob> chi2 is 0.784 which is greater than 0.1 significant level, therefore INT does not granger-cause GDP. Conversely, the null hypothesis that the coefficients on the two lags of EXCH in the equation for GDP are jointly zero cannot be accepted because Prob> chi2 is 0.045 which is less than 0.1 significant level. So the hypothesis that EXCH does not Granger cause GDP cannot be accepted, therefore EXCH Granger cause GDP. The last test is with respect to the null hypothesis that the coefficients on the two lags of all the other endogenous variables are jointly zero cannot be accepted in the sense that Prob> chi2 is 0.000 is less than 0.1 level significant level, therefore, INF, EXCISE, VAT, INT and EXCH jointly granger-cause GDP.

SUMMARY AND CONCLUSIONS

This study examined the co-integration analysis of effect of value added tax and excise duties on economic growth in Nigeria. It also looked at the direction of causality among value added tax excise duty, interest rate, exchange rate and economic growth employing the method of Johansen co-integration and the Granger causality tests using data spanning the period 1994- 2014. Results also showed that VAT has positive significant impact on GDP in the short run but has negative impact on GDP in the long run. Also, VAT does not granger cause GDP. The study also reviewed that there is a negative relationship between EXCISE and GDP in the short run but has positive relationship with GDP in the long run. Also, EXCH enhanced GDP positively in the short run but has negative impact on GDP in the long run. In addition, Excise duties granger - cause GDP. It is now concluded that that VAT has positive significant impact on economic growth in the short run but has negative impact on economic growth in the long run but that excise duties have negative significant impact on economic growth in the short run but has positive impact on economic growth in the long run. The countries that performed VAT have a more per capita GDP level and are less dependent on the international trade. Income and economic freedom have a positive relationship with the proportion of the taxes on GDP.

Based on the findings made in the course of this study, once the value added tax impacted economic growth positively in the short run but negative in the long run, government should increase the rate of value added tax in Nigeria, this will in turn boosting the revenue generation in Nigeria. Also, government should increase excise duty on tobacco and alcoholic so as to have positive significant impact on economic growth in the short run.

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