EFFECT OF VALUE ADDED TAX ON ECONOMIC GROWTH IN NIGERIA: EMPIRICAL INVESTIGATION

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ABSTRACT

This study investigated effect of value added tax on economic growth of Nigeria using time series data from 1994 to 2012. The study employed ex post facto and extracted variables such as value added tax and real gross domestic product from various Central Bank of Nigeria statistical bulletin. It used the Engle Granger General Error Correction Model (ECM) technique of data analysis to estimate the relationship of the variables and established that the adjusted R squared 86.7% is the total variation of real gross domestic product attributable to variation in value added tax. The results also established that value added tax has negative but significant relationship with gross domestic product both on short and long run equilibrium conditions. The F-Statistic coefficient of 56.591 which is consistent has probability value of 0.00% and therefore conclude that value added tax has significant effect on real gross domestic product of Nigeria. Consequently, the study recommends that government should embark on providing infrastructures that would yield investment opportunities for the private sector so as to influence economic growth, increase the value added tax rate for imported goods specifically luxury goods and alcohols and ensure that all accruable revenue from value added tax are remitted as at when due.

1. BACKGROUND INFORMATION

Every sovereign nation seeks to establish appropriate sources of revenue to provide public goods and meet its programmes in a manner that would not retard growth in the private sector. In Nigeria, there are various sources of revenue successive governments had engaged in ensuring that public programmes and other exigencies are met. However, Ekwe and Jones (2015) alluded that the nation's sources of revenue is skewed towards the oil sector accounting for over 80% of her earnings, a situation that was also evidenced during the crisis in the Niger Delta region. This calls for the need to generate other sources of revenue capable of influencing growth of the economy.

Other than revenue from the oil sector, governments impose taxes to generate revenue and it has been a major source of revenue. The major sources of taxes are direct and indirect taxes. The attitude of some Nigerians towards taxation had caused governments to continually lose collectable taxes particularly from direct taxes. The nation continues to lose substantial amount of revenue through the unsavory practice of tax avoidance and tax evasion. As a remedy to the problem of tax evasion, the Federal Government in January, 1994 introduced the Value Added Tax (VAT) as a consumption tax to replace Sales tax so as to cushion its resources in order to cope with the ever increasing responsibilities. Golit (2008) opined that high incidence of tax evasion in Nigeria has made it very difficult for government to accomplish its revenue targets. The value added tax mechanism is therefore more effective and equitable approach of sharing the tax burden to the various income strata in the economy.

Soyode and Kajola (2006) posited that value added tax is a consumption tax the incidence of which is borne by the final consumer and it is relatively easy to administer and difficult to evade. Value added tax has been acknowledged to have lesser tax evasion problems. However, Naiyeju (2010) stated that value added tax can lead to increase in prices, thereby causing inflation in a country in addition to the high administrative cost due to the expanded base of the tax.

Value added tax is already a significant source of revenue in Nigeria (Ajakaiye 2000; Adereti, Adesina and Sanni 2011). The obvious anticipated increase in prices of goods and services through the implementation of value added tax has the tendency of negatively affecting the society and therefore negate the objectives of the tax. Nonetheless, Naiyeju (2010) argued that the positive result received from any tax depends on the extent the tax is interpreted, implemented and properly managed as well as the publicity brought into it will determine how a particular tax meets its objectives. Rena (2011) posited that a strong fiscal policy that would impact on economic growth should be delivered in a sustainable approach by government through the efficient provision of dependable public goods and services and the establishment of long term goal through investments, tax reforms, tackling social exclusion to improve people's quality of life.

Since the commencement of value added tax in Nigeria, it has contributed substantially to the collective indirect taxes collected by various governments. Available data extracted from Central Bank of Nigeria statistical bulletins of 2005 and 2012 revealed that value added tax contributed 28% to the total indirect taxes collected in 1994. Between the periods 1994 to 1998, the contribution of value added tax to total indirect taxes averaged 29%. The trend continued to increase over a cumulative 5 year period although there had been fluctuations in the annual collections from 1994 to 2012. On the average, the percentage contributions of value added tax to total indirect taxes were 35%, 49% and 54% between the periods 1998-2003, 2004-2008 and 2009-2012 respectively whereas from 1994 to 2012, value added tax contributed 41.2% on the average to total indirect taxes in Nigeria.

An analysis of the average percent rate contribution of value added tax to total federally collected revenue in Nigeria within the same period revealed that it averaged 5.8%, 4.6%, 4.2% and 7.8% between the periods 1994-1998, 199-2003, 2004-2008 and 2009-2012 respectively whereas, the average percent rate contribution of value added tax to total federally collected revenue from 1994-2012 was 5.5%.

The above statistics is suggestive that value added tax is an important source of revenue as an indirect tax in Nigeria while its percentage contribution to the overall collectable total revenue appears to be insignificant. Izedonmi and Okunbor (2014) noted that government introduced value added tax to generate funds with the purpose of developing the nation that will accelerate economic growth.

In contrast with objective of accelerating economic development, long after the commencement of value added tax, there has been noticeable infrastructural deficiency in the country. Does considerable contribution of value added tax to indirect taxes translate to economic growth of Nigeria? Therefore, the objective of this study investigates the effect of value added tax on economic growth of Nigeria and hypothesized that value added tax has no significant effect on economic growth of Nigeria. This study therefore is beneficial to policy makers in government, tax officials, researchers and the general public.

2. REVIEW OF RELATED LITERATURE
2.1. Conceptual Framework
2.1.1. Concepts of Value added Tax
Ochiogu (2001) defined value added tax as an indirect form of taxation based on the general consumption behavior of the people. It is a tax on spending expected to be borne by the final consumer of goods and services. It covers manufactured goods, imports as well as professional and banking services.

Value-Added-Tax is a consumption tax that has been levied on many countries world-wide, and because it is a consumption tax, it is relatively easy to administer and difficult to evade. The yield from tax is fairly accurate measure of the performance of a given country.

Value-Added-Tax according to Ajakaiye (2000) has a number of characteristics that theoretically make it quite straightforward and as painless as possible.

First, it is a single rate tax (5%), which makes it easier to administer.

Second, it uses an input-output method, which makes itself policing, that is, although it is a multiple stage tax. It expected to have a single effect on consumer prices and should not add more than the specified rate to the consumer price no matter the number of stages at which the tax is paid.

Third, all goods and services are vatable, with limited and very specific exceptions. All imports are vatable, whether imported raw materials or finished goods, and VAT on import is calculated on the total value of the total cost, insurance and freight. Exports on the other hand are zero-rated, meaning that exporters do not collect VAT on exports but they can claim credit for VAT paid on their inputs.

Ajakaiye (2000) noted that VAT in Nigeria has a very wide base with relatively few exceptions. It replaced the sales tax introduced in 1986, which had a narrow base and discriminated against locally produced goods and services as it excluded imports. Sales tax revenue accrues exclusively to the state government, while VAT revenue is shared by all the levels of government and it assumed to increase government final consumption expenditure.

Despite the achievements recorded so far in the country's performance by VAT, there has been large degree of apathy, misconception and apprehension about the tax system among professionals, government functionaries and the taxpaying public.

2.1.2. Relative Merits of Value added Tax
According to Aruwa (2008), the beauty of Value Added Tax which lies in its relative merits when compared with other types of taxes include:

2.1.2.1. Neutrality
This implies a situation where a tax has no influence on the behaviour of both the customer and producers. If looked from another angle, this tax will have a negative effect on production process or on the welfare of customers since producers and consumers are expected to continue with their normal behaviour as if the tax were not imposed. A tax which has a neutral effect will obviously have non-distractive effects if it is a single rate Value Added Tax with few exemptions. The Value Added Tax has this potential more than any other type of tax to minimize tax induced distortions.

2.1.2.2. Large revenue earner
The Value Added Tax is reliable and large potential source of revenue for government. Value Added Tax contributes a high percentage of revenue in the country's economic development Odusola (2006).

2.1.2.2. Efficiency
The Value Added Tax is relatively efficient. It has often replaced inefficient, distorted or badly administered sales tax.

2.1.2.3. Broad base

Value added tax replaced the sales tax which has a narrow base. Value added tax is by nature a multi-stage broad based consumption tax. The narrowness of a tax base is a complete negation of the basic principle of consumptions tax that ought to cut across all consumable goods and services. Value added tax has the inherent potentiality of having the broadest base in tax history; hence it is a high revenue yield source.

2.1.3. Types of value added tax (VAT)

According to Soyode and Kajola (2006), there are three types of Value Added Tax. These are;

2.1.3.1 The consumption Value Added Tax

Under the consumption VAT, capital purchases are treated the same way as input. It has some advantages, one of which is that it is easier to compute, as the firm does not have to separate expenditure on other items of purchases in determining the VAT base. The main disadvantage of this type of VAT is that it creates refined problems where very heavy and expensive machinery are involved.

2.1.3.2 The income Value Added Tax

With this type of VAT, the tax paid on purchases of capital inputs is amortized (that is credited against the firm's VAT liability) over the expected lives of such capital inputs.

2.1.3.3. The gross product Value Added Tax

This is the Nigeria type of VAT. Under this type of VAT, no deduction of tax on input of capital purchases is allowed against the firm's output tax. The taxable firm is treated as a final consumer of all of its capital input. The tax period on capital input is treated as part of cost of that capital input. Under this arrangement, the Federal Inland Revenue Service (FIRS) is saved the problem of having to make cash refunds.

2.1.4. Objectives of Value Added Tax in Nigeria

According to Aruwa (2008), the introduction of Value added tax in Nigeria was necessary because government expenditure was steadily overshooting revenue resulting in wide deficit financing; besides, the authorities of Economic Community of West African States (ECOWAS) were pursuing a tax harmonization programme in the process of introducing free trade within the sub-region. Additionally, record shows that within 1960-1970, income from indirect taxes in Nigeria dropped suddenly. The decline was characterized by the oil boom of the 1970's, it's contributions relatively declined and more so in 1980s and 1990s due to dependency on oil. Specifically, Value added tax has the following objectives that informed its introduction in Nigeria to boost its economic development in line with Alan (1998).

1. To distribute the burden of taxation more evenly across different goods and services, through a broader coverage to avoid multiple taxation.
2. To consolidate and modernize the tax system in order to provide the base for strong revenue growth and flexible management in 1994 and beyond.
3. To shift taxation towards consumption rather than that of income.
4. To reduce dependency on petroleum oil revenue.
5. To provide incentives for export production.
6. To provide members for export and enhance balance of payment position.
7. To encourage the issuing of receipts for sales and demanding of receipts for purchases since it is based on self-assessment system.
8. To enhance voluntary compliance as it is based on self-assessment system.
9. To enhance record-keeping by small businessmen.
10. To address the regressive issue in taxation, the more you buy, the more you pay as the richer tends to buy more and pay more.

2.1.5. List of Vatable Goods and Services

The Federal Inland Revenue Service (FIRS) through its circular no 9304 provided a list of goods and services that attracts value added tax as shown in tables 2.1 and 2.2 below.

Table 2.1: Vatable Goods at 5% Tax Rate.

S/No	Vatable goods
1.	All goods manufactured or assembled in Nigeria
2.	All goods imported into Nigeria
3	All second hand goods
4.	Household furniture and equipment
5.	Petrol and all petroleum products including grease, engine oil and gas.
6.	Jewels and jewelleries
7.	Textiles, clothing, carpets and rugs
8	Beer, wine, liquor, spirits, soft drinks and bottled water including mineral water.
9.	Cigarette and tobacco
10	All vehicles and their spare parts excluding commercial vehicles and their spare parts.
11	All aircraft, aircraft bodies and their spare parts
12	Perfumes and cosmetics including toiletries
13	Soaps and detergents
14	Mining and minerals
15	Office furniture and equipment including toiletries
16	Electric materials of any description
17	Such other goods that may be determined by the board from time to time as taxable goods.

Source: VAT Decree (1993), FIRS information circular No. 9304.

Table 2.2: Vatable Services at 5%Tax Rate.

S/No	Vatable Services
1.	All services rendered by financial institutions to their customers excluding the then peoples bank, community bank now microfinance banks and mortgage institutions.
2	Accounting services, including any type of auditing, book-keeping or related services
3	The provision of report, advice, information or similar technical service in the following areas: a)Management, financial, taxation and related b) Recruitment, staffing and training c) Market research d) Public relations and e) Advertising
4	Legal services including services supplied in connection there with.
5	Computer services, including the provision of bureau facilities, system analysis, design software, site development and training.
6	Services supplied by architects, including landscape architects and draughtsman
7	Services supplied by consulting engineers.
8	Services supplied by land building quality surveyors
9.	Insurance companies and assessors, fire and marine insurers, loss adjusters or similar services.
10	Services supplied by auctioneers, estate agents and valuers. Services supplied by agents, including insurance agents and any person who acts for or represents someone else in arranging or conducting a transaction or other activities.
11.	Services supplied by brokers
12	Services supplied by typing, photocopying, telex facsimile and other related services.
13	Services supplied by security companies and enterprises
14	Courier services
15	Repairs, alteration, processing or any other services provided in connection with designated goods by designated dealers.
16	Services supplied in the course of altering, processing, assembling, packaging, bottling or manufacturing goods owned by another person.
17	Telecommunication services, including renting of telecommunication equipment, installation and maintain services.
18	Letting of video tapes or any other audio visual video tapes and similar services
19	Entertainment services including plays or performances, crimes shows and music concerts, excluding plays and performances conducted by educational institution as part of learning.
20	Accommodation and all other services provided by a hotel owner or operator including bars, beverage, telecommunications, entertainment, laundry services safe deposits, conferences and business services.
21	Restaurants services rendered by a restaurant owner or operator.
22	All goods and services or repairs and malignance including accessories of vehicles, plants and machineries, equipment, aircraft and related services.
23	Air travels and company care lines
24	Any other services as may be determined by the board from time to time as taxable services.

Source: VAT Decree 1993-FIRS Information Circular No. 9304

From the list above, it is observed that goods exported enjoy exemption status. This means that no VAT is collected from the foreign buyer although any input tax incurred will be borne by the business or the seller (Federal Inland Revenue Service 1999).

Table 2.3. Extracts of African Countries with Rate of Value Added Tax

Country	Tax Rate (%)
Algeria	7 or 17 for other items
Angola	10
Botswana	12
Burkina Faso	18
Burundi	18
Cameroon	19.25
Cape Verde	15
Egypt	14
Gabon	18
Nigeria	5

Source: www.wikipedia.org> list of Countries by tax rate.

A comparison of value added tax rates extracted depicts that the rate in Nigeria is twice below on the African countries listed except Algeria which has a basic rate of 7% but 17% for other items. The implication is that Nigeria should increase its rate particularly for some items not required by the low income earners.

2.1.7. Economic Growth

Central Bank of Nigeria (2010) posited that economic growth is the amount of goods and services produces in the economy over time and that it is measured as the percentage increase in real gross domestic product. It noted that it is inflation adjusted in order to net out the effect of inflation on the price of goods and services produced.

2.2. Theoretical Framework

Taxation theory is a model depicting a tax system built upon various identified assumptions and objectives with a set of corresponding features (Bhatia 2012). Viewed this way, he classified tax theories into three groups.

First, taxation theory may be derived on the assumption that there need not be any relationship between tax paid and benefits received from State activities. In this group, we have two theories, namely;

1. Expediency theory and,
2. Social-political theory.

Second, taxation theory may be based on a link between tax liability and State activities. This theory assumes that the state should charge the members of the society for the services provided by it. Therefore, this theory justifies imposition of taxes for financing State activities. This logic, therefore, yields two theories, namely;

1. Benefits received theory and,
2. Cost-of- service theory.

Third, an extension of the former reasoning would be that though there need not be any relationship between tax liability and provision of State services, tax liability should be apportioned between taxpayers on the basis of their comparative ability to pay. This gives us the Ability-to-pay theory.

This study is therefore on the premise of the expediency and ability to pay theories of taxation (Jhingan 2012).

2.2.1 Expediency theory

This theory believes that every tax proposal must pass the test of feasibility and it should be considered as the major reason while choosing a tax proposal. The feasibility of a tax is important in every tax proposal otherwise it would be of no use to introduce a tax that cannot be effectively collected. This theory aligns with VAT which indirectly allows consumers to make purchase and to pay for the tax without necessarily knowing.

2.2.2. Ability to pay theory

The theory proposed that persons should pay taxes in proportion to their individual capacity. The value added tax is a situation where an individual pays more in relation to the volume of vatable goods or services

2.3. Empirical Review

Asogwa and Okeke (2013) in their paper on Value Added Tax and Investment Growth in Nigeria, Time Series Analysis" used multiple regression to test the variables and the results show that VAT and Net Export are the only significant variables in the model while others are not statistically significant . The sign of VAT does not conform to a priori expectation of the model. There is a long run relationship between investment growth and Value added Tax as shown by the co-integration result.

Umeora (2013) investigated effects of value added tax on economic growth of Nigeria using time series data from 1994-2010. The study adopted value added tax, total revenue and gross domestic products as variables. Amongst others, the researcher hypothesized that value added tax does not have significant effect on gross domestic product of Nigeria. The study found that value added tax has significant effect on gross domestic product and also on total revenue of Nigeria and recommends that government should sensitize the people to increase the rate so as to enlarge its annual revenue for economic development.

Ihendinihu, Jones and Ibanichuka (2014) in their study of the assessment of the long-run equilibrium relationship between tax revenue and economic growth in Nigeria extracted time series data for the 1986 to 2012 sourced from various Central Bank of Nigeria statistical bulletin adopting different types of taxes and real gross domestic product as variables. The study employed the ARDL technique (Bounds Test) of data analysis and found that VAT has no statistical significant impact on the economic growth in Nigeria.

Ezeji and Peter (2014) in their study analyzed the relationship between VAT and economic growth in Nigeria using the Engle-Granger two steps cointegration method. The Augmented Dicky Fuller (ADF) unit root test shows that VAT and real GDP which proxy economic growth are both integrated of order two (I(2)). The estimates of the cointegrating regression showed that the VAT has positive impact on economic growth. The analyses of residuals from their cointegrating regression showed that VAT and economic growth are not cointegrated, that is, they share no long-run relation. Similarly, estimates from the error correction model provide evidence to show that VAT and real GDP series do not converge to a long run cointegrating equilibrium. The ECM results also showed that short-run changes in VAT have a negative but statistically insignificant impact on short-run changes in real GDP. They therefore conclude that the government should therefore put in place measures to enhance productivity so as to increase the contribution of VAT to economic growth in Nigeria.

Izedonmi and Okubor (2014) investigated the contribution of value added on the development of the economy of Nigeria engaging secondary data. It used value added tax, total tax revenue, total Federal Government revenue and gross domestic product as variables for the study from the 1994 to 2010 sourced from Central Bank of Nigeria reports. The variables were analyzed using the simple regression technique of data analysis and found that value added tax and total revenue accounted for 92% variation in gross domestic product of Nigeria. They claimed that there is existence of positive insignificant correlation between value added tax revenue and the gross domestic product and recommends that all identified administrative loopholes should be plugged for value added tax revenue to contribute more significantly to the economic growth of Nigeria.

Madugba and Azubike (2016) empirically examined value added and economic growth of Nigeria to ascertain their relationship using time series data between the period 1994 and 2012 obtained from Central Bank of Nigeria statistical bulletin of various years. They used the ordinary least squares based multiple regression to analyze the data and claimed that a negative significant relationship exists between value added tax and gross domestic product of Nigeria. it recommended that government should educate the general public more on the essentials of value added tax payment and value added tax be increased.

Akor and Ekundayo (2016) investigated impact of indirect tax revenue on economic growth of Nigeria. They used secondary data obtained from the Central Bank of Nigeria statistical bulletin covering 1993-2013. Specifically value added tax and custom and excise duties were adopted as proxies for indirect taxes and real gross domestic product as proxy for economic growth of Nigeria. It study used correlation and the error correction model regression to analyze

the data. They claimed that value added tax has a negative significant impact on real gross domestic product while custom and excise duties has a negative and weak significant impact on real gross domestic product

3. METHODOLOGY

The study adopted *ex-post facto* research design to establish the relationship of the variables. Asika (2008) opined that e*x-post facto* (after the fact) research design as research that is undertaken after the events have taken place and the data are already in existence.

3.1. Method of Data Collection

Secondary data were used in this study. It comprises time series data sourced from the Central Bank of Nigeria Statistical Bulletin 2012 and Federal Inland Revenue Service various reports.

3.2. Method of Data Analysis

The study conducted unit root test on the variables and analyzed the data using the Engle Granger General Error Correction Model (ECM) regression approach to test the co-integrating long run equilibrium relationship. This approach is a two-step method which has the advantage of establishing both the long and short run equilibrium of the variables.

3.3. Model Specification and Functional Definition of Variables

The model specification was based on theory and related empirical evidence by Akor and Ekundayo (2016) that value added tax significantly affects economic growth of Nigeria. The following functional equations are therefore formulated in line with the relevant literature as follows:

$$RGDP = f(VAT) \dots\dots\dots\dots\dots\dots\dots \quad (1)$$

$$RGDP_t = {}_0 + {}_1 VAT_t + e_t \dots\dots\dots\dots \quad (2)$$

$$LogRGDP_t = {}_0 + {}_1 LogVAT_t + e_t \dots\dots\dots \quad (3)$$

Where;

VAT= Value added tax

RGDP= Real Gross Domestic Product proxy for Economic Growth

${}_0$ = intercept coefficient which measures the average effect of the dependent variables when the independent variable is data set equal to zero.

${}_1$ = Slope or Partial coefficient. It indicates the unit change in the dependent variable as a result of a proportionate change in the independent variable. Gujarati (2013)

e = error or disturbance term

t = each variable a given time period.

The data collected were of values with different magnitude, hence we log linearized the variables to bring them at par or at almost the same level.

Where In = Natural Log

4.0. RESULTS AND DISCUSSION

From the data extracted, the study plotted a graph as shown in Figure 1of value added tax on real gross domestic product of Nigeria and observed a growth pattern in real gross domestic product occasioned by the introduction of value added tax in the country. The implication of the growth pattern of real gross domestic product suggests that value added tax has the capacity to influence real gross domestic product consequent on its effect on the aggregate prices of vatable goods and services as specified in the Federal Inland Revenue Service Circular No. 9304. This implies that value added tax has a short run relationship with real gross domestic product of Nigeria.
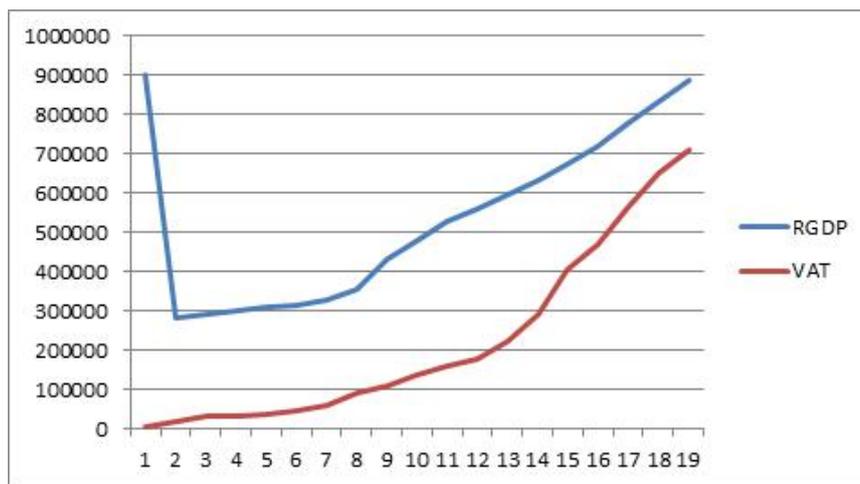

Fig. 1:Growth pattern of VAT to RGDP.

We therefore conducted a unit root test of the log linearized variables to ascertain whether they are stationary or non-stationary. The result of the unit root test conducted on the log-linearized variables is as shown in Table 4.1.

Table 4.1: Result of unit root test with log-linearized variables

VARIABLE	T-STA	P-VALUE	T-STA	P-VALUE
LogVAT	-2.85847	0.0701	-7.277874	0
LogRGDP	0.284269	0.9698	-3.356358	0.0319

Source: Authors Computation using E-views version 8

The result of the log-linearized variables of the unit root test indicates that all the variables were significant at first difference, 1(1) based on the probability values (p-values) of the variables that less than 5% level of significance. This implies that the time series variables included in the model are stationary. The study therefore adopted Engle Granger General Error Correction Model (ECM) regression approach to establish co-integrating relationship of the variables. The result of the regression analysis is shown on table 4.2 below.

Table 4.2: ECM of LogRGDP and LogVAT
Dependent Variable: DLogRGDP
Method: Least Squares
Date: 12/30/14   Time: 06:03
Sample (adjusted): 1995 2012
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLogVAT	-0.715613	0.163464	-4.377801	0.0005
RES2(-1)	-0.412424	0.110410	-3.735385	0.0020
C	0.076533	0.021492	3.560954	0.0028
R-squared	0.882979	Mean dependent var	-0.000293	
Adjusted R-squared	0.867376	S.D. dependent var	0.127069	
S.E. of regression	0.046276	Akaike info criterion	-3.157389	
Sum squared resid	0.032122	Schwarz criterion	-3.008994	
Log likelihood	31.41650	Hannan-Quinn criter.	-3.136927	
F-statistic	56.59079	Durbin-Watson stat	1.097958	
Prob(F-statistic)	0.000000			

Source: Authors computation using E-views version 8

From the results in table 4.2, the adjusted R-Squared with coefficient of 0.867 denotes that 86.7% of the total variation in real gross domestic product is explained by value added tax revenue. This indicates that there is goodness of fit and the model is well specified. The above result is in agreement with a priori expectation.

The coefficient of 0.076533 which is positive and significant, is the mean effect of real gross domestic product when value added tax is a data set equal to zero. The coefficient of -0.7156 is the change in real gross domestic product as a result of a unit change in value added tax. This coefficient implies that value added tax has a negative but significant effect on real gross domestic product of Nigeria.

The result of the residual coefficient with probability of 0.002 or 0.2% is consistent and significant at 5% level of significance. The coefficient of the residual which is negative signifies a short run negative but significant co-integration with economic growth of Nigeria. Since the t-statistic of both the residual as well as that of value added tax is significant, we infer that value added tax has co-integrating negative significant relationship with real gross domestic product (RGDP) both at the short-run and long-run equilibrium conditions.

The Durbin Watson statistic coefficient of 1.09796 lies between the lower and upper limits of the Durbin Watson d statistic table of 1.046 and 1.535 where n=18 and k=2 at 5% level of significance. This signifies that there is inconclusive evidence regarding the presence or absence of serial auto correlation in the model (Gujarati and Porter 2009)

Test of Hypothesis:

H_0: Value added tax has no significant effect on economic growth of Nigeria.

To test the hypothesis that:

H_0: $_1$=0 i.e. all slope coefficients are simultaneously zero.
H_I: $_1 \neq 0$ i.e., not all slope coefficients are simultaneously zero.

The F statistic test was used to determine the overall significance of the model with the following decision: If the probability of the F-statistic obtained from the result is below or at 5%   level of significance, the study would reject the null hypothesis, H_0.

From the result in Table 4.2 above, F-Statistic was used to test the overall significance of the model. Since the probability of the F-Statistic with coefficient of 56.591 has probability value of 0.00 or 0.00% which is sufficient lower than the chosen 5% level of significance, we conclude that value added tax has significant effect on real gross domestic product of Nigeria.

5. CONCLUSION AND RECOMMENDATIONS
5.1. Conclusion

Various empirical studies had established that value added tax has significant relationship with economic growth of Nigeria. This study established that there exists a short run equilibrium relationship between value added tax and real gross domestic product of Nigeria though that relationship is negative but significant. It was also established that value added tax also has a negative but statistically significant long run effect on real gross domestic product. The study therefore concludes that value added tax has statistical significant effect on economic growth of Nigeria. The study agrees with the earlier study by Akor and Ekundayo (2016), and Madugba and Azubike (2016) to the extent of the negative significant relationship value added tax has with economic growth of Nigeria but is disagreement with Izedonmi and Okubor (2014) and Ihendinihu *et al.* (2014), stating that VAT has no statistical significant effect on the economic growth in Nigeria.

5.2. Recommendations

Consequent upon the findings of the study, it recommends that government should embark on providing infrastructures that would yield investment opportunities for the private sector, increase the value added tax rate for imported goods specifically luxury goods and alcohols and ensure that all accruable revenue from value added tax are remitted as at when due.

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APPENDIX
DATA ON VAT AND RGDP
(₦ MILLION)

Year	RGDP	VAT
1994	899863.22	7260
1995	281407.4	20761
1996	293745.38	31000
1997	302022.48	34000
1998	310890.05	36900
1999	312183.48	47100
2000	329178.74	58500
2001	356944.26	91800
2002	433203.51	108600
2003	477532.98	136400
2004	527576.04	159500
2005	561931.39	178100
2006	595821.61	221600
2007	634251.14	289600
2008	672202.55	404500
2009	718977.33	468400
2010	776332.21	562900
2011	834161.83	649500
2012	889000.00	710200

Source: *Central Bank of Nigeria Statistical Bulletin 2005 and 2012*

VAT = Value Added Tax

RGDP = Real Gross Domestic Product