Taxation and the Nigerian Economy: (1994-2012)

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ABSTRACT: The study investigates the impact of taxation on the Nigerian economy for the period 1994 - 2012. The dependent variables used in the model includes: Gross Domestic Product (GDP) as a parameter for measuring economic growth, inflation and unemployment. The objective is this study is to determine how taxation affects these macroeconomic variables. To avoid spurious results, the data set collected from the Central Bank of Nigeria statistical bulletin and Federal Inland Revenue Services was subjected to Augmented Dickey Fuller Unit Root test, which reveals that the variables are stationary. The cointegration test also reveals that the variables are cointegrated and long run relationships exist between the variables. The results of the statistical analysis reveal that positive relationships exist between the explanatory variables (Custom and Excise Duties, Company Income Tax, Personal Income Tax, Petroleum profit tax and Value Added Tax) and the dependent Variables (Gross Domestic Product, Unemployment). But, the individual explanatory variables have not significantly contributed to the growth of the economy; also the explanatory variables have not significantly contributed to the reduction of the high rate unemployment and inflation in Nigeria for the period under review. Study recommends total restructuring of the tax system in the country and the provision of basic amenities (good roads, steady power supply, internal security, etc) which will encourage individuals and corporate organizations to honor their tax obligations in Nigeria.

Keywords: Economic growth, Unemployment, Taxation, Inflation, Economic development

INTRODUCTION

The primary aim of taxation is usually to generate revenue capable of financing government expenditure at all levels of government. The importance of taxation to any government cannot be over emphasized. Chigbu et al. (2012) explained that Taxes are levied on individuals, groups, business or corporate bodies, by constituted authorities for funds used by state in the maintenance of peace, security, economic growth and development and social engineering for the benefit of the citizenry. Taxation as a major source of revenue has made it so important for researchers to establish a link between taxation and economic growth of the country.

This research work examines the link between taxation and economic development in Nigeria for the period 1994 to 2012. It investigates how the value added tax introduced in the country in May 1993 and other types of taxation in operation in Nigeria like the personal income tax, petroleum income tax, company income tax custom and excise duties have affected the Nigerian economy. Attempts will be made to evaluate their impacts on the Gross Domestic Product, inflation and unemployment.

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in the country. Government increases tax during recession period and decreases tax during economic boom. Taxation is also used to promote other objectives like equity, close the gap between the rich and the poor and to address social and economic concerns. Taxation as a fiscal policy instruments affects the macro economic variables of the economy, as it affects the level of aggregate demand in the economy, it affects income distribution thereby reduces the gap between the rich and the poor in the country. Taxation reduces the purchasing power of individuals thereby serving as an inflationary measure. Anyafo (1996) also affirms that a good tax system should be able to stimulate employment, control inflation and enhance economic growth. Tax is also used as a measure to discourage the consumption of those goods and services considered to be harmful or non essential commodities.

Appah (2004) defined tax as a compulsory levy imposed on a subject or upon his property by the government to provide security, social amenities and create conditions for the economic well-being of the society. In his own view, Bhartia (2009) argues that a tax is a compulsory levy payable by an economic unit to the government without any corresponding entitlement to receive a definite and direct quid pro quo from the government. Wikipedia defined tax as a financial charge or other levy imposed upon a taxpayer (an individual or legal entity) by a state or the functional equivalent of a state such that failure to pay is punishable by law.

Anyafo (1996), defined taxation as a compulsory payment by individuals and organizations to the relevant inland or internal revenue authorities at the federal, state and local government levels. All the definitions of tax center on the fact that it is a major source of revenue that finances government expenditure at all levels. It is believed that the tax system of a nation determines who bears the burden of payment and how the tax collected should be spent. Anyafo (1996) maintained that a good tax system should be able to stimulate employment and enhance economic growth in the country. However, the use of tax as an instrument of fiscal policy to achieve economic growth in most developing countries like Nigeria cannot be reliable because of dwindling level of revenue generation and the country’s mono dependence on oil revenue.

According to Engen and Skinner (1996), a number of recent theoretical studies have used endogenous growth models to stimulate the effects of a fundamental tax reform on economic growth. These studies conclude that reducing the distorting effects of the current tax structure would permanently increase growth. Advocates of tax cuts claim that a reduction in the tax rate will lead to increased economic growth and prosperity. Others claim that if we reduce taxes, almost all of the benefits will go to the rich, as those are the ones who pay the most taxes.

Gustavo et al. (2013) opined that an understanding of the public policies that can be effective in improving economic growth performance is critically an important issue at the national and international levels. The general well-being of the population and reduction in poverty level are related to economic growth and development. And the issue of potential growth is at the heart of recent discussions on stabilization policy. Different public policies are being applied to boost growth and to reduce poverty in different regions of the world, but fiscal policies have become the most common and relevant instruments in the heart of policymakers (Tanzi and Zee, 1997).

United Nations (2005) suggests that, to achieve the Millennium Development Goals (MDGs), low-income countries (LICs) are required to increase their domestic revenues by around 4 percent of the GDP. To meet the MDGs, OECD countries have been urged to raise their level of aid to LICs to about 0.7 percent of their Gross National Income, but this can’t be compared with potential tax revenues (Worlu and Nkoro, 2012). The infrastructural developments demand a lot of resources and funding. In many rich countries, tax constitutes 30-40 percent of the GDP (Golit, 2008 and TJN, 2012).

Despite the revenue generated from tax at all levels of government in Nigeria, the majority of the population still wallow in abject poverty, majority of the population live below ($1) one US Dollar per day. The gap between the rich and the widens day by day. The country is still ranked among the economically less advanced states. Again, unemployment is one of the macro economic problems facing the country. This
problem increases day by day. Consider the
recent failed employment test conducted by the
Nigeria Immigration Service (NIS), where over
twenty unemployed youths lost their lives in
their attempt to partake in the employment test
in various states of the country. Over 6.5m Nigerians applied for 4500 vacant positions in
the Nigeria Immigration Service.

**Literature Review**

According to Chigbu (2012) for the
government to achieve macroeconomic
objectives of price stability, full employment,
external balance and sustainable economic
growth and development in the long run, the
government must have sound fiscal and
monetary policy instruments in place. Taxation
and government expenditure are the fiscal policy
instruments of the government while the
monetary policy instruments include: reserve
requirements, discount rates and open market
operations. This study focuses on taxation as a
fiscal policy instrument and how it affects the
economy. This section reviews the related
literature necessary to explain the relationship
between taxation and economic development.

**Economic Effects of Taxation**

The effect of taxation on economic growth
means what happens to the Gross Domestic
Product of the country when tax is imposed.
Anyanwu (1997) maintained that tax affects the
pattern of production, consumption, investment
and employment. These effects are either
positive or negative. Taxation affects both
production and economic growth by distorting
capacity and the will to work, save and invest.
Taxation is a major source of revenue to every
economy, and the money generated is used in the
 provision of basic amenities, providing defense
and security to the populace, generating
employment thereby enhancing the growth and
development of the country.

Taxation is usually an instrument used in
reducing the gap between the rich and the poor.
Economies are characterized by a high level of
inequality as a result of private properties and
inheritance. Taxation has the objective of
equalizing income and wealth inequalities which
conflicts with increasing production and
economic growth (Anyanwu, 1997). This
inequality can be reduced with the use of
progressive tax, wealth tax, expenditure tax, gifts
tax etc as this will achieve redistribution in the
long run.

According to the Keynesian theory, there is
no inherent tendency for the market economy to
stabilize, and this calls for government action in
the short-run. Taxation and expenditure are used
to correct market incompatibilities existing
between demand and supply. Therefore, to
neutralize the fluctuations in incomes, outputs,
employment, prices etc, progressive taxation
should be employed. The income of the poor
with a high marginal propensity to consume
(MPC) should not be taxed, and this will balance
the aggregate consumption in the economy.

Angahar and Sani (2012) confirmed that
Taxation is a fiscal policy tool used in
controlling inflation. In inflationary times,
government should increase direct tax thereby
straining away excess purchasing power. They
should be selective in the choice of indirect taxes
to be employed in controlling inflation, putting
into consideration the elasticity of the demand
and supply of the commodities. Commodities
with low demand elasticity and high supply
elasticity will not increase inflation when
taxation is increased. Commodities that are of
necessities should be taxed lower, while luxuries
should be highly taxed as this will reduce the
inflationary pressure on the economy.

Economic growth and economic
development are often used interchangeably but
there is a great difference between them. Worlu
and Nkoro (2012) maintained that economic
growth is an increase in the amount of the goods
and services produced over a specific period of
time in a country. Economic growth is a sub
category of economic development. Economic
development is a prolonged and sustainable
increases in the real national income of a country
accompanied with positive changes in the
economic, political, technological and social
structures of the country, with the result that the
real income per capita of the people increases
over a long period of time, subject to the
stipulation that the number of people below the
poverty line does not increase, the distribution of
income does not become more unequal and
development does not become less
environmentally sustainable. Economic
development is the policymakers' actions which
promote the health, political, and social well-
being of a country. Common areas of development include: literacy rates, life expectancy, unemployment, and poverty rates.

**Custom and Excise Duties (CED)**

These are the oldest forms of indirect tax which dated back to the 19th century. Custom duties are commodity taxes imports and exports. According to Ayodele (2006), custom duties are the highest yielding indirect tax. The tax is administered by the Nigerian Custom Services (NCS). It is believed that duties on imports are against the principle of comparative cost thereby restricting the full development of international trade. Import duties are also used in protecting infant industries in the country. The burden of export duties are passed on to the foreign country in form of increased prices. The burden of import duties fall on the consumers of the goods and services that it is levied on.

Excise duties are commodity taxes levied on goods manufactured within the country. This indirect tax does not only serve the purpose of raising revenue for the country but also to discourage the consumption of certain goods (Fasoranti, 2013). Who bears the burden of excise duties depend on the type of commodity taxed. Excise duty on luxuries is borne by the rich, while excise duty on necessities is borne by the poorer people (Anyafo, 1996).

**Company Income Tax (CIT)**

This is also known as company profit tax or corporation tax. Company income tax is a tax on the profit made by companies. It was introduced in Nigeria in 1961 and administered by the Federal Internal Revenue Services. Since enactment, the law on CIT has passed through series of amendment. The rate of CIT varies according to operation and size of turnover per annum. According to Onaolapo et al. (2013), Companies condemn this Company taxes on profit as it is seen as a penalty for success without compensation for failure. Company taxes are designed to collect revenue from firm’s economic profit. The tax is on the net accounting profit: gross profit less administrating, operating and interest expenses. The revenue from company income tax has been low due to tax concessions, rebates and tax holidays allowed to newly established companies. Tax evasion and tax avoidance are also responsible for this low yield (Ebiringa and Emeh, 2012).

**Petroleum Profit Tax (PPT)**

This is a tax levied on the profit of oil companies. According to Akintoye and Tashie (2013), petroleum profit tax is singled out because of the significance of oil in the Nigerian public revenue performance. The petroleum profit tax act 1959 no 15 imposes with effect from January 1st 1959, a tax on the profits from the mining of petroleum in Nigeria. This is to take care of economic rent on the land used for mining. The PPT is applicable to upstream operation in the oil sector i.e. production of crude oil and gas and sale of these as primary products to downstream operations (Ayodele, 2006). It is the most important tax in Nigeria in terms of its share of 95% of government revenue and 70% of total foreign exchange earnings. The major problem of this source of revenue is the fluctuation resulting from price fluctuation of crude oil process in the world market. The operation of the petroleum profits tax was extended to the companies engaged in liquefied natural gas operations under PPT amendment no. 3 Decree 1979 No 95.

**Personal Income Tax (PIT)**

According to Akintoye and Tashie (2013), Personal income tax is tax paid on one's personal income as distinct from the tax paid on the firm's earnings. In an incorporated firm, the owners (shareholders) pay taxes on both their income (salary or dividend from the firm) firm's income (profits). In partnerships and sole-ownerships, the tax is paid only once on the firm's profits. Personal Income Tax Rate in Nigeria is reported by the Federal Inland Revenue Service, Nigeria. The Personal Income Tax is a tax collected from individuals and is imposed on different sources of income like labor, pensions, interest and dividends. Revenues from the Personal Income Tax Rate are an important source of income for the government of Nigeria (Anyafo, 1996).

**Empirical Review**

Adereti et al. (2011), in their study on Value added tax and economic growth in Nigeria, using the regression model revealed that a strong positive relationship exists between value added...
tax and economic growth in Nigeria within the period under review (1994-2008). Onaolapo et al. (2013) investigated the Effect of Petroleum Profit Tax on Nigerian economy, the study covered the period between 1970 and 2010. Their study revealed that Income from a nation’s natural resource has a positive influence on economic growth and development. They recommended that Government should transparently and judiciously account for the revenue it generates through PPT by investing in the provision of infrastructure and public goods and services. Chigbu et al. (2012) in the empirical study on economic growth and taxation using the Granger Causality approach concluded that taxation is a very important instrument of fiscal policy that contributes to economic growth of any country.

Anyanwu (1997) in his study of the effects of taxes on Nigeria Economic Growth (1981-1996) reveal that companies’ income tax positively and significantly affects GDP, also customs and excise duties significantly affects economic growth in Nigeria. While petroleum profit tax positively and insignificantly affects Nigeria’s GDP. The same is true of other direct taxes (capital gains and stamp duties). However, all direct taxes positively and significantly affect Nigeria’s GDP.

Ergete and Dahlby (2012), in their study “The Impact of Tax Cuts on Economic Growth: Evidence from the Canadian Provinces” revealed that a negative relationship exist between taxation and economic growth in Canada. The finding concludes that reducing corporate income tax 1 percentage point raises annual growth by 0.1 to 0.2 points. Arnold et al. (2011) based their research on 21 countries and their findings reveal that Corporate taxes most harmful to economic growth, followed by taxes on personal income, consumption, and property. Progressivity of PIT harms growth. A 1 percent shift of tax revenues from income taxes (both personal and corporate) to consumption and property taxes would increase GDP per capita by between 0.25 percent and 1 percent in the long run. Corporate taxes, both in terms of the statutory rate and depreciation allowances, reduce investment and productivity growth. Raising the top marginal rate on personal income reduces productivity growth. Karel and Ravn (2012) studied the exogenous changes in personal and corporate income taxes and how they affect USA economy. The study revealed a negative relationship existing between the dependent variable and the explanatory variables. They concluded that A 1 percentage point cut in the average personal income tax rate raises real GDP per capita by 1.4 percent in the first quarter and by up to 1.8 percent after three quarters. A 1 percentage point cut in the average corporate income tax rate raises real GDP per capita by 0.4 percent in the first quarter and by 0.6 percent after one year.

To the best of our knowledge we are not aware of any study yet on the effect of taxation on these macroeconomic economic variables: economic growth, inflation and unemployment in Nigeria. This research work seeks to fill this gap in our study.

Objectives of the Study

The main of this study is to examine how the various types of tax in operation in Nigeria have affected economic growth of Nigeria (using GDP as a proxy for economic growth) from 1994 to 2012. Other objectives include:

(i.) To examine the effect of taxation on inflation in Nigeria.
(ii.) To determine the effect of taxation on unemployment in Nigeria.

RESEARCH METHOD

This study makes use of time series data sourced from the CBN statistical Bulletin, Economic and Financial Review and Annual Reports and Statement of Accounts of the Central Bank of Nigeria (CBN), the Federal Office of Statistics (FOS) and the Federal Inland Revenue Services Statistics as contained in Appendix I. The macroeconomic data cover gross domestic product (GDP), unemployment and inflation as the dependent variables and Company Income tax, Petroleum profit tax, Value added tax, Custom and Excise Duties and Personal income tax as the explanatory variable for the period 1994 -2012 in Nigeria.

Model Specification

All data collection for the purpose of the study were evaluated, cross checked, compared and critically analyzed.
To explain the relationship between taxation and economic growth in Nigeria, the model is specified below:

$$GDP = f(PIT, VAT, PPT, CED and CIT)$$ .............. (i)

$$GDP = B_0 + B_1 CED_t + B_2 CIT_t + B_3 PIT_t + B_4 PPT_t + B_5 VAT_t + U_t$$ .............. (ii)

The a priori expectation is $B_1, B_2, B_3, B_4, B_5 > 0$

To explain the relationship between taxation and Unemployment in Nigeria, the model is specified below:

$$UNP = f(PIT, VAT, PPT, CED and CIT)$$ .............. (iii)

$$UNP = B_0 + B_1 CED_t + B_2 CIT_t + B_3 PIT_t + B_4 PPT_t + B_5 VAT_t + U_t$$ .............. (iv)

The a priori expectation is $B_1, B_2, B_3, B_4, B_5 < 0$

For the relationship between taxation and inflation, the model is specified below:

$$INF = f(PIT, VAT, PPT, CED and CIT)$$ .............. (v)

$$INF = B_0 + B_1 CED_t + B_2 CIT_t + B_3 PIT_t + B_4 PPT_t + B_5 VAT_t + U_t$$ .............. (vi)

The a priori expectation is $B_1, B_2, B_3, B_4, B_5 < 0$

Where; GDP = Gross Domestic Product
INF = Inflation Rate
UNP = Unemployment Rate
PIT = Personal Income Tax
VAT = Value Added Tax
PPT = Petroleum Profit Tax
CED = Custom and Excise Duties
CIT = Company Income Tax
$B_0$ = Intercept of the relationship
$B_1, B_2, B_3, B_4$ and $B_5$ = Measure of the slope
$U$ = Error term/stochastic variable.

Test for Stationarity
To avoid spurious regressions which may arise as a result of carrying out regressions on time series data, we first subject the data to stationarity test by using the Augmented Dicker Fuller (ADF) tests.

The ADF test was done with the following hypothesis:

$H_0$: Variable contains unit root and hence is non-stationary.

$H_1$: Variable does not contain unit root and hence is stationary

The decision rule was that: If the calculated ADF Test statistic is greater than the MacKinnon critical values, reject the null hypothesis of non-stationarity and accept the alternative of stationarity, otherwise accept the null hypothesis of non stationarity.

Co-Integration Tests
Theoretically, it is expected that a regression involving non-stationary time series may produce spurious results. Co-integration tests prove that the combination of stationary and non-stationary variables has a long-term relationship. In this study the Johansen Test for Co-integration test on the residuals were used.

Presentation and Interpretation of Results
Empirical findings are discussed under the following sub-sections: result of the stationarity (unit root), Johansen co-integration test, regression result. The result of the Stationarity (unit root) test using the Augmented Dicky-Fuller Test is summarized below:

Result of Stationarity (Unit Root) Test
The result of the Augmented Dicker Fuller (ADF) unit root test for stationarity indicates that PIT and INF variables are stationary at level, CED, PPT, GDP and UNP are stationary at first difference while CIT and VAT are stationary at second difference as shown in Appendix II. Therefore, study rejects the null hypothesis and concludes that there is no unit root in the variables (table 1).
Table 1: The result of the unit root test

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>ADF-STATISTIC</th>
<th>CRITICAL VALUES @ 5%</th>
<th>ORDER OF INTEGRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CED</td>
<td>-5.319475</td>
<td>-3.052169</td>
<td>Stationary at first difference</td>
</tr>
<tr>
<td>CIT</td>
<td>-5.393648</td>
<td>-3.055585</td>
<td>Stationary at second difference</td>
</tr>
<tr>
<td>PIT</td>
<td>-6.057888</td>
<td>-3.081002</td>
<td>Stationary at level</td>
</tr>
<tr>
<td>PPT</td>
<td>-4.212838</td>
<td>-3.052169</td>
<td>Stationary at first difference</td>
</tr>
<tr>
<td>VAT</td>
<td>-4.977828</td>
<td>-3.081002</td>
<td>Stationary at second difference</td>
</tr>
<tr>
<td>GDP</td>
<td>-3.408241</td>
<td>-1.964418</td>
<td>Stationary at first difference</td>
</tr>
<tr>
<td>INF</td>
<td>-5.884434</td>
<td>-3.081002</td>
<td>Stationary at level</td>
</tr>
<tr>
<td>UNP</td>
<td>-5.042325</td>
<td>-3.052169</td>
<td>Stationary at first difference</td>
</tr>
</tbody>
</table>

Table 2: Johanson co-integration test result (dependent variable: GDP)

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Trace</th>
<th>0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of CE(s)</td>
<td>Eigenvalue</td>
<td>Statistic</td>
</tr>
<tr>
<td>None *</td>
<td>0.999710</td>
<td>138.4981</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.866420</td>
<td>34.22191</td>
</tr>
<tr>
<td>At most 2 *</td>
<td>0.696616</td>
<td>25.86048</td>
</tr>
<tr>
<td>At most 3 *</td>
<td>0.577436</td>
<td>14.64406</td>
</tr>
<tr>
<td>At most 4 *</td>
<td>0.274474</td>
<td>5.454601</td>
</tr>
</tbody>
</table>

Table 3: Johanson co-integration test result (dependent variable: inflation)

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Trace</th>
<th>0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of CE(s)</td>
<td>Eigenvalue</td>
<td>Statistic</td>
</tr>
<tr>
<td>None *</td>
<td>0.999829</td>
<td>211.5801</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.858117</td>
<td>64.17377</td>
</tr>
<tr>
<td>At most 2 *</td>
<td>0.651386</td>
<td>30.97694</td>
</tr>
<tr>
<td>At most 3 *</td>
<td>0.516575</td>
<td>13.06253</td>
</tr>
<tr>
<td>At most 4</td>
<td>0.040675</td>
<td>0.705925</td>
</tr>
</tbody>
</table>

Table 4: Johanson co-integration test result (dependent variable: unemployment)

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Trace</th>
<th>0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of CE(s)</td>
<td>Eigenvalue</td>
<td>Statistic</td>
</tr>
<tr>
<td>None *</td>
<td>0.999490</td>
<td>224.4828</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.983105</td>
<td>95.59128</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.612094</td>
<td>26.21887</td>
</tr>
<tr>
<td>At most 3</td>
<td>0.443207</td>
<td>10.12001</td>
</tr>
<tr>
<td>At most 4</td>
<td>0.009687</td>
<td>0.165475</td>
</tr>
</tbody>
</table>
The cointegration test result in table 2 above shows that there are at most five cointegrating equations in the model. In table 3 above the result indicates that there are at most three cointegrating equations in the model, while table 4 shows that there are at most two cointegrating equations in the model. These results show that there exists a long run equilibrium relationship between the dependent variables and the explanatory variables, allowing us to conclude that the variables are cointegrated.

RESULTS:

<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>C</td>
<td>-3849963</td>
<td>6688549</td>
<td>-0.575605</td>
<td>0.5747</td>
</tr>
<tr>
<td>CED</td>
<td>41212.20</td>
<td>121370.4</td>
<td>8.339557</td>
<td>0.0096</td>
</tr>
<tr>
<td>CIT</td>
<td>-83831.50</td>
<td>509379.3</td>
<td>-0.164576</td>
<td>0.8718</td>
</tr>
<tr>
<td>PIT</td>
<td>-0.368572</td>
<td>0.822064</td>
<td>-0.448350</td>
<td>0.6615</td>
</tr>
<tr>
<td>PPT</td>
<td>-3.347833</td>
<td>104.0264</td>
<td>-0.032183</td>
<td>0.9748</td>
</tr>
<tr>
<td>VAT</td>
<td>47.94912</td>
<td>60.86303</td>
<td>6.787820</td>
<td>0.0049</td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td>0.620213</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.474141</td>
<td>4.245939</td>
<td>Durbin-Watson stat</td>
<td>1.943918</td>
</tr>
<tr>
<td>F-statistic</td>
<td>4.245939</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob (F-statistic)</td>
<td>0.016497</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From table 5 above, the equation is estimated below:

\[
\text{GDP} = -3849963 + 41212.20\text{CED}_t - 83831.50\text{CIT}_t - 0.367\text{PIT}_t - 3.348\text{PPT}_t + 47.949\text{VAT}_t
\]

In table 5 above, the negative intercept of B₀ in the equation above, indicated that when the independent variables explained in the model is zero, Gross Domestic product is expected to be -N3,849,963m. From the result also, Custom and Excise duties, and Value added tax met the apriori expectation of the model, they have significant positive effects on the Gross Domestic Product. While Company Income tax, Personal Income tax and Petroleum Profit tax did not meet the apriori expectation of the model so, they negatively impact on the Gross Domestic Product.

<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>C</td>
<td>35171.40</td>
<td>36446.28</td>
<td>0.965020</td>
<td>0.3521</td>
</tr>
<tr>
<td>CED</td>
<td>-272.8958</td>
<td>661.3541</td>
<td>-0.412632</td>
<td>0.6866</td>
</tr>
<tr>
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From table 6 above, the model equation is estimated below:

\[ \text{UNP} = 35171.40 - 272.9CED_t + 5220.78CIT_t + 0.00364PIT_t + 0.0195PPT_t + 0.11522VAT_t \]

The positive intercept of \( B_0 \) in the equation above indicates that when the independent variables are zero, Unemployment is expected to be 35171.40 units. Only Custom and Excise Duties met the apriori expectation, while Value Added Tax, Company Income Tax, Petroleum Profit Tax and Personal Income Tax did not meet the apriori expectation.

**DISCUSSION**

Durbin Watson Stat. values of 1.94, 2.14 and 1.64 in tables 5, 6 and 7 respectively, illustrate the absence of auto-correlation.

In table 5 above, the coefficient of determination \( R^2 \) from our results is given as 0.62. This implies that 62% of the variations in the growth rate of the GDP of Nigeria are accounted for by the included explanatory variables of Custom and Excise Duties, Company Income Tax, Personal Income Tax, Petroleum Profit Tax and Value Added Tax. The adjusted coefficient of determination \( (\text{adjusted } R^2) \) is given as 0.4741. This means that precisely 47.41% of the variations in the growth rate of the Gross Domestic Product of Nigeria are accounted for by the included variables, after the co-efficient of determination has been adjusted to make it insensitive to the number of included variables. The statistical test for significance of the individual parameter estimates (i.e. t-statistic) using 95% confidence interval indicates that only Value Added Tax \( t \text{-stat. } 6.788 \) \( (\text{Prob.0.0049}) \) and Custom and Excise duties \( t \text{-stat. } 8.3396 \) \( (\text{Prob. 0.0096}) \) are statistically significant in explaining the changes in economic growth in Nigeria, at 5% level of significance, while other variables (Company Income tax, Personal Income Tax and Petroleum Profit Tax) are not statistically significant and have not significantly contributed to economic growth in Nigeria for the period under review.

In table 6 above, the coefficient of determination \( R^2 \) with 0.93 values, implies that 93% of the variations in Unemployment in the country are accounted for by the included explanatory variables of Custom and excise...
Duties, Company Income Tax, Personal Income Tax, Petroleum Profit Tax and Value Added Tax. The adjusted coefficient of determination (adjusted $R^2$) value of 0.91, means that 91% of the variations in Unemployment in Nigeria are accounted for by the included explanatory variables, after the co-efficient of determination has been adjusted to make it insensitive to the number of included variable. The t. stat. test for the significance of the individual included explanatory variables indicate that all the included explanatory variables (Custom and Excise Duties, Company Income Tax, Personal Income Tax, Petroleum Profit Tax and Value Added Tax) are not statistically significant in explaining the variations in the dependent variable. These explanatory variables have not significantly contributed in reducing the rate of unemployment in Nigeria.

Table 7 above reveals the coefficient of determinant ($R^2$) as 0.99, meaning that 99% of the variations in Inflation in Nigeria are accounted for by the explanatory variables included in the model. So 99% relationship exists between the dependent variable (inflation) and the independent variables (Custom and Excise Duties, Company Income Tax, Personal Income Tax, Petroleum Profit Tax and Value Added Tax). The adjusted coefficient of determination (adjusted $R^2$) is given as 0.9842. This means that precisely 98.42% of the variations in the growth rate of the Gross Domestic Product of Nigeria are accounted for by the included variables, after the co-efficient of determination has been adjusted to make it insensitive to the number of included variables. The t. stat. test for the significance of the individual explanatory variables at 5% significance level, reveals that Custom and Excise Duties (T. stat. -0.932746 Prob.0.3680), Company Income Tax (T. Stat. 1.954458 Prob. 0.725), Personal Income Tax (T. Stat. -1.147148 Prob. 0.2720), Petroleum Profit Tax (T. Stat. 0.2557 Prob.0.802) and Value Added Tax (T. Stat.1.3969 Prob. 0.186) are not statistically insignificant in explaining the variations in the model.

CONCLUSION
The purpose of this study is to examine the impact taxation on economic growth, Inflation and Unemployment in Nigeria using the time series data for the period 1994 to 2012. In other to achieve this, three econometric models were developed and analyzed using Eviews statistical package version 7.2 (Students version). The results of the analysis reveal that in the first model, value added tax and custom and excise duties are statistically significant and have significantly contributed to economic growth in Nigeria while Personal income tax, company income tax, petroleum profit tax are not statistically significant and have not significantly contributed to economic growth in Nigeria. The results of the analysis also indicate that the explanatory variables (Custom and excise duties, company income tax, personal income tax, petroleum profit tax and value added tax) have no significant effect on both unemployment and inflation in Nigeria. Therefore research concludes that taxation in Nigeria have not significantly impacted on economic growth, unemployment and inflation. This research is in line with the views of Karel and Ravn (2012) and Jens Arnold et al. (2011).

RECOMMENDATIONS
Based on these findings, study recommends the following:
Government should ensure that taxation is properly managed in a manner that will accelerate economic growth, reduce inflation rate and generate employment in the country.
There is also need for the Nigeria government to restructure the tax system to meet the demands of the 21st century.
There should be adequate provision of infrastructures and basic amenities like: electricity good water good roads etc as this will enhance people’s compliance in tax payment.

REFERENCES


### Appendix I

<table>
<thead>
<tr>
<th>YR</th>
<th>PPT</th>
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### Appendix II

Null Hypothesis: D (CED) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

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Test critical values:  
1% level: -3.886751  
5% level: -3.052169  
10% level: -2.666593

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 17
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CED,2)
Method: Least Squares
Date: 04/24/14   Time: 07:07
Sample (adjusted): 1996 2012
Included observations: 17 after adjustments

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<th>Variable</th>
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<th>t-Statistic</th>
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R-squared                           0.653554       Mean dependent var  0.100000
Adjusted R-squared                   0.630458       S.D. dependent var  6.220631
S.E. of regression                   3.781521       Akaike info criterion 5.608260
Sum squared resid                    214.4985       Schwarz criterion 5.706286
Log likelihood                      -45.67021      Hannan-Quinn criter. 5.618004
F-statistic                         28.29681       Durbin-Watson stat  2.043389
Prob (F-statistic)                  0.000086

Null Hypothesis: D(CIT,2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

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<th>t-Statistic</th>
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<td>Augmented Dickey-Fuller test statistic</td>
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Test critical values:
1% level  -3.920350
5% level  -3.065585
10% level  -2.673459

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 16

Augmented Dickey-Fuller Test Equation
Dependent Variable: D (CIT,3)
Method: Least Squares
Date: 04/24/14   Time: 07:08
Sample (adjusted): 1997 2012
Included observations: 16 after adjustments

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R-squared                           0.675109       Mean dependent var  -1414.938
Adjusted R-squared                   0.651903       S.D. dependent var  38782.79
S.E. of regression                   22881.75       Akaike info criterion 23.03054

123
Null Hypothesis: D (GDP) has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=1)

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Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 16

Augmented Dickey-Fuller Test Equation
Dependent Variable: D (GDP,2)
Method: Least Squares
Date: 04/24/14   Time: 07:10
Sample (adjusted): 1997 2012
Included observations: 16 after adjustments

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Null Hypothesis: INF has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=3)

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<td>10% level</td>
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Augmented Dickey-Fuller Test Equation
Dependent Variable: INF
Method: Least Squares
Date: 04/24/14   Time: 07:11
Sample (adjusted): 1998 2012
Included observations: 15 after adjustments

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Adjusted R-squared 0.725261     S.D. dependent var 103515.1
S.E. of regression 3.53E+10     Akaike info criterion 24.81775
Sum squared resid 183.1331     Schwarz criterion 24.95936
Log likelihood 19.47872     Durbin-Watson stat 2.302453
Prob (F-statistic) 0.000171

Null Hypothesis: PIT has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=3)

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Test critical values:
1% level  -3.959148
5% level  -3.081002
10% level  -2.681330

Augmented Dickey-Fuller Test Equation
Dependent Variable: PIT
Method: Least Squares
Date: 04/24/14   Time: 07:12
Sample (adjusted): 1998 2012
Included observations: 15 after adjustments

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 15
Null Hypothesis: D (PPT) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

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Adjusted R-squared 0.823536     S.D. dependent var 6030589.
S.E. of regression 7.70E+13     Schwarz criterion 32.64642
Sum squared resid 7.70E+13     Hannan-Quinn criter. 32.50330
Log likelihood -240.7860     Durbin-Watson stat 1.973165
Prob (F-statistic) 0.000012

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PPT,2)
Method: Least Squares
Date: 04/24/14   Time: 07:14
Sample (adjusted): 1996 2012
Included observations: 17 after adjustments

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Adjusted R-squared 0.511421     S.D. dependent var 17.96907
S.E. of regression 12.56010     Akaike info criterion 8.009059
Sum squared resid 2366.342     Schwarz criterion 8.107084
Log likelihood -66.07700     Hannan-Quinn criter. 8.018802
F-statistic 33.66816     Durbin-Watson stat 1.973165
Prob (F-statistic) 0.000012

Warning: Probabilities and critical values calculated for 20 observations
and may not be accurate for a sample size of 17
Null Hypothesis: $D$ (UNP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-5.042325</td>
</tr>
</tbody>
</table>

Test critical values:
- 1% level: -3.886751
- 5% level: -3.052169
- 10% level: -2.666593

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 17

Augmented Dickey-Fuller Test Equation
Dependent Variable: $D$(UNP,2)
Method: Least Squares
Date: 04/24/14   Time: 07:14
Sample (adjusted): 1996 2012
Included observations: 17 after adjustments

<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>D (UNP(-1))</td>
<td>-1.269863</td>
<td>0.251841</td>
<td>-5.042325</td>
<td>0.0001</td>
</tr>
<tr>
<td>C</td>
<td>30251.74</td>
<td>11166.20</td>
<td>2.709225</td>
<td>0.0162</td>
</tr>
</tbody>
</table>

R-squared 0.628943   Mean dependent var -1121.706
Adjusted R-squared 0.604206   S.D. dependent var 60766.51
S.E. of regression 38229.54   Akaike info criterion 24.05074
Sum squared resid 2.19E+10   Schwarz criterion 24.14876
Log likelihood -202.4313   Hannan-Quinn criter. 24.06048
F-statistic 25.42504   Durbin-Watson stat 2.071197
Prob (F-statistic) 0.000146

Null Hypothesis: $D$ (VAT,2) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=3)

<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-4.977828</td>
</tr>
</tbody>
</table>

Test critical values:
- 1% level: -3.959148
- 5% level: -3.081002
- 10% level: -2.681330

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 15
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(VAT,3)
Method: Least Squares
Date: 04/24/14   Time: 07:15
Sample (adjusted): 1998 2012
Included observations: 15 after adjustments

<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>D (VAT(-1),2)</td>
<td>-2.366780</td>
<td>0.475464</td>
<td>-4.977828</td>
<td>0.0003</td>
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<tr>
<td>D (VAT(-1),3)</td>
<td>0.483327</td>
<td>0.264748</td>
<td>1.825609</td>
<td>0.0929</td>
</tr>
<tr>
<td>C</td>
<td>16502.38</td>
<td>13889.70</td>
<td>1.188102</td>
<td>0.2578</td>
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</tbody>
</table>

R-squared 0.832792  Mean dependent var 5852.000
Adjusted R-squared 0.804924  S.D. dependent var 120109.1
S.E. of regression 53049.09  Akaike info criterion 24.77268
Sum squared resid 3.38E+10  Schwarz criterion 24.91429
Log likelihood -182.7951  Hannan-Quinn criter. 24.77117
F-statistic 29.88344  Durbin-Watson stat 2.020832
Prob (F-statistic) 0.000022