REVENUE GENERATION AND TAX ADMINISTRATION IN NIGERIA

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ABSTRACT

The study investigated the role of tax administration in revenue generation in Nigeria between 1994 and 2015. The study uses that from Federal Inland Revenue Services FIRS on Petroleum tax PPT, custom and excise duties C&ED, company income tax CIT and value added tax VAT. Cointegration and error correction model is adopted to enable us study both long and short run impacts of tax administration on government revenue in Nigeria. The result shows that all the various forms of taxes have both significant long run and short run impacts on revenue generation in Nigeria. However, PPT and C&ED shows inconsistent impact while the impacts of VAT and CIT are very consistent.

Keywords: Tax administration, revenue generation, long and short run impacts

I. INTRODUCTION

the informal sector of Nigerian economy do not see the need to pay tax whereas they dominate the economy. To them only, civil servants should pay tax on their earnings and this amount to over flogging the willing horse. Besides, the activities of the strong union in the formal sector do not even pave way for a successful tax policy implementation in the formal sector (Ayodele 2006). Even revenue collection officers seem to be lenient or even connive with those in the informal sector during enforcement of tax policies. All this leads to revenue loss. In other to reawaken the consciousness of Nigerian government and citizens on the effective use of taxation as a developmental tool, and examine the effect the tax administration has so far on the economy; this research work becomes very relevant.
There is no doubt that taxation must have affected the economic development of Nigeria. Effort shall therefore be made in this research to see how much Nigeria have been able to achieve her economic goals with her tax policies and administration. The administrative role of the Federal, state and local government shall as well be examined in other to identify the causes of tax evasion and avoidance.

The Nigerian tax system has not been able to perform the expected role of revenue generation and regulation of income distribution. This stemmed from the structural and administrative defects of the tax system. The machinery and procedures for implementing tax systems are inadequate, resulting into tax evasion and avoidance by most individuals and institutions and the resultant effect of this, is low revenue yield for the development of the country or state.

Odusola (2006) observed that the Nigerian tax system is lopsided and dominated by oil revenue. He argued that over the past decades, oil revenue has accounted for at least 70% of the Nigeria’s revenue base, thus, indicating that additional tax revenue has never assumed a strong role in the country’s management of fiscal policy. Instead of transforming the existing revenue base, fiscal management has merely transited from one primary product based revenue to another, making the economy susceptible to the fluctuations of the international market.

According to Ariyo (1997), the proportion of the self-employed relative to the working population is substantial, yet tax authorities have not devised appropriate means of collecting effective Personal Income Tax from this group. In fact, income from the self-employed or the informal sector activities is grossly untapped. This situation applies equally to excise tax and VAT retail trade in Nigeria which is incredibly large but substantially informal.

Underground Economy is one of the most cancerous problems affecting the Nigerian tax system. An underground economy is taken to mean any undeclared economic activity such as; (a) Non-registration of business that should be registered to pay tax, (b) people who work in the hidden economy such as the rural areas with difficult terrain and pay no tax at all on their earnings, (c) people who pay tax on some earnings but fail to declare other additional sources of income.

Corruption is another impressing problem that is confronting Nigerian tax system. Political corruption is at least, as serious as corruption of the tax bureaucracy. Low salaries for tax officials, political protection of prominent tax evaders, poor monitoring of tax officials, high tax rates, and high level of discretion for tax officials, and poor information have generally dominated Nigerian tax system. Evaders prefer to bribe officials rather than pay taxes, tax assessors collude with taxpayers, particularly with regard to access to the assessment. The
multiple processes of clearing imported goods are not only a source of administrative delay, but also an avenue for entrenching corruption. This attitude however has eroded tax consciousness on the part of many Nigerians.

The Nigerian tax laws are complex and difficult to understand for common taxpayers. Many taxpayers are unaware of the existence of certain taxes; there are poor tax education and weak fulfillment by tax authorities of their responsibilities with regard to public awareness.

Again, it is difficult to create an efficient tax administration without a well-educated and well-trained staff. Many tax officials are not well paid and lack the ability of computerizing their official activities by keeping accurate account, thus the Nigerian government uses that opportunity to take the path of least resistance, by developing tax system that allows them to exploit whatever options that are available rather than establishing rational, modern and efficient tax system.

These above mentioned problems have, in no small measure, hindered the effective implementation and goal-congruence of the nation’s tax system. Consequently, this study seeks to proffer solution to the stated problem and to increase the frontiers of knowledge with the respect to the effect of tax administration on revenue generation in Nigeria.

II. LITERATURE REVIEW

Taxation is seen as a burden which every citizen must bear to sustain his or her government because the government has certain functions to perform for the benefits of those it governs. A précised definition of taxation by Farayola (1987) is that taxation is one of the sources of income for government, such income as used to finance or run public utilities and perform other social responsibilities. Ochiogu (1994) defines tax as a levy imposed by the government against the income, profit or wealth of the individuals and corporate organizations. According to Adams (2001) taxation is the most important source of revenue for modern governments, typically accounting for ninety percent or more of their income.

Taxation is seen by Aguolu (2004), as a compulsory levy by the government through its agencies on the income, consumption and capital of its subjects. These levies are made on personal income, such as salaries, business profits, interests, dividends, discounts and royalties. It is also levied against company’s profits petroleum profits, capital gains and capital transfer. Whereas, Ojo (2008) stresses that, taxation is a concept and the science of imposing tax on citizens. According to him, tax is itself a compulsory levy which is required to be paid by every citizen. It is generally considered as a civic duty. The imposition of taxation is expected to yield income which should be utilized in the provision of amenities, both social and security and creates conditions for the economic well being of the society.
Okon (1997) states that income tax can be regarded as a tool of fiscal policy used by government all over the world to influence positively or negatively particular type of economic activities 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. Progressive tax rate can be employed to achieve equitable distribution of resources. Government can also increase or decrease the rates of tax, increase or decrease the rate of capital allowances (given in lieu of depreciation) to encourage or discourage certain industries (e.g. in the area of agriculture, manufacturing or construction) or may give tax holidays to pioneer companies. Income tax therefore can be used as an agent of social change if employed as a creative force in economic planning and development.

It is simply a levy imposed by the government on the income, wealth and capital gains of individuals and businesses, on spending goods and services, and on properties. Taxation involves compulsion. The taxpayers are required to make payment regardless of their feelings or willingness. Once the tax has been levied, no individual has the choice of paying or not paying unless, of course, doing it illegally like tax evasion (Aderinto & Abdullahi, 2007).

Taxation as an instrument of fiscal policy, performs four economic roles for the development of a nation and state: (i) it helps to allocate resources from private to public needs (ii) taxation is very often used as part of the general public policy instrument to control inflation in a country, (iii) taxation can be used as a promoter of economic growth. In most of the less developed countries, where the level of private saving is poor, taxation can be used to provide necessary funds for investment, (iv) taxation can be, and is often, used as an instrument to promote social equity by redistributing wealth and income. Through varying systems of taxes and subsidies, a country can promote a more egalitarian society.

Taxes are endogenous and it is dependent on one's income. It can be divided into two forms; Direct Taxes: These are those levied on private individuals, corporations, and property; and Indirect Taxes: These include: import and export duties. In a country such as Nigeria, the indirect taxes constitute the primary source of fiscal revenue. Both direct and indirect taxes are far from progressive in Nigeria. Taxation has undergone a lot of emotional factors despite its important role in the state development (Aderinto & Abdullahi, 2007).

Fasoranti (2013) ascertains that essentially, tax constitutes a means by which the government appropriates part of the private sector's income. The revenue so derived is used to finance government expenditures. Among other things, taxation is an important instrument of fiscal policy in the economy. It generates income for the government for the funding of economic activities capable of raising the growth rate. Among other things, it is a means of redistributing income and wealth among consumers. Again, national rulers have always been
interested in an income concept that can be used as a yardstick for taxation (Musgrave, 1989). More importantly, it is noted that the tax revenue collected in any economy depends on the level of income.

There is a positive correlation between tax revenue and national income. Taxable income in Nigeria is expected to determine the tax revenue being collected by the Federal Revenue Service (FIRS). But this is not so in Nigerian tax system which is characterized with high level of tax evasion and avoidance (Okpara, 2010). It is evident in the part of the rich class of the Nigerian economy, where they do not subject their income for tax assessment and their companies tactically do not declare their full profits and the section of the economy being taxed is only people of low income.

To enhance the level of the income of poorer section of the Nigerian society, sufficient investment is also required in sectors like education, health, and others that can generate employment. The government can successfully implement all these projects if only it can raise the required revenue whose major source is tax.

Consequently, the usefulness (effectiveness and efficiency) of taxes can be measured by several parameters, some which are its revenue generating capacity and its impact on the consumption and savings pattern in the economy. Even if the totality of tax system cannot be comprehensively measured, the various types of tax can be subjected to this measurement.

Taxation has an important role in an ideal economy such as; Instrument of Revenue Generation to Cover Expenditure (Dalton, 1964): It is used to raise income revenue for the government to cover its own expenditure and to provide services and infrastructural facilities such as schools, hospitals, roads and social security payments made to individuals in respect of unemployment, sickness etc. Instrument of Stabilization: It is used as an instrument of stabilization such as inflation and to stimulate economic growth. For example (a) if a country or state is experiencing inflation, one way to deal with the situation is to raise direct taxes on individual income as well as business profits made by individuals and this will reduce demand for consumption of goods and at the same time lower the investments by business men. (b) When an economy of a country or state is experiencing depression, the overall level of taxes may be lowered in the economy. Instrument of Income and Wealth Distribution: By levying taxes in a progressive manner, the gap of income is somewhat reduced and this may be the prime reason of levying taxes in some cases. Instrument of Regulation: It helps to regulate the consumption and production of certain goods in a country or state. (Suppose the government wishes to discourage the consumption of certain type of imported goods, it may impose higher import duties on them to raise the price of those goods which may reduce the demand for them. Therefore, it controls the volume of imports into the country. Instrument of Payment: The
government uses taxation in the payment of teaching and non-teaching staff's salaries, to
those in medical areas such as hospitals and, for poverty alleviation, for building of social
amenities like, hospitals, schools, and provision of irrigation for the development of agriculture.
It is used in the provision of ammunitions for defense, for the armies, police force and force
workers, construction of barracks and their uniforms. **Instrument of Mobilization** (Asada,
2005): it helps in the mobilization of resources to pay gratuity, for the payment of public debts
and loans and finally, to maintain the well being of the people in the state.

In Nigeria, there are at least some types of taxes that are commonly applied to qualifying
citizens and items. These are the Personal Income Tax, the Company Income Tax, Petroleum
Profit Tax, Custom and Excise Duties and the Value Added Tax. The assessment of these
forms of tax independently or otherwise becomes more necessary given the multiplicity of
taxes in Nigeria, together with the problems of tax evasion and avoidance. Nigerian tax
system somehow, is structured purely towards revenue generation without minding its effects
to other macroeconomic variables, which have negative effect on the economy. The importance
of taxation lies primarily in its ability to raise capital formation for development and growth of the
economy and also, in assisting in the regulation of consumption pattern resulting in economic
stabilization and effective redistribution of income (ICAN, 2009).

According to Azubuike (2009), “tax is a major player in every society of the world. It is an
opportunity for the government to collect additional revenue needed to discharge its pressing
obligations.” Taxation is important in the planning of savings and investments by
harmonizing it with development strategy and changing economic structure. The government
uses taxation as a powerful fiscal weapon to plan and develop its country. The government
Tax revenue mobilization as a source for financing development activities in Nigeria has been a
difficult issue primarily because of various forms of resistance, such as evasion, avoidance and
other form of corrupt practices. These activities are considered as sabotaging the economy and
are readily presented as part of the reasons for present state of underdevelopment in Nigeria.

Government exists in order to effectively collect taxes from available economic resources
and make use of same to create economic prosperity such that available and willing human and
other resources are gainfully employed, infrastructures provided, essential public services (such
as the maintenance of law and order) put in place among others. Tax resistance only makes
these laudable programmes unattainable. Following some reasoning, changing or fine-tuning tax
rates is used to influence or achieve macroeconomic stability. Some of the most recently cited
examples are the governments of Canada, United States, Netherland, United Kingdom, who
derive substantial revenue from Company Income tax, Value Added Tax, Import Duties and
have used same to create prosperity (Oluba 2008).
In Nigeria, the contribution of tax revenue especially company income tax has not met the expectations of government. Government has equally expressed this disappointment and has accordingly vowed to expand the non-oil tax revenue. The table below shows the company income tax contributions among others to the Gross Domestic Product and compare it with federally collected revenue:

Revenue collections of selected taxes including Companies Income Tax.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Income Tax As % Of Gross</td>
<td>5.1</td>
<td>4.5</td>
<td>3.3</td>
<td>2.9</td>
<td>3.4</td>
<td>4.8</td>
</tr>
<tr>
<td>Customs and Excise duties as % of Gross</td>
<td>10.5</td>
<td>7.6</td>
<td>5.5</td>
<td>4.2</td>
<td>2.9</td>
<td>4.2</td>
</tr>
<tr>
<td>Value-Added Tax as % of Gross Revenue</td>
<td>6.3</td>
<td>5.3</td>
<td>4.1</td>
<td>3.2</td>
<td>3.3</td>
<td>5.1</td>
</tr>
<tr>
<td>Non-oil Revenue as% of Gross Revenue</td>
<td>6.3</td>
<td>4.9</td>
<td>4.8</td>
<td>5.3</td>
<td>4.9</td>
<td>3.6</td>
</tr>
</tbody>
</table>


The spread shows that the percentage of the company’s income tax to the Federal Gross Revenue reflects a steep slope/decrease from 5.1per cent contribution in 2002 to 4.5 per cent in 2003, 3.3per cent in 2004, 2.9percent in 2005, 3.4percent in 2006 and 4.8percent in 2007. The decrease in contribution of 33.3percent between 2002 and 2006 can be attached to tax evasion, tax avoidance, corruption and poor tax administration.

III. METHODOLOGY

This study employed ex-post facto research design using data obtained from FIRS to find out the relationship between the independent variables, revenue generated from VAT, CIT, C&ED and PPT for the years 1996-2015 and total government revenue for the period. Ex-post facto research design also known as after-the-effect research, is a quasi-experimental study which is use to examine how an independent variable, present prior to the study, affects a dependent variable. It is also a category of research design in which the investigation starts after the fact has occurred without intervention from the researcher and test hypotheses about cause-and-effect relationship. Inferences about relations among variables were made, without direct intervention from concomitant variation of independent variables. This aspect of the research work will include the model specification, definition and measurement of variables, estimating technique or method of data analysis and sources of data.

3.1 Model Specification

The model employed in the study follows the work of who investigated the effect of tax on government revenue in Nigeria. But the study focused on VAT alone. Consequently, the model
is modified to accommodate other important divisions of tax which will be able to reflect more explicitly tax administration in Nigeria these taxes are CIT, C&ED and PPT. Again some macroeconomic variables that play important role in government revenue are also included; these are interest rate, exchange rate and inflation rate. Based on the foregoing our model is stated as follows:

\[
GR = f(VAT, CIT, CED, PPT, EXR, INT, INF) \ldots \ldots \ldots \ldots \ldots .(3.1)
\]

Explicitly the model is stated as follows:

\[
GR = \beta_0 + \beta_1 VAT + \beta_2 CIT + \beta_3 CED + \beta_4 PPT + \beta_5 EXR + \mu_1 \ldots .(3.2)
\]

Where VAT is value added tax, CIT is..., CED is..., PPT is.... These are the core independent variables used in the study. In addition a macroeconomic variable that is EXR exchange rate is also included as control variables.

3.2 Definition of Variables

Exchange rate EXR: It is the price of a country’s currency expressed in terms of one unit of another country’s currency. This means that exchange rate is the rate at which one currency may be converted into another. It is measured as the exchange rate of the domestic currency to the dollar. It is measured as nominal and real exchange rate. The nominal exchange rate is measured by how much one currency is necessary to acquire one unit of another. The real exchange rate is measured as the purchasing power of a currency relative to another at current exchange rates and prices.

3.3 Method of Analysis/Estimating technique

The major focus of the study is to investigate the impact of tax administration on government revenue in Nigeria. Since the focus is on administration the study examines the possibilities of both long run and short run impacts of tax administration. Consequently, cointegration and error correction model technique is adopted the procedure is explained as follows; This is because; this approach will enable us investigate the possibility of both transitory and permanent effects of these variables on the fiscal outlook in Nigeria.

Unit Root Test

Testing for the existence of unit roots is a key pre-occupation in the study of time series models and co-integration. What are unit roots? Let us begin with a definition. A stochastic process with a unit root is itself non-stationary. Another way of looking at it is that testing for the presence of unit roots is equivalent to testing whether a stochastic process is a stationary or non-stationary.
process. In sum, the presence of a unit root implies that the time series under scrutiny is non-stationary while the absence of a unit root means that the stochastic process is stationary, Maddala and Wu (1992) has offered an interesting perspective and interpretation on the testing for unit roots.

According to Maddala (1992), testing for unit roots is a formalization of the Box-Jenkins method of differencing the time series after a visual inspection of the correlogram. No wonder then that testing for units roots plays a central role in the theory and technique of co-integration.

Currently, there are some commonly accepted methods of testing for unit roots. These are the Dickey-Fuller (DF), Augmented Dickey-Fuller (ADF) test and the Philip Peron (PP) test.

The Augmented Dickey-Fuller (ADF) test is considered superior to the Dickey-Fuller (DF) test because it adjusts appropriately for the occurrence of serial correlation.

\[ X_t = b_0 + b_1 X_{t-1} + b_2 X_{t-2} + b_n X_{t-n} + U \]

Where U is a stationary error term. The null hypothesis that \( X_t \) is non-stationary is rejected if \( b_1 \) is significantly negative.

The number of lag (n) of \( X_t \) is usually chosen to ensure that the regression is approximately white noise. It is simply referred to as the DF test if no such lags are required in which case \( b_i = 0 \) (i = 1…………..n). However, the t-ratio from the regression does not have a limiting normal distribution.

An important assumption of the DF test is that the error term are independently and identically distributed. The ADF test adjust the DF test to take care of possible serial correlation in the error term by adding the lag difference terms of the regressand. Phillip and Perron use non-parametric methods to take care of the serial correlation in the error term without adding lagged difference terms. Since the asymptotic distribution of PP test is the same as the ADF test statistic, the PP test is preferred for this study.

Co-integration is based on the properties of the residuals from regression analysis when the series are individually non stationary.

A series is stationary if it has a constant mean and constant finite variance.

Thus, a time series \( X_t \) is stationary if its mean \( E(X_t) \) is independent of time and its variance \( E \{X_t - E (X_t)^2\} \) is bounded by some finite number and does not vary systematically with time. It tends to return to its mean with the fluctuations around this mean having constant amplitude.
Estimating technique: ARDL MODEL

The choice of this estimation procedure is primarily informed by the fact that it passes the fitness-for-the-purpose-test. For instance, one option available to perform the co-integration test is the Engle-Granger approach (1987), but its weakness lies in the fact that it is only able to use two variables. A multivariate analysis, such as that considered in this study, leads to the use of the Johansen and Joselius co-integration analysis or ARDL model. The statistical equivalence of the economic theoretical notion of a stable long-run equilibrium is provided by these two models, but the choice will depend on the characteristics of the data.

This study is unable to use the Johansen procedure (an option) as all the variables are not completely I(1), that is, integration of order one. This assumption is a pre-condition for the validity of the Johansen procedure. Alternatively, the ARDL model is appropriate to run the short-run and long-run relationships (Shin et al., 2003).

The guide that will be followed in this study is that if all variables are stationary, I(0), an ordinary least square (OLS) model is appropriate and for all variables integrated of same order, say I(1), Johansen’s method is very suitable when we have fractionally integrated variables, variables at different levels of integration (but not at I(2) level).

3.4 Sources of data

The data to used for this study especially taxes data are extracted from reports of the Federal Inland Revenue services FIRS. However, data on macroeconomic variables are extracted from the CBN statistical Bulletin 2015 edition

IV. RESULTS AND DISCUSSION

Assessment of the impact of tax administration on government revenue

The analysis starts with the unit root test which is a pre-condition for cointegration test. Apart from showing if cointegration test can be conducted, it will also show the method of cointegration analysis to be adopted. The essence of cointegration is to be able to study both the short run and long run impacts of the taxes on government revenue in Nigeria. The method adopted for the stationarity test is the ADF method. The result is presented in table 1
Table 4.1: Unit root test

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF Statistics</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGR</td>
<td>-6.531***</td>
<td>I(1)</td>
</tr>
<tr>
<td>PPT</td>
<td>-4.000***</td>
<td>I(1)</td>
</tr>
<tr>
<td>CIT</td>
<td>-5.381***</td>
<td>I(1)</td>
</tr>
<tr>
<td>VAT</td>
<td>-4.693***</td>
<td>I(1)</td>
</tr>
<tr>
<td>C&amp;ED</td>
<td>-2.929**</td>
<td>I(0)</td>
</tr>
<tr>
<td>EXR</td>
<td>-4.322***</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

(*) Statistical significance at 10%,(**) Statistical significance at 5%,(***) Statistical significance at 1%

Source: Authors computation

The results of the unit root test show that all the variables are integration of order one that is I(1) C&ED which is stationary at levels that is I(0). The implication is that five out of the six variables in the model are non-stationary and thus a linear combination of them can be stationary. This is the essence of cointegration. However, the choice of the cointegration techniques depends on the order of integration of the variables. Since not all the variables are I(1) then, Johansen cointegration technique cannot be applied hence Autoregressive distributed lags ARDL bound test is used. The results of the ARDL regression is presented in table 4.2

Table 4.2 ARDL regression for government revenue

<table>
<thead>
<tr>
<th>Cointegrating Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>D(TGR(-1))</td>
</tr>
<tr>
<td>D(PPT)</td>
</tr>
<tr>
<td>D(CIT)</td>
</tr>
<tr>
<td>D(CIT(-1))</td>
</tr>
<tr>
<td>D(VAT)</td>
</tr>
<tr>
<td>D(VAT(-1))</td>
</tr>
<tr>
<td>D(CED)</td>
</tr>
<tr>
<td>D(EXR)</td>
</tr>
<tr>
<td>CointEq(-1)</td>
</tr>
</tbody>
</table>

Cointeq = TGR - (149.8318*PPT -5033.0598*CIT + 2807.5431*VAT -147.4526*CED + 1692.9567*EXR -9249.6496 )
results are in two different parts; the long run coefficients and the short run coefficients. The long run coefficients show the relationships between each form of tax and government revenue in the long run. The short run coefficients show the impact of the variables that is the taxes on government revenue in the short run.

From the short run results all the variables including the exchange rate are positively related to government revenue. The implication is that the coefficients of PPT, VAT, CIT and C&ED are all positive and significant. This means that all the four forms of taxes have significant direct relationship with government revenue in the short run. The P values of all the coefficient are either significant at 5% or at 1% thus showing that PPT, VAT, CIT and C&ED can influence government revenue positively and significantly hence a rise in each of them will bring about a significant rise in the government revenue in the short run.

Considering the long run coefficients, the results are an indication that all the four forms of taxes maintain their positive relationship with government revenue. Again, their impacts on government revenue have been significant. The implication of the result is that PPT, CIT, VAT and C&ED have long run significant impact on government revenue in Nigeria. The result is a confirmation that the effect of these taxes on government revenue in Nigeria is sustained from the short run to the long run. To investigate a joint long run relationship the bound test is used ans the result is presented in table 4.3:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPT</td>
<td>149.831771</td>
<td>57.652312</td>
<td>2.598886</td>
<td>0.0355</td>
</tr>
<tr>
<td>CIT</td>
<td>-5033.059821</td>
<td>1970.560013</td>
<td>-2.554127</td>
<td>0.0379</td>
</tr>
<tr>
<td>VAT</td>
<td>2807.543069</td>
<td>1074.739223</td>
<td>1.676406</td>
<td>0.0376</td>
</tr>
<tr>
<td>CED</td>
<td>-147.452557</td>
<td>51.920568</td>
<td>-2.839964</td>
<td>0.0250</td>
</tr>
<tr>
<td>EXR</td>
<td>1692.956718</td>
<td>804.427354</td>
<td>2.104549</td>
<td>0.0734</td>
</tr>
<tr>
<td>C</td>
<td>9249.649601</td>
<td>34354.422961</td>
<td>-0.269242</td>
<td>0.7955</td>
</tr>
</tbody>
</table>
Table 4.3 Cointegration Bound test

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>7.856638</td>
<td>7</td>
</tr>
</tbody>
</table>

Critical Value Bounds

<table>
<thead>
<tr>
<th>Significance</th>
<th>I0 Bound</th>
<th>I1 Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>1.92</td>
<td>2.89</td>
</tr>
<tr>
<td>5%</td>
<td>2.17</td>
<td>3.21</td>
</tr>
<tr>
<td>2.5%</td>
<td>2.43</td>
<td>3.51</td>
</tr>
<tr>
<td>1%</td>
<td>2.73</td>
<td>3.9</td>
</tr>
</tbody>
</table>

The results from the table show that the value of the F statistics is greater than both the upper and lower bounds in the model. The implication is that long run relationship is confirmed and significant. The error correction model which further assess the stability of the long run model is presented in the following table 4.4

Table 4.4: Error Correction Coefficient

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECT(-1)</td>
<td>-0.738535</td>
<td>0.063720</td>
<td>-11.590240</td>
<td>0.000</td>
</tr>
</tbody>
</table>

As shown in table 4.4, the negative coefficient sign of the ECM shows that there was disequilibrium in the past and the adjustment is in the right direction. The ECM value of -0.738535 suggests the relatively high speed of adjustment from the short run deviation to the long run equilibrium of government revenue. More precisely, it indicates that about 70% deviation from the long run government revenue is corrected in the dynamic model or that the system is getting adjusted towards long run equilibrium at the speed of about 70%. In addition, the ECM is statistically significant at 1% level, indicating that long run equilibrium can be attained. Our results are consistent with Rabbi (2011) and Bannerjee et al. (1998) who argued that a highly significant error correction term is further a proof of the existence of stable long run relationship. This result further confirms that there will be convergence (steady-state) of the system and the attainment of stable government revenue in Nigeria in the long run.

ARDL diagnostic tests
Some tests are carried out to examine the reliability of the estimated ARDL model for Nigeria. They are; the serial correlation test and the heteroskedasticity test.

### Table 4.5: Serial correlation tests

<table>
<thead>
<tr>
<th>Breusch-Godfrey Serial Correlation LM Test:</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>Obs*R-squared</td>
</tr>
</tbody>
</table>

This is another diagnostic test that verifies the existence of autocorrelation in the models. The results from both models show that both the F and Chi square statistics probabilities are not significant at 5% levels. This is shows that the null hypothesis that there is no serial correlation is accepted and we conclude that the model is not having the problem of serial correlation.

### Table 4.6: Heteroskedasticity tests for ARDL Model

<table>
<thead>
<tr>
<th>Heteroskedasticity Test: Breusch-Pagan-Godfrey</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>Obs*R-squared</td>
</tr>
<tr>
<td>Scaled explained SS</td>
</tr>
</tbody>
</table>

The last diagnostic test explored is the test for heteroskedasticity. The Beruch Pagan test is applied and the result shows that the probabilities of the F statistics, and the chi squares are greater than 5% in the two models. Therefore we also accept the hypothesis that there is heteroskedasticity problem in the two models.

### V. CONCLUSIONS

The study has shown that all the various forms of taxes have significant impacts on government revenue in Nigeria. The most important thing in the findings which is development on past empirical studies is that fact that we are able to split the impacts to both long run and short run. In other words the long run impact of tax administration is able to be assessed. The findings have shown that tax administration in Nigeria has been having a significant long run impact on revenue generation in Nigeria. This is an indication that tax policy have been able to have sustainable impacts on government revenue. Notwithstanding, it is revealed in the study that PPT and C&ED are inconsistent in their contributions to the total government revenue. Findings reveals some loop holes in their collection especially C&ED this has limited its effectiveness on
government revenue compare to other forms of taxes. It is advised that proper polices should be put in place at borders to ensure consistent collection of C&ED, this will further improve its contributions to the total government revenue in Nigeria.

REFERENCES


