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Abstract: This study investigated the effect of taxation on economic growth of Nigeria using secondary data that essentially relates to nominal Gross Domestic Product, Personal Income Tax, Company Income tax, petroleum profit tax and Value Added tax. This data covered a period of 20 years from 1994-2014 and was collected from the Central Bank of Nigeria (CBN) Statistical Bulletin, Federal Inland Revenue Service (FIRS), Office of the Accountant General of the Federation, and other relevant government agencies. The data collected were analysed using relevant econometric models such as Augmented Dickey Fuller Test, Johansen Co-integration test and error correction model. The result showed all the variables were stationary at first difference and co-integrated. In other words, the variables are all integrated of order one \textsuperscript{(1)}. The result also showed that there is a long run positive relationship between company income tax and petroleum profit tax while value added tax and personal income was negatively related to economic growth. The sign of the error correction term was found to have the expected negative sign after estimation and the coefficient informed us of the rate at which it corrected the previous period disequilibrium of the system. Error Correction Models (ECMs) directly estimate the speed at which the dependent variable \(Y\) returns to equilibrium after a change in the independent variable \(X\). The negative sign (-0.817240) of the error term implies that the system corrected its previous disequilibrium period due to negative shocks in one period at an adjustment speed of 81.72 percent annually. In other words, the short run dynamics represented by the coefficient of the error correction estimates shows how the research variables adjust at equilibrium to correct for any short run defect in the system.

Keyword: Taxation, economic growth, Nigeria

1.0 INTRODUCTION

Background to the Study

The increasing cost of running government coupled with dwindling revenue has left various tiers of governments in Nigeria to formulating strategies in order to improve their revenue base. Hardest hit are the governments all of whom have experienced unusual reduction in their share of the national revenue from the federation account (Ajakaiye, 2000). Despite the numerous sources of revenue available to the various tiers of government as specified in the Nigerian 1999 Constitution, since the 1970s till now, over 80% of the annual revenue of the three tiers of government come from petroleum. The need for the tiers of governments to generate adequate revenue from internal sources has, therefore, become a matter of extreme urgency and importance (Cheibub, 1998).

The management of any nation is usually the responsibility of the government. Governments are responsible for the maintenance of law and order as well as ensuring the welfare of their Citizens. This is done mainly through the provision of goods and services to satisfy the needs and wants of the citizens (Soyode, 2006). However to be able to meet these various needs, it becomes necessary for any government to raise revenue through several sources. One of the most convenient and exclusive avenues available for raising funds is through the imposition of taxes. The question that has largely remained unresolved in Nigeria is what government uses taxes to achieve in terms of impact on economic growth.

The first need of any modern government is to generate enough revenue which is indeed the breath of its nostril. Thus taxation is by far the most significant source of revenue for the government (Ojo, 2003). The funds raised from taxation are intended to be used in financing the provision of goods and services to satisfy the needs of the citizens (Yamane, 2002).

Economic growth is viewed as an increase in the amount of goods and services produced by the economy over time. A major problem which needs to be resolved is whether a relationship exists between tax raised in an economy and economic growth. The main objective of this study is to assess the impact of taxation on economic growth in Nigeria. The specific objectives are to examine; the impact of Value Added Tax on economic growth, the impact of company income tax on economic growth, the impact...
of Petroleum Profit Tax on economic growth and the impact of Education Tax on economic growth.

2.0 REVIEW OF RELATED LITERATURE

Taxation

Anyanfo (1996) defines the principles of taxation to mean the appropriate criteria to be applied in the development and evaluation of the tax structure. Such principles are essentially an application of some concepts derived from welfare economists. In order to achieve the broader objectives of social justice, the tax system of a country should be based on sound principles. Anyanwu (2000) defines taxation as the compulsory transfer or payment (or occasionally of goods and services) from private individuals, institutions or groups to the government. The main purpose of tax is to raise revenue to meet government expenditure and to redistribute wealth and management of the economy (Ola, 2001).

Nzotta (2007) clearly identifies four key issues which must be understood for taxation to play its functions in the society. First, a tax is a compulsory contribution made by the citizens to the government and this contribution is for general common use. Secondly, a tax imposes a general obligation on the tax payer. Thirdly, there is a presumption that the contribution to the public revenue made by the tax payer may not be equivalent to the benefits received. Finally, a tax is not imposed on a citizen by the government because it has rendered specific services to him or his family. Thus, it is evident that a good tax structure plays a multiple role in the process of economic development of any nation which Nigeria is not an exception (Appah, 2010).

Objectives and Importance of Taxation

Tanzi (1999), states that taxation is essential in financial matters and its objectives includes influencing the disposition and availability of real resources. The primary purpose of taxation is to enable the government to command the real resources it requires to perform certain functions on behalf of the inhabitants of the country as a whole. The need of national defence for instance, requires that the government shall be able to control resources of labour and capital (including land) sufficient to supply and operate the weapons that are deemed necessary for this purpose. Therefore, the real cost of defence is the output that those resources would produce if used for other purposes, but the cost can be measured in practice only by the transfer of purchasing power from individuals to the government as represented by the financial payments made to that effect. It will be shown later that there is no need for equation between the tax paid by an individual and loss in purchasing power in real terms.

Secondly, taxation can be used as a tool aimed at improving the performance of the national economy by such means as altering the balance between current consumption and capital investment. For instance, a man who would otherwise use the whole of his purchasing power for current consumption may, by taxation, be forced to handover part of it to the government and then decide to use some of it to increase his own capital investment. In doing so, the government has altered the decompositions of real resources although not necessarily by the amount that the purely financial information suggests. However, it is extremely difficult to isolate taxation as a casual factor in any economic variation because so many other factors are not at work and are inextricably interwoven.

The economic and taxation policies adopted by the government should be economical and rates of taxes should be low, so as to increase peoples investment, provide employment opportunity, increase the standard of living and encourage economic development. It must also be admitted that government may damage the economy by taxation policies which produce the wrong redistribution of resources. However, attempts have been made to analyze the effect of particular taxes in real terms, by theoretical reasoning which takes accounting change into consideration. One of the disadvantage of this, is that such attempts are dependent on the consumption records and assumptions may not be sufficiently realistic, especially the greater complexity in theoretical exercise. It may well be that it is misleading to assume that all other factors will remain unchanged, in so far as taxation policy may be effective only when linked with consistent policy.

Forms of Direct Taxes:

Personal Income Tax: It is a tax levied on an individual earned income during a certain period of time usually a year. In Nigeria and other developing countries, personal income tax constitutes a little percentage of total government revenue. This form of taxes is usually known as PAYE (pay as you earn). In assessing personal income tax, certain allowances are granted in respects of family circumstances.

Company Income Tax: It is levied on the net profit of companies. One of the main advantages of a company tax is that, it is easier comparatively to collect. This is due to the fact that companies are clearly identifiable and they keep accurate accounts on which they are taxed. In Nigeria, where there is a federal system of government, allowances are granted for expenditure on the capital equipment for plant and machinery and initial expenditure on mines and plantations.

Expenditure Tax: This is a tax levied on that part of a person’s income which he actually spends with
allowance being made for savings since this tax is levied after savings have been deducted. This type of tax is not common in Nigeria.

**Capital Tax:** This is another type of direct tax which is imposed on capital assets on the properties of the deceased and increments on the value of capital assets and on land (sees the Capital Gains Tax Act of 1967 and capital transfer tax of 1979).

**Economic Growth**

Dwivedi (2004) states that, economic growth is a sustained increase in per capita national output or net national product over a long period of time. It implies that the rate on increase in total output must be greater than the rate of population growth. Another quantification of economic growth is that national output should be composed of such goods and services which satisfy the maximum want of the maximum number of people. Economic growth can be determined by four important determinants namely, human resources, national resources, capital formation and technological development.

Economic growth is the increase in the amount of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product. Growth is usually calculated in real terms, i.e. inflation-adjusted terms, in order to net out the effect of inflation on the price of the goods and services produced. 'Economic growth' or 'economic growth theory' typically refers to growth of potential output, i.e., production at 'full employment,' which is caused by growth in aggregate demand or observed output (Nzotta, 2007).

Increases in productivity are a major factor responsible for per capita economic growth, especially since the mid-19th century. Most of the economic situation in the 20th century was due to reduced inputs of labour, materials, energy, and land per unit of economic output.

**Three important determinants of Economic growth**

**Human Resources (HR):** Human Resources officers develop advice on and implement policies relating to the effective use of personnel within an organization. Their aim is to ensure that the organization employs the right balance of staff in terms of skills and experience, and that training and development opportunity are available to employees to enhance their performance and achievement the employer's business aims.

Human Resources officers are involved in a range of activities require by organizations, whatever the size or type of business. These cover area such as; working practices, recruitment, pay, condition of employment.

**National Resources:** Recent empirical research by Jeffrey Sachs and Andrew Warner in Natural resource Abundance and Economic Growth has uncovered a strong and robust cross country relationship between economic growth and the abundance of , or dependence on, natural resources dependence seem to influence growth.

First, countries that are rich in natural resources experience boom and busts, not only due to commodity price fluctuations in world markets but also due to resource discoveries that typically create intermittent upswings in export earnings that cause the national currency to appreciate in real terms to the detriment of other export industries. This phenomenon is known as the "Dutch disease". Secondly, in less extreme cases, the struggle for huge resources rents may lead to a concentration of economic and political power in the hands of elites that, once in power, use the rent to placate their political supporters and thus secure their hold on power, with stunted or weakened democracy and slow growth as result.

**Capital Formation:** Capital Formation is concept used in macro economics, national account and financial economics. It is a specific statistical concept used in national accounts statistics, econometric and macroeconomics. It refers to a measure of the net additions to the (physical) capital stock of a country (or an economic sector) in an accounting interval, or, a measure of the amount by which the total physical capital stock increased during an accounting period.

In a much broader or vaguer sense, the term “capital formation” has in more recent times been used in financial economics to refer to savings drives, setting up financial institutions, fiscal measures, public borrowing, development of capital markets, privatization of financial institutions and development of secondary markets.

**Theoretical Framework**

**Benefit received theory**

This theory proceeds on the assumption that there is basically an exchange relationship between taxpayers and the state. The state provides certain goods and services to the members of the society and they contribute to the cost of these supplies in proportion to the benefits received (Bhartia, 2009). This is in line with Anyanfo (1996) assertion that taxes should be allocated on the basis of benefits received from government expenditure. This theory is important to the study because it helps the government to realize their responsibility of providing infrastructural facilities such as road, electricity, pipe borne water and school.
Empirical Review

Several empirical studies have been conducted on the impact of taxes on economic growth. Engen and Skinner (1996) in their study of taxation and economic growth of U.S. economy, used evidence from micro level studies of labour supply, investment demand, and productivity growth. Their result suggests modest effects on the order of 0.2 to 0.3 percentage points' differences in growth rates in response to a major reform. They stated that such small effects can have a large cumulative impact on living standards.

Tosun and Abizadeh (2005) in their study of economic growth of tax changes in Organization for Economic Cooperation and Development (OECD) countries from 1980 to 1999, show that growth measured by GDP per capita has a significant effect on the tax mix of GDP per capita. The study reveals that while the shares of personal and property taxes have responded positively on economic growth, shares of the payroll/goods and services taxes have shown a relative decline.

Ergete, Ferede and Bev Dahlby (2006) examine the impact of the Canadian provincial governments’ tax rates on economic growth using panel data covering the period 1977–2006. They discussed that a higher provincial statutory corporate income tax rate is associated with lower private investment and slower economic growth. They suggest that a 1 percentage point cut in the corporate tax rate is related to a 0.1–0.2 percentage point increase in the annual growth rate. It resulted that switching from a retail sales tax to a sales tax that is harmonized with the federal value-added sales tax boosts provincial investment and growth.

Okaolapo, Abdul-Rahamoh, Fasina and Adegbite (2013) examine the effect of petroleum profit tax (PPT) on Nigeria economy, found to have significant effects on the Economics Growth with the Adjusted R2 of 86.3%. Following the outcome of this study, it is therefore concluded that the abundance of petroleum and its associated income has been beneficial to the Nigerian economy for the period 1970 to 2010. Income from a nation’s natural resource has a positive influence on economic growth.

Adegbie and Fakile (2011) worked on company income tax and Nigeria's economic development. They used the GDP to capture the Nigerian economy and Petroleum Profit Tax (PPT), Company Income Tax (CIT), Customs and Excise Duties and VAT to measure Company Income Tax. Their findings revealed that there is a significant relationship between company income tax and Nigerian economic development and that tax evasion and avoidance are the major hindrances to revenue generation.

Owolabi and Okwu (2011) empirically evaluated the contribution of VAT to the development of Lagos state economy. Development aspects considered included infrastructural development, environmental management, education sector development, youth and social development, agricultural sector development, health sector development and transportation sector development. Their result showed that VAT revenue contributed positively to the development of the respective sectors. However, the positive contribution was statistically significant only in agricultural sector development.

3.0 RESEARCH METHODOLOGY

3.1 Research Design

An ex-post-facto research design was adopted for this study. The ex-post-facto (or casual comparative) research design attempts to explore causes that affect relationship where causes already exist and looks backwards to explain why. Ex-post-facto research design involves ascertaining the impact of past factor(s) on the present happenings or event. The ex-post-facto research design is a quasi-experimental study examining how independent variables, present prior to the study, affect dependent variables.

The Ex-post facto research design is considered most appropriate for this study because it is not possible to directly manipulate or control any of the independent variables. This is because the events have already taken place and therefore the research is been conducted after-the-fact.

Model Specification

The objective here is to estimate the deterministic relationship between the variables in line with theoretical postulations. The implicit and the explicit form of the model regression model is specified as follows:

The implicit form of the model is shown below:

\[ GDP = f (PIT, CIT, PPT, VAT) \]

In explicit form, the model can be re-stated in the following way:

\[ GDP = b_0 + b_1PIT_{t-1} + b_2CIT_{t-1} + b_3PPT_{t-1} + b_4VAT_{t-1} + U_{t-1} \]

Where

- GDP = Gross Domestic Product
- PIT = Personal Income Tax
- CIT = Companies Income Tax
- PPT = Petroleum Profit Tax
- VAT = Value Added Tax
- \( U_{t-1} \) = Error (stochastic) term that covers other sources of tax revenue not covered here.
b₀ = Regression intercept
b₁, b₂, b₃, b₄ = Regression coefficient

A priori expectation of the models is:

**A priori expectations**

(X₁) = Personal Income Tax; *a priori* expectation is positive
(X₂) = Companies Income Tax; *a priori* expectation is positive
(X₃) = Petroleum Profit Tax; *a priori* expectation is positive
(X₄) = Value Added Tax; *a priori* expectation is positive

Hence, this is further shown here:
b₁>0, b₂>0, b₃>0, b₄>0

**Data Analysis techniques**

The secondary data was analyzed using econometric methods. The stationarity of the data was analyzed using Augmented Dickey-Fully test (ADF), the long-run relationship was examined using Johansen co-integration while the short-run dynamics was analyzed using the error correction mechanism. The hypotheses in this study were tested using the component of long-run regression dynamics of the vector error correction model.

### 4.0 RESULTS AND DISCUSSION

**Testing for Unit Root (ADF-Test)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF</th>
<th>5% Critical Value</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-1.877868</td>
<td>-3.020686</td>
<td>I (0)</td>
</tr>
<tr>
<td>PIT</td>
<td>-5.643353</td>
<td>-3.020686</td>
<td>I (1)</td>
</tr>
<tr>
<td>CIT</td>
<td>-2.428897</td>
<td>-3.029970</td>
<td>I (1)</td>
</tr>
<tr>
<td>PPT</td>
<td>-5.233023</td>
<td>-3.065585</td>
<td>I (1)</td>
</tr>
<tr>
<td>VAT</td>
<td>-1.413629</td>
<td>-3.040391</td>
<td>I (0)</td>
</tr>
</tbody>
</table>

*Source: E-views 7.0 Result Output, 2017*

The result of the unit root test using ADF shows that only GDP, company Income Tax (CIT) and Value Added Tax (VAT) were stationary at level, while Personal Income Tax (PIT) and Petroleum Profit Tax (PPT) were not stationary at levels. GDP, CIT & VAT are integrated of order [I (0)] while PIT and PPT is integrated of order one [I (1)]. This implies that the null hypothesis of non-stationarity of the variables is now rejected for all the variables.

**Johansen co-integration test**

This establishes whether there is a long run co-integrating relationship among the variables. Co integration analysis helps to identify long-run economic relationships between two or more variables and to avoid the risk of spurious regression. The unrestricted co-integration Rank Test (Trace) and the unrestricted Co-integration Rank Test (Maximum Eigen value) statistics results of the Johansen Co-integration test are presented in the following tables:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>CIT</td>
<td>-8.159737</td>
<td>-3.029970</td>
<td>I (1)</td>
</tr>
<tr>
<td>PPT</td>
<td>-0.744913</td>
<td>-3.081002</td>
<td>I (1)</td>
</tr>
<tr>
<td>VAT</td>
<td>-5.809686</td>
<td>-3.029970</td>
<td>I (1)</td>
</tr>
</tbody>
</table>

*Source: E-views 7.0 Result Output, 2017*

The ADF test at first difference above shows that all the variables GDP, PIT, CIT, PPT and VAT are all now integrated of order one [I(1)]. This also implies that the null hypothesis of non stationarity of the variables is now rejected for all the variables.

The graph above shows the trend of the variables of the study against year from the study period of 1994 - 2014. The gross domestic product showed a gradual rise from the start point of 1994 and rose steadily throughout the study period of 1994 to 2014 indicating the various contributions of the taxes to economic growth proxied by the gross domestic product.

| CIT       | -8.159737 | -3.029970 | I (1) |
| PPT       | -0.744913 | -3.081002 | I (1) |
| VAT       | -5.809686 | -3.029970 | I (1) |

*Source: E-views 7.0 Result Output, 2017*

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<tbody>
<tr>
<td>GDP</td>
<td>-3.622375</td>
<td>-3.029970</td>
<td>I (1)</td>
</tr>
<tr>
<td>PIT</td>
<td>-5.777518</td>
<td>-3.029970</td>
<td>I (1)</td>
</tr>
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*Source: E-views 7.0 Result Output, 2017*

The result of the unit root test using ADF shows that only GDP, company Income Tax (CIT) and Value Added Tax (VAT) were stationary at level, while Personal Income Tax (PIT) and Petroleum Profit Tax (PPT) were not stationary at levels. GDP, CIT & VAT are integrated of order [I (0)] while PIT and PPT is integrated of order one [I (1)]. This implies that the null hypothesis of non-stationary for all the variables is rejected for PIT & PPT. Hence we will proceed to further difference the data at first difference.

**Table 2: Augmented Dickey-Fuller Test (ADF) at first difference**

<table>
<thead>
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<td>I (1)</td>
</tr>
</tbody>
</table>

*Source: E-views 7.0 Result Output, 2017*
Trend assumption: Linear deterministic trend
Series: GDP PIT CIT PPT VAT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Trace Eigenvalue</th>
<th>Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.916806</td>
<td>69.81889</td>
<td>0.0000</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.833476</td>
<td>47.85613</td>
<td>0.0043</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.493436</td>
<td>29.79707</td>
<td>0.2074</td>
</tr>
<tr>
<td>At most 3</td>
<td>0.346876</td>
<td>15.49471</td>
<td>0.2167</td>
</tr>
<tr>
<td>At most 4</td>
<td>0.138041</td>
<td>3.841466</td>
<td>0.0930</td>
</tr>
</tbody>
</table>

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 4: Unrestricted Cointegration Rank Test (Maximum Eigen value)
Unrestricted Cointegration Rank Test (Maximum Eigenvalues)

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Max- Eigen Value</th>
<th>Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.916806</td>
<td>69.81889</td>
<td>0.0000</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.833476</td>
<td>47.85613</td>
<td>0.0043</td>
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</tbody>
</table>

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: E-views 7.0 Result Output, 2017

The result of the trace and maximum Eigen value test shows that there are two co-integrating equation in the system. This is indicated by the number of cointegrating equation found in the system (*). This implies that the null hypothesis of no co-integration is rejected for all the variables of the study. This further means that at 0.05 level of significance, they exists a long run relationship among the variables, as the result, trace statistics, and the maximum Eigen values converges to 2.822406 in the table 4 and 5 respectively.

Estimation of long run and short run relationship

The long run relationship between Gross Domestic Product (GDP) and other variables of the study can be obtained by normalizing the estimates of the unconstrained co-integrating vector on the GDP. The parameters (i.e long run elasticities) of the co-integrating vector for the long run GDP is presented in the equation in table 6 below. The long-run estimate can be obtained from vector error correction estimates as it contains both the long run and short run equations.

Table 5: Vector Error Correction Estimates

<table>
<thead>
<tr>
<th>Cointegrating Eq:</th>
<th>CointEq1</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP(-1)</td>
<td>1.0000</td>
</tr>
<tr>
<td>PIT(-1)</td>
<td>-0.687670</td>
</tr>
<tr>
<td>CIT(-1)</td>
<td>0.765141</td>
</tr>
<tr>
<td>PPT(-1)</td>
<td>0.551652</td>
</tr>
<tr>
<td>VAT(-1)</td>
<td>-0.474531</td>
</tr>
<tr>
<td>C</td>
<td>-0.890765</td>
</tr>
</tbody>
</table>

Source: E-views 7.0 Result Output, 2017

\[
\text{GDP}_{-1} = -0.8907655 -0.687670\text{PIT}_{-1} + 0.765141\text{CIT}_{-1} + 0.551652\text{PPT}_{-1} -0.474531\text{VAT}_{-1} + C
\]
The long-run relationship between the dependent variable and the independent variables shows that in the long run, there is a negative relationship between Personal Income Tax (PIT) and Economic growth proxied by the Gross Domestic Product (GDP). This is not in line with our economic and theoretical a priori expectation. The result shows that in the long run, a unit increase in company income tax will cause a corresponding increase in Gross Domestic Product (GDP) by 76.5%. This means that in the long run, a coordinated company income tax will bring about 76.5% improvements on the country’s growth indicator.

The normalized co-integrating equation shows that a positive long run association exists between Company Income Tax (CIT) and Gross Domestic Product (GDP). This is in line with our economic and theoretical a priori expectation. The result shows that in the long run, a unit increase in company income tax will cause a corresponding increase in Gross Domestic Product (GDP) by 76.5%. This means that in the long run, a coordinated company income tax will bring about 76.5% improvements on the country’s growth indicator.

The normalized co-integrating equation shows a positive long-run relationship between Petroleum Profit Tax (PPT) and Gross Domestic Product (GDP), and the relationship is in line with our economic a priori expectation. This means that a unit increases in Petroleum Profit Tax (PPT) will result to a corresponding increase in the Gross Domestic Product (GDP) by 55.2%. This result is in line with known fact and a priori expectation in Nigeria. Petroleum is the main source of revenue by the government and this revenue is obtained through tax and royalties. It is not surprising that Petroleum Profit Tax should have a positive and high impact on the economic growth.

Also, the normalized co-integrating equation shows a negative long-run relationship between Value Added Tax (VAT) and Gross Domestic Product (GDP) and the relationship is not in line with our a priori expectation. This means that a unit increases in the VAT will increase Gross Domestic Product (GDP) by 47.5%.

The coefficient of determination $R^2$ for the study is 0.896 or 89.6% in Appendix v. This indicates that 98.6% of the variations in the model can be explained by the explanatory variables of the model while 1.4% can be attributed to unexplained variation captured by the stochastic term.

Hypotheses Testing using the long-run equation

Decision Rule: Using Standard error test to test the hypothesis, we have the following decision rule. $S(b_i > 1/2b_i)$ we accept the null hypothesis, that is, we accept that the estimate $b_i$ is not statistically significant at the 5% level of significance. $S(b_i < 1/2b_i)$ we reject the null hypothesis, in other words, that is, we accept that the estimate is statistically significant at the 5% level of significance.

Therefore, using the standard error test, $S(b_1) > 1/2b_1$ above, 0.2069 > 0.3438. Thus, we accept the null hypothesis. That is, we accept that the estimate $b_1$ is not statistically significant at the 5% level of significance. This implies that Petroleum Income Tax (PIT) has a significant impact on economic growth. Government should explore all possible ways in which they could ensure effective mobilization and collection of personal income tax as it has been shown to impact significantly on economic growth proxied by the gross domestic product if it is judiciously implemented.

Therefore, using the standard error test, $S(b_2) < 1/2b_2$ above, 0.06829 > 0.38257. Thus, we reject the null hypothesis. That is, we accept that the estimate $b_2$ is statistically significant at the 5% level of significance. This implies that Company Income Tax (CIT) has significant effect on economic growth in the long-run in the economy. In other words, the tax levied to companies by the government does not have any significant impact on Economic Growth.

Therefore, using the standard error test, $S(b_3) < 1/2b_3$ above, 0.11836 < 0.27583. Thus, we reject the null hypothesis. That is, we accept that the estimate $b_3$ is statistically significant at the 5% level of significance. This implies that Petroleum Profit Tax (PPT) has a significant impact on economic growth. This result is in line with Onalapo, Abdul-Rahamoh, and Fasina (2012) and Adegbie and Fakile (2011) who also found a positive impact of Petroleum Profit Tax on economic growth. Petroleum forms the major export earnings for government, an effective petroleum profit tax if well utilized will have a significant effect on economic growth.

Therefore, using the standard error test, $S(b_4) < 1/2b_4$ above, 0.01836 > - 0.23727. Thus, we accept the null hypothesis, that is, we accept that the estimate $b_4$ is not statistically significant at the 5% level of significance. This implies that Value Added Tax (VAT) has a significant impact on economic growth. This is in line with Enger & Skinner (1996) which indicate a positive impact on economy. Nigeria has a very viable private and
public sector; an effective value added tax if well implemented will have a significant impact on economic growth.

The Error Correction Model

ECM:

$$\Delta GDP = 0.23115 - 0.475163 PIT_{t-1} + 0.269688 CIT_{t-1}$$

$$- 0.383623 PPT_{t-1} + 0.328061 VAT_{t-1} - 0.817240 E_t$$

The estimated coefficients of CIT and VAT have the expected positive sign while PIT and PPT are negatively related to economic growth proxied by the Gross Domestic Product (GDP). The $E_t$ in the model result above is an error correction term that guides the variables (PIT, CIT, PPT, VAT) of the system to restore equilibrium or correct disequilibrium. The sign of the error correction term was found to have the expected negative sign after estimation and the coefficient informed us of the rate at which it corrected the previous period disequilibrium of the system. Error Correction Models (ECMs) directly estimate the speed at which the dependent variable (Y) returns to equilibrium after a change in the independent variable X.

The negative sign (-0.817240) of the error term implies that the system corrected its previous disequilibrium period due to negative shocks in one period at an adjustment speed of 81.72 percent annually. In other words, the short run dynamics represented by the coefficient of the error correction estimates shows how the research variables adjust at equilibrium to correct for any short run defect in the system.

The coefficient of CIT_{t-1} & VAT_{t-1} has the expected positive sign. This means that any policy that is made to improve on these taxes will have a positive impact on the economic growth in the short run. However, a negative relationship exists between PIT_{t-1} and PPT_{t-1} with GDP in the short-run. This means that any policy that is made to improve on these taxes will have a positive impact on the economic growth in the short run.

Conclusion

The tax process has indeed, charted a road map to derive the Nigeria economy to international relevance as it is to provide adequate revenue for the government to undertake socially desirable expenditure that will translate economic growth in real output and per capital basis.

Taxation is seen from the study as a tool that could be used in improving the performance of the national economy as income from taxes that has shown a significant impact on the economic growth in the long run. The positive impact of all the taxes (Value-added Tax, Company income tax, Petroleum profit tax and Personal Income tax) on economic growth in the long run implies that when all these taxes are properly harnessed it will bring about the much needed growth that will improve the growth of all sectors of the Nigerian economy.

Recommendations

1. Since Personal income tax had a negative effect on economic growth during the period under study, policies should be geared towards improvement of Personal income tax and a new way of providing flexible personal income tax should be adopted by the government so as to ensure that this tax significantly improves economic growth.
2. Value added tax also had a negative effect on economic growth in our study. Government should intensify her effort in the collection of value added tax as they seem to be no seriousness on the part of government on the collection of this important tax and disbursement of the said tax to the local government as 85% of VAT revenue is supposed to be handed over to the local government for development purposes.
3. Company income tax made the highest contribution to economic growth as shown by the result of our study; as a result government should ensure that the fund obtained from this main stay of the country’s economy is used to diversify the economy away from a mono-product economy.
4. Petroleum profit tax PPT should also be made to contribute to the highest level on economic growth in Nigeria

REFERENCES


