INTRODUCTION

It is obvious that the Nigeria’s revenue from oil can no longer fully support her development objectives due to the serious decline in price of oil in recent years which has led to a decrease in the funds available to the Government. The need for government to generate adequate revenue from internal sources has therefore become a matter of extreme urgency and importance. This need underscores the eagerness on the part of government to look for new sources of revenue or to become aggressive and innovative in the mode of collecting revenue from existing sources. One of these existing sources is taxation. Aguolu [1] states that though taxation may not be the most important source of revenue to the government in terms of the magnitude of revenue derivable from taxation, however, taxation is the most important source of revenue to the government, from the point of view of certainty and consistency characteristics.

The Institute of Chartered Accountants of Nigeria [2] and the Chartered Institute of Taxation of Nigeria [3] define tax as an enforced contribution of money to government pursuant to a defined authorized legislation. In other words, every tax must be based on a valid statute. Without a valid statute no legitimate tax can be imposed. The income tax is levied on incomes such as salaries, business profits, interest, dividends, commissions, royalties and rent. It may also be charged on capital gains and petroleum profits. Taxation yields very substantial revenue to government. Therefore, it has a bearing on the Gross Domestic Product (GDP) which is the standard indicator for measuring the economic growth of a nation. The nature and level of taxes vary according to the economic policies adopted by the government of the day.

Kusi [4] states that many countries of the world depend mainly on taxation for generating required income to meet their financial needs. Pfister [5], opines that taxation provides a predictable and stable flow of revenue to finance development objectives.

However, in Nigeria it has been observed over the years that revenue derived from income taxes has...
been grossly understated due to improper tax administration, under assessment and inefficient machinery for collection [6, 7]. Persons and companies are known to routinely evade and avoid taxes due to corrupt practices and the existence of various loopholes in the tax laws. Bird &Zolt [8] opine that, effective and efficient tax system can assist the government generate enough revenue to take care of its estimated expenditure, meet the needs of the people, and effectively participate in the world economy. According to Naiyeju [9] the success or failure of any tax system depends on the extent to which it is properly managed, interpreted and implemented.

Recently the Nigerian government undertook various tax law reforms to improve tax administration and to increase tax yield. The Value Added Tax (Amendment) Act, 2007; was for instance intended to widen the value added tax base and improve the machinery for its collection. Likewise the Companies’ Income Tax (Amendment) Act, 2007; the Federal Inland Revenue Services (Establishment) Act, 2007 and The Personal Income tax (Amendment) Act, 2011, were all aimed at encouraging tax compliance and increasing tax yield [10].

The main objective of this study is to examine the effect of each of this income taxes revenue on the growth of Nigeria economy. Given the foregoing, the study seeks to answer the following research questions:

- What is the effect of petroleum profit tax on the Nigeria economic growth?
- Of what effect is company income tax on the Nigeria economic growth?
- What is the effect of value added tax on the Nigeria economic growth?
- To what extent does education tax have an effect on the Nigeria economic growth?

Against the background of the research questions, the study raised the following testable propositions which are stated in the null;
H_{01}: Petroleum profit tax has no significant effect on the Nigeria economic growth.
H_{02}: Company income tax has no significant effect on the Nigeria economic growth.
H_{03}: Value added tax has no significant effect on the Nigeria economic growth.
H_{04}: Education tax has no significant effect on the Nigeria economic growth.

Literature Review

The Concept of Taxation

Taxation is an instrument employed by the government for generating public funds [11]. It is a required payment imposed by the government on the income, profit or wealth of individuals, group of persons, and corporate organizations. Taxation is seen as a burden which every citizen must bear to sustain his or her government. Okon [12] states that income tax can be regarded as a tool of fiscal policy used by government all over the world to influence a particular type of economic activity in order to achieve desired objectives. The primary economic goals of developing countries are to increase the rate of economic growth and hence per capita income, which leads to a higher standard of living. It can also be for the purpose of redistribution of wealth to ensure social justice [13]. Therefore, taxes can be used as an instrument for achieving both micro and macroeconomic objectives especially in developing countries such as Nigeria. However, Musgrave and Musgrave [14] contend that the dwindling level of tax revenue generation in the developing countries makes it difficult to use tax as an instrument of fiscal policy for the achievement of economic growth. Some governments like that of Canada, United States of America, Netherland, and The United Kingdom have substantially influenced their economic growth through tax revenue generated from Company Income Tax, Value Added Tax, Personal Income Tax, and Education Tax and have prospered through tax revenue [6].

In Africa, natural resources such as income from production sharing, royalties, and corporate income tax on oil and mining companies yield the significant portion of tax revenue [5]. The tax sources are the basic and most reliable sources of government revenue because of their certainty and flexibility characteristics. Certainty characteristic implies that collection of taxes from taxpayers is assured, all other things being equal. Tax collection is not affected by the state of the economy; whether the economy is declining, stagnant or growing. Its flexibility makes it possible for government to adjust the tax system to suit her desired purpose.

Taxation System in Nigeria

Different types, forms and classes of taxes exist [11], but the commonest classification in Nigeria is according to the tax payer categorized as direct or indirect. The direct tax is a levy on personal, corporate income or property. Examples are Personal income tax, company income tax, petroleum profit tax, and capital gains tax. When the imposition is on the price of goods and services, then it is called an indirect tax. Indirect tax is payable on the consumption of products and services associated with import duties/tariffs, export duties, value added tax and excise duties. In Nigeria, the government can emphasize on any one of the tax forms depending on the objective it wants to pursue. In Nigeria, different legislations that allow the government to tax its citizens and to increase the tax revenue of the country exist. These legislations are the Personal Income Tax Amendment Act 2011, Companies Income
Tax Amendment Act 2007[28], and the Petroleum Profit Tax Amendment Act 2004. Others are the Capital Gains Tax Amendment Act 2004, the Value Added Tax Amendment Act 2007 and the Education Tax Amendment Act 2004. The agency of the federal government in charge of the administration and collection of these taxes, (except customs/excise duties) up to April 2007 was the Federal Board of Inland Revenue (FBIR). In 2007, the board was scrapped and replaced with the Federal Inland Revenue Services (FIRS). Nigeria has recorded an increase in tax revenue above the target annually. It is on the foregoing background that this section is devoted to x-raying the relevant literature which are germane to the study of tax revenue and economic growth in Nigeria.

Empirical Review of Tax Revenue and Growth of the Nigerian Economy

World & Nkor [15] examined the impact of Tax Revenue on the economic growth of Nigeria between 1980 and 2007 using its effect on infrastructural development. They reported that tax revenue has direct and indirect relationships with the infrastructural development and the gross domestic product respectively (GDP). The authors argue that the channels through which tax revenue affects economic growth in Nigeria are infrastructural development, foreign direct investment, and GDP. They stressed that availability of infrastructure stirs up an investment that in turn brings about economic growth. Bukie&Adejumo [16] examined the effect of tax revenue on economic growth of Nigeria for the period 1970 to 2011, regressing indicators of economic growth (domestic investment, labour force and foreign direct investment) on tax revenue. The result shows that the indicators all have a positive and significant relationship with economic growth in Nigeria.

Owolabi & Okwu [17] examined the contribution of only Value Added Tax (VAT) to Development of Lagos State Economy from 2001 to 2005. The study regressed each development indicator (infrastructural, environmental management, education sector, youth and social welfare, agricultural, healthcare, and transportation) on Value Added Tax revenue proceeds generated by Lagos State during the study period. Their finding was that revenue generated from Value Added Tax positively contributed to the development of the respective sectors of Lagos State economy during the period studied. Adereti, Adesina and Sanni[18] extended the study by examining the impact of Value Added Tax revenue on economic growth of Nigeria during the period 1994 to 2008 using time series data on the Gross Domestic Product, Value Added Tax Revenue, Total Tax Revenue and the total revenue of the federal government. The result of the study was in line with that of Owolabi & Okwu [17] showing an existence of a positive and significant correlation between VAT Revenue and Gross Domestic Product of Nigeria. Success, Ifuruze, & Success [19] investigated the impact of Petroleum Profit Tax on the economic development of Nigeria between the periods 2000 to 2010. Their findings reveal that petroleum profit tax positively impacts on gross domestic product (GDP) of Nigeria, and the impact is statistically significant. Okafor [20] examined the relationship between federally generated revenue and economic development in Nigeria using Gross Domestic Product (GDP) for the period 1981 to 2007. The result of the study showed a positive and significant relationship between Income Tax Revenue and Economic Development of Nigeria. Adegbie et al. [7] concentrated on the relationship between Company Income Tax alone and Nigeria Economic Development. Their conclusion based on findings was that there is a significant association between Company Income Tax and economic development of Nigeria.

The latest period examined by these authors was 2011. We are of the view that availability of timely information for government policy decisions is necessary. Also, authors used Gross Domestic Product (GDP) which is not a good measure of general wellbeing of the people to examine the relationship between tax revenue and economic development of Nigeria. However, our study extended the study period from 2011 to 2015 and used GDP which is the appropriate indicator for measuring growth to measure the effect of tax revenue on economic growth in Nigeria as against the use of GDP by some previous authors to measure economic development of Nigeria instead of Human Development Index. It is this gap that this study seeks to fill.

METHODOLOGY

The Ex post facto research design was adopted for this study. The justification for the use is that required data were not manipulated but sourced from secondary materials. Time series data for the period 1995-2015 was sourced from the Central Bank of Nigeria Statistical Bulletin [21] and Federal Inland Revenue Annual Statistical Bulletin [21]. The data were analyzed using the Econometric Model of Multiple Linear Regressions and Ordinary Least Squares (OLS) regression techniques. This regression technique has been employed and found to be suitable in similar researches like Okafor [20]; Ihenyen & Miesiegha [22] due to its unique properties of linearity, efficiency, sufficiency, least variances, unbiasedness and least mean errors. The F-test and the T-test was used to determine the overall adequacy of the regression line using the E-View 9.0statistical package. Nevertheless, the desirable properties of estimators may be obtained from many econometric techniques. From the economic theory and perhaps, empirical result, it is expected that
a positive relationship between Government tax revenue and economic growth exist.

The researchers in this study adopted Koutsoyiannis [23] model which says economic theory does not indicate the functional form of any relationship. This means that economic theory does not state whether a relationship will be expressed in linear form, quadratic form or in a cubic form.

On the strength of the above, we decided to specify the relationship between GDP and petroleum profit tax, company income tax, value added tax and education tax.

\[
\text{GDP} = F (\text{PPT, CIT, VAT, EDT}).
\]

…… (1)

From the above functional relationship, the econometric model is specified below:

\[
\text{GDP}_t = b_0 + b_1 \text{PPT}_t + b_2 \text{CIT}_t + b_3 \text{VAT}_t + b_4 \text{EDT}_t + u.
\]

…… (2)

Where:

- \( \text{GDP} \) = Gross Domestic Product (proxied for economic growth).
- \( \text{PPT} \) = Petroleum Profit Tax
- \( \text{CIT} \) = Company Income Tax
- \( \text{VAT} \) = Value Added Tax
- \( \text{EDT} \) = Education Tax
- \( b_0 \) = Constant term
- \( b_1, b_2, b_3, b_4 \) = Coefficient attached to explanatory variable.
- \( t \) = time period
- \( u \) = Stochastic error term

Model evaluation according to Kousoyiannis [23] consists of deciding whether the estimates of the parameters are theoretically meaningful and statistical satisfactory. The results of this study will, therefore, be evaluated using the Economic Apriori criteria. This involves the examination of the signs and magnitude of the parameters in order to determine whether they are in line with the postulates of economic theory.

For the Economic criterion Ordinary least square technique will be used, which includes the test of the R-Squared, T-test and F-test. The Unit root test will be used in order to verify the order of integration of each variable; this is done by using the Augmented Dicky Fuller (ADF) test, and then the Co-integration test will be tested which is based on the argument that the given time series have unit roots.

R-Square test are used to measure the goodness fit of the model which is determined by the statistical theory and aim at the evaluation of the statistics reliability of the estimates of the parameter model. The square of the correlation coefficient (\( R^2 \)) and the standard error estimate of the total variation of the dependent variable being explained by the changes in the explanatory variables and to measure dispersion of the estimate around the true parameter. The \( R^2 \) or the adjusted \( R^2 \) is a test of the fit of the regression model. It is a test of explanatory power of the model. The value of \( R^2 \) ranged from 0 to 1. The student t-test will be conducted on the parameter estimates. The t-test is a test of significance of the individual parameter estimates. This test will be conducted at the five percent (5%) level of significance.

The F-Test is used to determine the overall adequacy of the regression line. It will be used to find out whether the joint impact of the explanatory variables actually have a significant influence on the dependent variable. If \( f^* > 0.05 \), we reject the null hypothesis and accept the alternative, otherwise, we accept the null hypothesis and reject the alternative.

According to Gordon [24], most economic time series are non-stationary and only achieved stationary at the first difference level or at a higher level. Generally, unit root test involves the test of stationarity for variables used in regression analysis. The importance of stationarity of time series used in regression borders on the fact that a non-stationary series is not possible to generalize to other time periods apart from the present. This makes forecasting based on such time series to be of little practical value. Moreover, regression of a non-stationary time series on another non-stationary time series may produce spurious result. The Augmented Dickey Fuller (ADF) test was employed in order to analyze unit roots.

**PRESENTATION AND ANALYSES OF RESULTS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Test Statistic</th>
<th>5% Critical ADF Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-4.519</td>
<td>-3.04</td>
<td>Stationary</td>
</tr>
<tr>
<td>PPT</td>
<td>-1.419</td>
<td>-3.04</td>
<td>Non-stationary</td>
</tr>
<tr>
<td>VAT</td>
<td>-1.857</td>
<td>-3.04</td>
<td>“</td>
</tr>
<tr>
<td>CIT</td>
<td>-1.199</td>
<td>-3.04</td>
<td>“</td>
</tr>
<tr>
<td>EDT</td>
<td>-2.796</td>
<td>-3.04</td>
<td>“</td>
</tr>
</tbody>
</table>

*Authors’ Computation, 2016*
The Augmented Dickey Fuller (ADF) test was employed in order to analyze unit roots. The results are presented in levels and first difference. This enables us determine in, comparative terms, the unit root among the time series and also to obtain more robust results. Table 1 above presents the results of ADF test in levels without taking into consideration the trend in variables. The reason for this is that an explicit test of the trending pattern of the time series has not been carried out. In the result, the ADF test statistic for each of the variables is shown in the second column, while the 95 percent critical ADF value is shown in the third column. The result indicates that all the variables except the dependent variable GDP have ADF values that are less than the 5 percent critical ADF value. The implication of this is that the time series are non-stationary in their levels.

### Table 2 Unit Root Test for Variables in First Difference

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Test Statistic</th>
<th>5% Critical ADF Value</th>
<th>Remark</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPT</td>
<td>-3.581</td>
<td>-3.05</td>
<td>Stationary</td>
<td>I[1]</td>
</tr>
<tr>
<td>AVAT</td>
<td>-5.266</td>
<td>-3.05</td>
<td>Stationary</td>
<td>I[1]</td>
</tr>
<tr>
<td>ACIT</td>
<td>2.298</td>
<td>-3.05</td>
<td>Non-Stationary</td>
<td>Not I[1]</td>
</tr>
<tr>
<td>AEDT</td>
<td>-4.947</td>
<td>-3.05</td>
<td>Stationary</td>
<td>I[1]</td>
</tr>
</tbody>
</table>

*Authors’ Computation, 2016*

Box and Jenkins [25] have showed that non-stationary time series in levels may be made stationary by taking their first differences. A given series is said to be integrated of order $d$ (denoted $I(d)$) if it attains stationarity after differencing $d$ times. If the series is $I(1)$ it is deemed to have a unit root. This situation arises if the first difference of the series is $I(0)$. We take the first differences of the respective variables and perform the unit root test on each of the resultant time series.

The result of the unit root test on these variables in first differences is reported in table 2 above. From the result, it is seen that the ADF test statistic for the variables (except CIT) is greater than the 95 percent critical ADF values (in absolute values) and the GDP is not added because the unit root test in levels was stationary. With these result, company income tax revenues are adjudged to be non-stationary even in their first differences. This implies that the direction of CIT revenue movement over time has followed a very unique and similar pattern. On the other hand, all the other variables are stationary in first differences. This implies that the variables are actually difference-stationary, attaining stationarity after the first differences of the variables. Thus, we would accept the hypothesis that the variables possess unit roots. Indeed, the variables are integrated of order one (i.e. $I[1]$).

### Table 3: Results of Engle and Granger Residual Based Co-integration Tests

<table>
<thead>
<tr>
<th>ADF Lag</th>
<th>ADF Test Statistic</th>
<th>5% Critical ADF Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4.426</td>
<td>-3.03</td>
<td>Stationary</td>
</tr>
</tbody>
</table>

*Authors’ Computation, 2016*

Due to the nature of the study, the Engle and Granger [26] two-stage method is employed in the co-integration test. This method follows a simple procedure that involves two steps. First, the OLS estimation of the relationship is initially performed and the residuals are obtained. Second, unit root test is conducted on the residuals. If the residuals turn out to be stationary, then these variables are accepted as co-integrated. The result of the Engle and Granger co-integration tests for the model is reported in table 4.3 above. In the table, the ADF test statistic value (which is 4.426) is greater than the 5 percent critical ADF value of -3.03 (in absolute values). This clearly indicates that the residuals are stationary. Indeed, there is co-integration between the variables time series.

### Table 4: Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>2628.3</td>
<td>0.908</td>
<td>0.38</td>
</tr>
<tr>
<td>PPT</td>
<td>0.0261</td>
<td>0.016</td>
<td>0.02</td>
</tr>
<tr>
<td>VAT</td>
<td>3.2096</td>
<td>0.164</td>
<td>0.87</td>
</tr>
<tr>
<td>CIT</td>
<td>88.641</td>
<td>7.651</td>
<td>0.00</td>
</tr>
<tr>
<td>EDT</td>
<td>-81.64</td>
<td>-1.21</td>
<td>0.24</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.93</td>
<td>F-statistic</td>
<td>53.9</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.91</td>
<td>D.W.</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Available Online: [http://saspjournals.com/sjebm](http://saspjournals.com/sjebm)
The regression result is used to show the relation between the explanatory variables and dependent variable. The result in table 4 shows that, the goodness of fit statistics with R-squared with its adjustment and F-value are all very impressive. The result shows that over 93 percent of the systematic variations in the dependent variable are explained by the explanatory variables.

In terms of individual contributions of the variables to growth, the Table shows that PPT and CIT both pass the significance test at the 5 percent level. This implies that the only tax revenues that determine growth is the petroleum profit tax and company income taxes. The reason for their prominence in the growth process may be hinged on the size of the tax revenue and the direction where the taxes often go. Surprisingly, Value added tax and education tax fail the significance test. This means that VAT revenue is a weak tool for controlling the growth rate of GDP in Nigeria. Notice also that both Petroleum Profit tax and Company Income tax are direct taxes in terms of categorization. Thus, it appears that direct taxes exert more positive impact on economic growth in Nigeria. Revenues from indirect taxes do not play strong roles in explaining economic growth in Nigeria.

<table>
<thead>
<tr>
<th>Variables</th>
<th>T-Statistics(P value)</th>
<th>Critical Value</th>
<th>Decision</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPT</td>
<td>0.02</td>
<td>0.05</td>
<td>Reject</td>
<td>Statistically significant</td>
</tr>
<tr>
<td>CIT</td>
<td>0.00</td>
<td>0.05</td>
<td>Reject</td>
<td>Statistically significant</td>
</tr>
<tr>
<td>VAT</td>
<td>0.87</td>
<td>0.05</td>
<td>Accept</td>
<td>Statistically insignificant</td>
</tr>
<tr>
<td>EDT</td>
<td>0.24</td>
<td>0.05</td>
<td>Accept</td>
<td>Statistically insignificant</td>
</tr>
</tbody>
</table>

The results for the periods 1995-2015 for Petroleum profit tax t-statistic value is 0.02 and P-value is 0.73 while the company income tax t-statistic value is 7.65 and prob(t- value) is 0.00. Since the prob(t-values) of 0.02 and 0.00 respectively are less than 0.05 critical value, we therefore reject the null hypotheses H0 and H1 which say that petroleum profit tax and companies income tax have no significant effect on the Nigeria economy growth and accept the alternative hypotheses. Similarly, the results for the period 1995–2015 for Value added tax t-statistic value of 0.16 and prob(t-value) or p-value of 0.87 and Education tax t-statistics value of -1.21 and aprobt(t-value) or p-value of 0.24 respectively are greater than 0.05 critical value, we therefore accept the null hypotheses H0 and H1 which say that Value added tax and Education tax have no significant effect on the Nigeria economic growth. Finding from our study on Value added tax negates the results of Owolabi & Okwu [17] and Adereti et al. [18] which say there exist a positive and significant correlation between VAT Revenue and Gross Domestic Product of Nigeria. However, our findings corroborate the results of Adegbie et al. [7] Okafor [20], Success et al. [19] on Petroleum Profit Tax and Company Income tax respectively which say petroleum profit tax and company income tax positively impact on Gross Domestic Product (GDP) of Nigeria, and its impact is statistically significant.

CONCLUSION AND RECOMMENDATIONS

The study examined the extent to which tax revenue impact on economic growth of Nigeria. The results indicated that tax revenue from Petroleum Profit and Company Income have a positive and significant effect on economic growth, while revenues from Value Added tax and Education tax have no significant effect on economic growth of Nigeria. This implies that the only tax revenues that determine growth is Petroleum Profit Tax and Company Income Tax. Surprisingly, Value Added Tax and Education Tax fail the significance test. This means that Value Added Tax and Education Tax are a weak tool for controlling the growth rate of Gross Domestic Product (GDP) in Nigeria. That is revenues from indirect taxes do not play strong roles in explaining economic growth in Nigeria. Notice also that both Petroleum Profit tax and Company Income tax are direct taxes in terms of categorization. Thus, it appears that direct taxes exert more positive impact on economic growth in Nigeria. The study concludes by recommending that taxation will play an even more important role in improving economic growth hence:

- Tax collection mechanisms used by tax officials are free from corruption and embezzlement. If this is not done the revenue collected may not reach the desired point.
- Tax policymakers such as the Federal Inland Revenue Service and other tax regulatory bodies should strengthen their regulations on tax compliance mostly on taxes that are direct based to curb tax evasion and avoidance by taxpayers since direct taxes exert more significant effect on economic growth in Nigeria than indirect tax.
- Strategies should be adopted to improve on the system of tax administration to increase tax revenue generation in Nigeria.

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