Assessment of the Impact of Tax Reforms on Economic Growth in Nigeria

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Abstract
The study is an empirical assessment of the impact of tax reforms on the economic growth of Nigeria. Time series data were extracted from the Central Bank of Nigeria statistical bulletin, Federal Inland Revenue Service and Federal Ministry of Finance from the period 1985-2011. The ordinary least squares based multiple regression was adopted to analyse the data. The study found that the adjusted R-square of 0.99 implies that 99% of the total variation in gross domestic product, that is economic growth, is as a result of variation in petroleum profit tax, company income tax, customs and excise duties, value added tax, personal income tax and education tax and tax reforms in Nigeria. Customs and excise duties, value added tax, personal income tax and education tax have no statistical significant impact on economic growth at 5% level of significance. However, Petroleum profit tax and company income tax each has positive significant impact on economic growth at 0.35% and 2.87% level of significance respectively. The Durbin Watson statistic of 1.98 indicates that there is no presence of serial autocorrelation in the model. The probability of the F statistic, a test for the overall significance of the model is rightly specified at zero level of significance. We would therefore conclude that overall, tax reforms have significant impact on the economic growth in Nigeria. This confirms the existence of long-run equilibrating relationship between the variables, i.e. economic growth and all the independent variables in the model. The study therefore recommends that chartered tax practitioners should be allowed to play leading roles in any tax reform process to ensure a robust tax system. There should be harmony in the objectives of tax reforms with macro-economic objectives. Government should always consider tax payers and other key stakeholders’ interests in fiscal policy formulation and implementation in order to achieve improved tax compliance rate in the country. All government agencies and other stakeholders should ensure the full implementation of the National tax policy and the long awaited petroleum industry bill should be passed to law.

Keywords: tax reforms, economic growth, non-oil revenue, petroleum profit tax, national tax policy, multiple regression.

1.0 INTRODUCTION
Governments all over the world engage in activities to raise funds in order to finance social goods and its programmes. Various governments have different sources and means of raising revenue with varying magnitudes and capacity, and in process have a principal revenue yielding source. Most often, governments rely on their key revenue sources, improve on them
and at the same time diversify the means of enhancing other revenue sources. In Nigeria, available statistics from 1986 to 2013 reveal that revenue from the petroleum sector has been the dominant revenue yielding source for the Federation contributing over 78% of total revenue. The implication is that, the economy will be vulnerable to fluctuations in the international oil market prices and or social disorder particularly in the oil producing regions. This suggests the need to have a mix of revenue sources to enhance government’s revenue base through efficient management of appropriate fiscal policies.

A major source from which government could raise revenue is through taxes. Taxes are veritable source of government revenue which has influence in achieving socio-economic, political and macroeconomic objectives of any country. Ihendinhu, Jones and Ibanichuka (2014) noted that taxes are major source of revenue to many governments, a fiscal instrument for regulating and resolving economic and social policies and a mechanism for enhancing economic growth. It is a fiscal tool for reducing private consumption and transferring resources to the government for economic development. The level of revenue generation through taxes to provide critical infrastructural development in an economy is dependent on the country’s existing tax structure and how robust it is to effectively and efficiently assess, collect and account for the collections. Ogbonna and Appah (2012) posit that one means of generating the amount of government revenue to provide the needed infrastructural development is through the means of a structured tax system.

The above provides the need for consistent actions by government to enhance the existing tax system with a view to boosting revenue generation so as to impact on economic growth. An option of achieving a robust structured tax system is notably through tax reforms. Tax reforms are deliberate and continuous actions by government and its agencies to alter the existing tax laws and policies to positively impact on the tax administration and collection process with minimal cost. Consequently, the expectation is to boost revenue generation through appropriate legislations to cover loopholes in the existing tax structure by creating efficient, effective, resilient and responsive fiscal institutions to improve the administration, assessment and collection, making them more accountable, and promote voluntary payment of taxes by tax payers. The more robust the tax reforms, the more efficient the tax system and its structure, and the better the yield from tax revenue generation and its impact on economic growth. Rena (2011) argued that investment and tax reforms are the fundamental for a stronger more productive economy.

No matter how robust the reform and its capacity to enhance revenue generation, tax reforms would not by itself influence economic growth, if governments fail to apply the revenue generated on viable projects that would offer the required investment climate to achieve the desired macroeconomic objectives. It is the efficient application of the tax revenue generated through appropriate tax reforms that would result in the achievement of economic growth and other macroeconomic variables. Tax reforms that are well articulated but poorly implemented will rather retard economic activities. Tax reforms should be capable of eliminating or reducing loopholes to a bearable limit and provide fiscal institutions that adhere to the tenets of fiscal responsibility and accountability. Rewane, (2013) claimed that Nigeria has been short-changed in legitimate taxes through a combination of incompetence, corruption and fraud. This assertion connotes a weak institutional structure and administration.

Taxation is dynamic and therefore requires reforms that are necessary to effect the required changes in the national economy at a given period. Azubuike (2009) opine that tax reform is an on-going process, with tax policy makers and tax administrators continually adopting the
tax systems that will reflect changing economic, social, political circumstances in the economy. Asuquo (2014) noted that Nigeria’s tax system has undergone several reforms geared towards enhancing tax administration and collection with minimal enforcement cost.

At the core of every reform is the objective to generate higher revenue for government without endangering economic activities undertaken by the private sector and to attain targeted macroeconomic objectives. Tax reforms therefore are expected to improve the fiscal institutions so as to generate increase in revenue and have influence on the economic growth of countries. Against the backdrop, a comparative review of tax revenue percentage of Gross Domestic Product (GDP) index of some select Organization for Economic Co-operation and Development (OECD) countries for the years 2008, 2009, 2010, 2011, 2012, 2013 and 2014 showed that Nigeria comparative figures was at 12% irrespective of the several tax reforms. Premium Times (2014) noted that tax revenue ratio to the country’s GDP declined from 20% to 12% and that of the 12%, only 4% was derived from non-oil revenue. This indicates the very high dependence on the oil sector which portends danger for the economy with the present low international oil prices.

Table of Tax Revenue (% of GDP)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>34.0</td>
<td>32.3</td>
<td>32.8</td>
<td>33.6</td>
<td>33.0</td>
<td>32.9</td>
<td>32.6</td>
</tr>
<tr>
<td>United States</td>
<td>25.2</td>
<td>23.0</td>
<td>23.2</td>
<td>23.6</td>
<td>24.1</td>
<td>25.4</td>
<td>26.0</td>
</tr>
<tr>
<td>France</td>
<td>42.2</td>
<td>41.3</td>
<td>41.6</td>
<td>42.9</td>
<td>44.1</td>
<td>45.0</td>
<td>45.2</td>
</tr>
<tr>
<td>Denmark</td>
<td>44.9</td>
<td>45.2</td>
<td>45.3</td>
<td>45.4</td>
<td>46.4</td>
<td>47.6</td>
<td>50.9</td>
</tr>
<tr>
<td>Greece</td>
<td>31.0</td>
<td>30.8</td>
<td>32.0</td>
<td>33.5</td>
<td>34.5</td>
<td>34.4</td>
<td>35.9</td>
</tr>
</tbody>
</table>

Source: OECD (2016)

The question now is, to what extent have tax reforms in Nigeria generated sufficient revenue to influence economic growth? Our main objective therefore is to proffer solutions to the question by empirically evaluating the impact of tax reforms on economic growth in Nigeria. Consequently, we hypothesize that tax reforms have no significant impact on economic growth in Nigeria.

2.0. REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

Jhingan (2011) argued that it is a compulsory contribution imposed by the public authority, irrespective of the exact amount of service rendered to the tax payer in return. He further claimed that a tax is a compulsory contribution from a person to the government to defray the expenses incurred in the common interest of all without reference to special benefits conferred.

Tax is defined as a financial charge or levy imposed upon an individual or legal entity by a State or a legal entity of a State; it is a pecuniary burden laid upon individuals or property to support government expenditure. It also defined tax as ‘a monetary charge imposed by the Government on persons, entities, transactions or properties to yield revenue. It went further to state that tax is ‘the enforced proportional contributions from persons and property, levied by the State by virtue of its sovereignty for the support of Government and the public needs (National Tax Policy, 2013).
Attamah (2004) posits that tax is a compulsory contribution imposed upon persons and firms by a public government to cover government expenses.
The Chartered Institute of Taxation, Nigeria (2002) defined tax as an enforced contribution of money to government pursuant to a defined authorized legislation.
The World Bank (2016) noted that tax revenue refers to compulsory transfers to the central government for public purposes.

2.2 Theoretical Framework
There are several theoretical frameworks on taxation but only few that relates to the study are reviewed.

2.2.1 The Socio-Political Theory
This theory of taxation suggests that social and political objectives should be the deciding factors in choosing the types of taxes. This theory is in support of progressive taxation by using taxation to reduce income inequalities. It further stated that a tax system should not be designed to serve individual members of the society but should be used to cure the ills of a society as a whole. The society is more than the sum total of its individual members and that the society has an existence and entity of its own which need to be preserved, protected and taking care of. The theory also stated that taxation should be used effectively for several purposes such as remedying unemployment, monopolistic and restrictive trade practices, hoarding, cyclical fluctuations, zonal disparities and bringing about a balance growth between the different zones etc.

However, the theory failed to recognize that in a society, there are groups which try to protect and promote the interest of its members and government may be forced to reshape the tax structure to accommodate such pressures which may not be fair or right. The theory did not also consider how taxes will be collected and how it will be practicable.

2.2.2 The Expediency Theory
This theory asserts that every tax proposal must pass the test of practicability and that it must be the only consideration while choosing a tax proposal. The practicability of a tax is an essential consideration in every tax proposal because it makes it ridiculous to impose a tax that cannot be collected.

The proposition under this theory is that economic and social objectives are effects of a tax system and should be treated as irrelevant. If a tax structure is shaped to conform to the aspirations of pressure groups which protect and promote members interest, then the practicability of the tax will be in doubt.

This theory did not consider equity, economic growth and stability, zonal imbalances etc, Bhatia (2009) noted that taxation provides a powerful set of policy tools to the authorities and should be effectively used for remedying economic and social ills of the society such as income inequality, regional disparities, unemployment, cyclical fluctuations etc.

2.2.3 Cost of Service Theory
This approach emphasizes a semi-contractual relationship between the State and the citizens to a greater extent (Bhatia, 2009). This theory makes it implicit that the citizens of a State must pay for the cost of any State service they receive. It is similar to that of benefit received theory.

The implication of this theory is to measure the cost of the State services and apportion the cost to the beneficiaries. This will be impracticable in real terms. For instance, how would the
State measure the level of consumption by each member of the society? Again, can the State exclude its citizens from the use of a pure social good and service it has provided? There is no rivalry and exclusion in the use of pure social goods and services. Applying this theory means that the State would not concern itself with the income redistribution principle adduced to taxation. However, part of the reasons why taxes are paid is to enable government provide social goods and services which should not be left in the hands of the private sector. But in the modern day, this theory have defects because government provide free education, medical and other social welfare packages to the low income earners.

2.2.4 Ability to Pay Theory
This theory is on the assumption that a citizen is to pay taxes just because he can and his relative share in the total tax burden is to be determined by his relative paying capacity (Bhatia 2009). Similarly, Musgrave and Musgrave (2004) in line with this theory stated that people should contribute to the cost of government in line with their ability to pay. They categorized this theory into two namely; Horizontal and Vertical Equity. In horizontal equity, it calls for people with equal capacity to pay the same amount of tax whereas in vertical equity, that people with greater ability should pay more as tax. Jhingan (2011) argued that this theory of taxation is the ‘just, equitable and the most accepted theory of taxation.

This theory favours the income redistribution function and it is a progressive form of tax system. It is practicable in indirect taxes as people with greater ability will pay more. In Nigeria, the Pay as You Earn (PAYE) form of personal income tax is based on the Ability to pay theory as the tax system provide for concessional deductions or relief with respect to dependants, personal allowance, life insurance etc. This theory therefore conforms to the concept of justice and equity as the tax burden is shared among the citizens according to their relative ability of the tax payers to pay.

2.3 Empirical Review
Several empirical studies have been conducted on the impact of taxes on economic growth. The empirical studies of Anyanwu (1997), Engen and Skinner (1996), Tosun and Abizadeh (2005), Arnold (2011) and Ihendinihu et.al (2014) provided different findings on the impact of tax reforms on economic growth. Enger and Skinner (1996) investigated taxation and economic growth of the U.S economy, large sample of countries and use of evidence from micro level of studies of labour supply, investment demand and productivity growth. Their result suggests modest effects on the order of 2.0 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) investigated of economic growth and tax components; an analysis of tax changes in OECD countries from 1980-1999 using regression analysis reveal that economic growth measured by GDP per capita has a significant effect on the tax mix of GDP per capital. It is shown that while the shares of Personal and Property taxes have responded positively on economic growth, shares of the pay roll and goods and services taxes have shown a relative decline.

Arnold (2011) in his study of tax policy for economic recovery and growth using co-integration test found that short term recovery requires increase in demand while long run growth requires increase in supply. As short term concessions can be hard to reverse, this implies that policies to alleviate this crisis could compromise long run growth.

Ogbonna and Appah (2012) investigated the impact of tax reforms and economic growth of Nigeria using time series data from 1994 to 2009 (a period of 11 years) utilizing Petroleum
profit tax, Companies income tax, Value added tax, Education tax, Personal income tax and Customs and Excise duties as proxy for tax reforms (independent variables) and Gross domestic product (GDP) as the dependent variable, claimed that there is a positive relationship between tax revenue and economic growth of Nigeria. They argued that 54% variation in the dependent variable (GDP) is as a result of change in tax revenue and that there is an existence of a long run equilibrium relationship between GDP and the independent variables. They engaged the Augmented Dickey-Fuller test for the unit root test and the Johansen’s Cointegration test and Error correction technique to run the regression analysis.

2.4 Nigerian tax structure
In Nigeria, the government fiscal power is based on a three-tiered tax structure; Federal, State and Local Governments each of which has different tax jurisdictions. Under the current Nigeria tax laws, taxation is enforced by the three tiers of government. Taxes on corporate bodies are enforced and collected by the Federal government while State and Local governments enforce and collect taxes from individuals within their jurisdiction (Odusola, 2006). In 2002, about 40 different taxes and levies were shared by all three levels of government. The Nigerian tax system has undergone significant changes in recent times. The tax structure or system is the process of taxation involving set of rules, regulations and the procedures with the organs of administration interacting with one another to generate fund for government (Agbetunde, 2010). The Nigerian tax structure or system is of tripartite activities which include the tax laws, tax policies and tax administration (Adesola, 2004). In as much as the Nigerian tax system is structured as a tool for revenue generation, Naiyeju (2010) and Odusola (2006) is of the opinion that the system is being lopsided and dominated by oil revenue. The Nigerian tax system is concentrated on petroleum and trade taxes while direct and broad-based indirect taxes like the value-added (VAT) are neglected (Odusola, 2006). This is a structural problem for the country’s tax system.

2.5 Tax Laws in Nigeria


Rate (in percentage) of Petroleum profits tax based on level of petroleum operations.

<table>
<thead>
<tr>
<th>Category</th>
<th>Rate (in percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Exports</td>
<td>85</td>
</tr>
<tr>
<td>On domestic sales of oil and gas</td>
<td>65.75</td>
</tr>
<tr>
<td>On deep offshore PSC</td>
<td>50</td>
</tr>
<tr>
<td>Rates of Royalties;</td>
<td></td>
</tr>
<tr>
<td>-Onshore Production</td>
<td>20</td>
</tr>
<tr>
<td>-Offshore production in areas up to 100 metres water depth</td>
<td>18.5</td>
</tr>
<tr>
<td>-Offshore production in areas beyond 100 metres water depth</td>
<td>16.67</td>
</tr>
</tbody>
</table>
On Deep Offshore PSC; 
- Up to 1000 metres depth 
- In excess of 1000 metres depth
Between 12 and 40

The petroleum profit tax act also granted capital allowance, investment tax allowance and investment tax credit to companies in petroleum operations as follows:

**Capital Allowance rate per annum**

| Year 1 to Year 4 | 20% |
| Year 5          | 19% |

**Investment tax allowance for deep offshore PSC executed after 1st July, 1998 is 50%.**

<table>
<thead>
<tr>
<th>Investment Tax credit</th>
<th>Rate% per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onshore operations</td>
<td>5</td>
</tr>
<tr>
<td>Offshore operations in areas up to 100 metres water depth</td>
<td>10</td>
</tr>
<tr>
<td>Offshore operations in areas between 100 and 200 metres water depth</td>
<td>15</td>
</tr>
<tr>
<td>Offshore operations in areas beyond 200 metre water depth</td>
<td>20</td>
</tr>
<tr>
<td>For deep offshore PSC executed prior to 1st July 1998</td>
<td>50</td>
</tr>
</tbody>
</table>

According to Odusola (2006), he stated that petroleum profits tax is applicable to upstream (operations that deal with the production of crude oil and gas; and sale of these as primary stock to the downstream operators who include the added value for sale to the ultimate end-users) operating in the oil sector and it particularly relates to rent, royalties, margins and profit-sharing elements associated with oil mining, prospecting and extracting leases. He further said that petroleum profits tax is complemented with two different contractual relationship not formally covered by tax legislation. The first constitutes joint ventures between international oil companies and the Nigerian National Petroleum Company (NNPC) structured under a Joint operating Agreement (JOA) as set out in the memorandum of understanding (MOU). Following earlier oil shocks, the MOU was introduced in 1986 to provide necessary incentive and has been revised in 1991 and 2000. He argued that this system has been adjudged complex, creating problems for tax authorities. The second measure relates to deep offshore exploration and development under a Production sharing contract (PSC) which allows an oil company to recover its cost at a pre-determined rate and to share in the remaining revenue according to a pre-determined formula. The tax is 50 percent of the cost and production share revenue after deduction of costs in accordance with the PPT provisions. Odusola (2006) again stated that while the JOA imposes some operating and capital expenditures on the federal government, the production sharing contract (PSC) transfers the funding responsibility and most of the risk to the oil companies and that management problems with the JOA and the PSC are further complicated by the lack of coordination between the Department of Petroleum Resources (DPR) and tax authorities on tax policy issues and information sharing on various agreements in the upstream subsector.

According to Onwuemenyi, (2011) “the proceeds from the sale of crude oil and gas including other receipts are received into the CBN/NNPC JP Morgan Crude Oil and Gas Revenue Account. From this account, NNPC transfers money to JV Cash Call Account and the balance swept to the Federation Account each month. These transfers and sweepings are carried out by CBN on receiving instructions or mandate from NNPC”.

Notwithstanding the huge revenue generated, the petroleum sector in recent years has contributed poorly to the growth of the Nigeria economy. According to the CBN (2008), they the industrial output fell by 2.2 percent mainly due to poor performance of the petroleum sector.
Odusola (2006) noted that the petroleum profits tax operates under two contractual relationships not covered by tax legislations. Rewane, (2013) noted that “major foreign airlines in Nigeria once admitted to the non-remittance of the 5% passenger fuel surcharge on their tickets to the Nigeria Civil Aviation Authority as required by global aviation practice. According to the Nigerian Extractive Industry Transparency Initiative, major oil companies and ironically the State owned Nigerian National Petroleum Corporation (NNPC), routinely underpay taxes and statutory remittances due to the government and the House of Representatives recently identified some Federal and State enterprises that had been defaulting in filling tax returns while tax agencies had failed to scrutinize tax returns of some individuals and firms because of political affiliations”. (Rewane, 2013).

2.6 Tax policy reforms in Nigeria

Nigeria’s fiscal policy measures have been largely driven by the need to promote macroeconomic activities such as promoting rapid growth of the economy, generating employment, maintaining price stability and improving the balance of payment conditions of the country. Although policy measures change frequently, these objectives have remained relatively constant. Until the mid-1980’s, tax policies for instance, were geared to achieving specific objectives such as

1) Ensuring effective protection for local industries,
2) Encouraging greater use of local raw materials,
3) Enhancing the value added of locally manufactured and primary product,
4) Generating increased government revenue (Odusola, 2006).

Since the implementation of the Structural Adjustment Programme (SAP), taxes have been used to enhance the productivity and competitiveness of business enterprises. Consequently, attention has been focused on promoting exports of manufacturers and reducing the tax burden of individuals and companies. In line with this change in policy focus, many measures were undertaken, these amongst others include, reviewing custom and excise duties, continuing with the reduction of company and income taxes, expanding the range of tax exemptions and rebates, introducing capital allowances, expanding the duty drawback scheme and manufacturing-in-bond scheme, abolishing Excise Duty, implementing VAT, monetizing fringe benefits and increasing tax relief to low income earners. There is always the need for constant review of tax laws and administration.

Tax reforms are enunciated to also accomplish certain macroeconomic objectives in the economy. According to Alli (2009), the objectives of tax reforms in Nigeria are;
1. To bridge the gap between the country’s development needs and the funding of the needs.
2. To enhance taxation as a fiscal policy instrument.
3. To improve on the level of tax revenue generation from non-oil activities in relation to revenue derived from oil activities.
4. To facilitate efforts at constantly reviewing the tax laws to reduce and manage tax evasion and avoidance.
5. To achieve improved service delivery by the tax institutions to the public.
6. To improve the tax administration to make it more efficient, responsive, reliable, skilful and taxpayers friendly; and
7. To achieve other fiscal objectives.

Recognizing the importance and role of taxation in stimulating economic activities, the Federal government initiated an economic blueprint known as the National Economic Empowerment Development Strategy (NEEDS) which anchored the tax system as a critical
part of the reform agenda to foster increase in tax revenue on a year to year basis. As part of
the agenda, the National tax policy was enunciated to serve as a tool of economic
development through the following:
1. Stimulating the growth of the Nigerian economy by using tax revenues to develop basic
infrastructure such as power, roads, transportation and such other infrastructure which
will stimulate economic growth.
2. Direct stimulation of certain sectors of the economy which are identified to be important
for the creation of employment opportunities for Nigerians.
3. Regulating and strengthening financial and economic structures and for correcting market
imbalances and economic distortions.
4. Income redistribution such that tax earned from high income earners are used for the
provision of infrastructure for the lowest income earners. Taxes shall act as a means to
create a social security net and,

The aim of the tax reform is to increase the non-oil tax revenue generation on a year to year
basis so as to increase economic activities.

2.7 Economic Growth
The International Monetary Fund (2009) and CBN (2010) stated that economic growth is the
increase in the amount of the goods and services produced in an economy over time. It is
conventionally measured as the percent rate of increase in real gross domestic product, or real
GDP (RGDP). Growth is usually calculated in real term i.e. inflation- adjusted terms, in order
to net out the effect of inflation on the price of the goods and services produced.

3 Research Methodology
The study adopted historical research design to analyse the relationship of the behaviour
between the variables over time.

3.1 Method of data collection
Secondary data was extracted from Central Bank of Nigeria statistical bulletin, Federal Inland
Revenue Service and Federal Ministry of Finance. The data extracted were Gross Domestic
Product (GDP) and the major tax revenue from the period 1985-2011. Gross domestic
product was adopted as proxy for economic growth. The study adopted dummy variables of
one and zero to represent years with and without tax reforms respectively.

3.2 Data estimation technique
The secondary data were analysed using the ordinary least square technique based multiple
regression. The t statistic was used to determine the significance of the individual variables
while the F statistic and the adjusted R square explain the significance of the overall model in
the study.

3.3 Model Specification and operational definition of the variables
The study adopted the model of Ogbonna and Appah (2012) on the impact of tax reforms and
economic growth of Nigeria and in line with literature but made certain modification.

The model specification is therefore;
\[
\text{GDP} = \beta_0 + \beta_1 \text{PPT} + \beta_2 \text{CIT} + \beta_3 \text{VAT} + \beta_4 \text{ET} + \beta_5 \text{PIT} + \beta_6 \text{CED} + \beta_7 \text{TNREF} + u_t \quad (1)
\]
\[
\text{GDP}_t = \beta_0 + \beta_1 \text{PPT}_t + \beta_2 \text{CIT}_t + \beta_3 \text{VAT}_t + \beta_4 \text{ET}_t + \beta_5 \text{PIT}_t + \beta_6 \text{CED}_t + \beta_7 \text{TNREF}_t + u_t \quad (2)
\]
GDP = β₀ + β₁TNONₜ + β₂TNREFₜ + uₜ ....................................................... (4)

Where;
GDP = Gross Domestic Product,
PPT = Petroleum Profit Tax
CIT = Companies’ Income Tax,
VAT = Value Added Tax,
ET = Education Tax,
PIT = Personal Income Tax,
CED = Custom and Excise duties,
TNREF = Tax Reform to be represented by Dummy variable,
TNON = Total non-oil tax revenue

Where (from equation 3 above); β₀=Intercept term (parameter). This gives the average effect on GDP of all the variables excluded from the model. In other words, it is the average value of GDP when PPT, CIT, VAT, ET, PIT, CED and TNREF are set equal to zero.

β₁ - β₇ are parameters known as partial regression coefficients or partial slope coefficients (Gujarati and Porter 2009; Gujarati 2006). β₁ measures the change in the mean value of GDP per unit change in PPT holding the values of CIT, VAT, ET, PIT, CED and TNREF constant. β₂ would measure the change in the mean value of GDP per unit change in CIT holding PPT, VAT, ET, PIT, CED and TNREF constant. β₃ measures the change in the mean effect of GDP per unit change in VAT holding PPT, CIT, ET, PIT, CED and TNREF constant. β₄ measures the change in the average effect of GDP per unit change in ET holding PPT, CIT, VAT, PIT, CED and TNREF constant. β₅ measures the change in the average value of GDP per unit change in PIT holding PPT, CIT, VAT, ET, CED and TNREF constant. β₆ measures the change in the mean value of GDP per unit change in CED holding PPT, CIT, VAT, ET, PIT and TNREF constant. β₇ measures the change in the mean value of GDP per unit change in TNREF holding PPT, CIT, VAT, ET, PIT and CED constant.

Uₜ = Represents the random or stochastic disturbance term or error term or unexplained variables. It represents the residual term of all the other variables not included in the model and it follows normal distribution with mean zero and constant variance σ². Sweeney, Williams, and Anderson (2006) stated that it accounts for the variability in the dependent variable that cannot be explained by the linear effect of all the independent variables in the model.

t denotes the value of the variable at time t.

Equation (4) is a multiple regression of the summation of all the non-oil tax revenue taking into consideration of tax reforms on those taxes that are covered by the data set.

### 4 Results and Discussions

The regression results as specified in the model are presented below in tables 4.1 and 4.2 as follows:

**Table 4.1 Dependent Variable: GDP**
Method: Least Squares
Date: 02/20/13  Time: 22:11
Sample(adjusted): 1985 2011
Included observations: 26 after adjusting endpoints

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
</table>

From the result in table 4.1 above, the adjusted R-square of 0.99 implies that 99% of the total variation in gross domestic product, that is economic growth, is as a result of variation in petroleum profit tax, company income tax, customs and excise duties, value added tax, personal income tax and education tax and tax reforms in Nigeria. This implies that the model is well specified and there is goodness of fit. Considering the individual independent variables using the probability values of each t statistic result, customs and excise duties, value added tax, personal income tax and education tax have no statistical significant impact on economic growth at 5% level of significance. Tax reforms also on by itself have no significant impact on economic growth in Nigeria during the period covered by the study. Petroleum profit tax and company income tax at their t-statistic probabilities of 0.35% and 2.87% level of significance, each has positive significant impact on economic growth of Nigeria. The Durbin Watson statistic of 1.98 indicates that there is no presence of serial autocorrelation in the model.

Adopting the probability of the F statistic which is a test for the overall significance of the model, it implies that at zero level of significance, the model is rightly specified. We would therefore not accept the null hypothesis and conclude that overall tax reforms have significant impact on the economic growth in Nigeria. This confirms the existence of long-run equilibrating relationship between the variables, i.e. gross domestic product and all the independent variables in the model. The result above is in consonance with the results of Ogbonna and Appah (2012).

Table 4.2 Dependent Variable: GDP
Method: Least Squares
Date: 02/20/13  Time: 22:20
Sample(adjusted): 1985 2011
Included observations: 26 after adjusting endpoints

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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<tr>
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<td>16.47978</td>
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<td>TNREF</td>
<td>720801.8</td>
<td>1095487.</td>
<td>0.657974</td>
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<td>1145946.</td>
<td>-0.352308</td>
<td>0.7278</td>
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</table>
Table 4.2 is the multiple regression of the sum of non-oil tax revenue and the tax reforms. The t statistic probability of zero level of significance indicates that there positive significant impact of the non-oil taxes on economic growth of Nigeria while the tax reforms are not statistically significant. The overall model using the adjusted R square and the probability of the F statistic indicate that there is goodness of fit and the model is well specified. Adopting the adjusted R square, it explains that 95% of the total variation in economic growth is as a result of variation in the sum of non-oil taxes and tax reforms included in the model. The value of the F statistic of 241.16 with probability value at zero level of significance means that the model is statistically significant and we therefore reject the null hypothesis and conclude that overall, non-oil taxes and tax reforms have significant impact on the economic growth of Nigeria.

5. Conclusion and Recommendations

The ordinary least square based multiple regression was used to estimate the relationship between tax reforms and economic growth in Nigeria. The study found that 99% of the total variation in economic growth is as a result of variation in petroleum profit tax, company income tax, customs and excise duties, value added tax, personal income tax and education tax and tax reforms in Nigeria. This confirms the a priori expectation that the existence of long-run equilibrating relationship between the tax reforms and economic growth in Nigeria.

The study therefore recommended that, chartered tax practitioners should be allowed to play leading roles in any tax reform process to ensure a robust tax system. Government should review obsolete laws and rates to align with current macroeconomic target and promote fiscal responsibility and sustainability.

There should be harmony in the objectives of tax reforms with other industrial and macro-economic objectives.

Adequate time and resources should be committed to the legislative process in order to have tax laws that are easily implementable. In this regard the powers of the national and state houses should be left sacrosanct in line with provision of the 1999 constitution.

Government should always consider tax payers and other key stakeholders’ interests in fiscal policy formulation and implementation in order to achieve improved tax compliance rate in the country. All government agencies and other stakeholders should ensure the full implementation of the National tax policy.

There should be accountability and transparency on the part of government and tax officials in the management of tax revenues for the benefit of the citizens and the economy as a whole. This will motivate the tax payers to comply willingly.

A Corrupt – free and efficient administrative machinery with adequately trained, well equipped and motivated personnel would enable Nigeria to make appreciable progress in revenue generation.

Tax authorities should endeavor to cultivate the co-operation of the professional bodies connected with tax matters such external auditors and corporate tax consultants to minimize the current level of abuses on tax returns.
References


International Monetary Fund (2009). Deflation, Economic Growth, BOP. Celebrating the spirit of small enterprise, June 2009 imf.htm p1-2


National Tax Policy, 2013. Nigeria

