Tax Revenue, Wage Employment and Economic Growth in Nigeria

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Abstract
This study examines the relationship between tax revenue, wage employment, and economic growth in Nigeria from 1981 – 2016 using the OLS technique. Tax revenue was captured by government non-oil revenue, while wage employment and economic growth were proxied by Wage and salaried workers (employees) and real GDP respectively. Empirical results showed that tax revenue, wage employment and foreign direct investment had a positive and significant impact on real GDP, while inflation rate had a negative and insignificant impact on real GDP. On the basis of the above, the study recommended the introduction of more programs like the Voluntary Asset and Income Declaration Scheme (VAIDS). Also, revenue from tax should be invested in projects that would generate employment opportunities for the people, especially the youths.

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1. INTRODUCTION
All over the World, the tax is a common source of revenue for governments. The government of Nigeria generates revenue by taxing consumer spending, investment and business activity, as in many other countries to generate revenue to fund its operations such as facilities, salaries and logistics involved in managing the economy. Also, services provision is a core function of every government at all levels, which are commonly paid for by revenue from the tax. Sales, licensing or income taxes, for example, are imposed by the government to fund services that include road maintenance and expansion, social assistance and Security benefits and education. Tax revenue aids governments in their role in developing infrastructure. Modernization and improvement of areas of national significance like strengthening and maintenance of the integrity of the highways of the country are funded through revenue from tax amongst other sources (Fuentes, 2018). Tax revenue makes it easier for governments to build modern infrastructures in global standards. Revenue generated from the tax is used in funding public goods for the benefit of the entire populace.

The effect of the tax is grouped into micro-economic effects – income distribution and judicious use of economic resources and macroeconomic effect – output capacity, wage employment, inflation and economic growth (Egbunike, Emudainohwo & Gunardi, 2018). Governments especially in developing economies play a key role in achieving economic growth through fiscal policy as an instrument, which taxation is a significant part. Aside from the fact that tax is a primary source of revenue for the government to provide goods and services for the people, tax policies influence economic growth employment generation in the economy through an influence on investment and capital formation. On this basis, an appropriate tax system characterized by effectiveness, equity, and efficiency is an unavoidable condition for a sound public finance that can boost economic growth (Dike, 2014).

Economic growth is an engine of development. It is difficult if not impossible for development to occur without economic growth. Hence, it is desirable since it is associated with an increase in welfare. Economic growth increases the productive capacity of an economy over time and brings about a rising level of national output and income (Nnamdi, 2009). Over time real economic growth leads to major progress in living standards, expanding existing markets and opening new ones. Positively growing economy enables businesses to increase wage employment and increases production and services. As pointed out by Kambua (2013), the increase is necessary to meet the increasing demand of the consumers. Whereas, if the economic growth is negative, businesses will have to cut costs and take measures to reduce the chances of making losses because in such periods consumers in most cases demand fewer goods and services.

Tax is an important instrument of fiscal policy as well as a vital source of government revenue. Nigeria has made several attempts to employ taxation as a medium to generate revenue for recurrent and capital requirements. But there is no clear evidence that this has produced the needed result. Nigeria's tax to Gross Domestic Product (GDP) ratio is one of the lowest in Africa. For example, in the 2013 fiscal year, tax as a percentage of GDP was 6%, 16% and 23% for Nigeria, Kenya and South Africa respectively. In 2014, Nigeria's tax revenue as a percentage of GDP dropped from 6% to 5% while that of Kenya and South Africa rise from 16% and 23% respectively to 18% and 24%. In the 2015 fiscal year, a further decrease of 1% (decreased from 5% to 4%) was recorded for Nigeria, while Kenya and South Africa stood at 18% and 25% respectively. Narrow tax net, poor compliance enforcement,
bureaucratic tax procedures, the absence of transparency and lack of accountability are among the factors responsible for the poor tax revenue generation in Nigeria (Deloitte, 2017). These factors are, however, not new to the Nigerian government and the tax authorities as measures have been taken in the past to overcome these challenges.

Due to the high dependency of Nigeria on oil revenue and the highly volatile nature of oil prices in the international market, which cause the recession in Nigeria in 2015, revenue allocation from the federation account to state governments has declined sharply by 35% between 2015 and 2017 (Deloitte, 2017). Governments at the states and local levels are struggling to meet their obligations because of huge budget deficits. In fact, many states and local governments struggle to pay civil servants salaries. This is in addition to already high and increasing unemployment rates, and the high level of poverty. Therefore, the need for the governments at the various levels to generate adequate revenue from internal sources has become a national priority and it is a matter of urgency.

In tradition governments increase tax revenues through an increase in tax rate or by creating new tax rates. However, unfortunately, there would presently be inefficient and the tax revenue would be insufficient because of the economic recession the country just exited. Also, it would be an additional financial burden on individuals and potential investor and may likely be an impediment to the economic recovery of the Nigerian economy from the recession. Thus, the awesome initiative of the Voluntary Asset and Income Declaration Scheme (VAIDS) was introduced by the government amongst other initiatives. VAIDS was launched in June 2017, and commence on 1 July 2017 and last for a period of 9 months. VAIDS is an initiative designed to encourage voluntary disclosure of previously undisclosed assets and income for the purpose of payment of all outstanding tax liabilities. It was implemented by the Federal Inland Revenue Service (FIRS) in collaboration with all 36 State Internal Revenue Services and the FCT IRS, and an international forensic and asset tracing company was engaged to support the process. (Oyedele, 2017). However, with several past and present policy efforts, the main question is whether the initiatives have yielded the desired results. The focus of this study is to examine the relationship between tax revenue, wage employment and economic growth in Nigeria.

This paper will be of importance to policymakers, researchers and the government in designing policies aimed at boosting the economy. The paper is divided into five sections. Section two follows the introductory section, which reviews related literature. Section three is for the methodology of this study, while section four presents the results of the study. The study is summarized in section four with policy recommendations also proffered in the section.

2 LITERATURE REVIEW
2.1 Theoretical Issues

2.1.1 The Concept of Tax

Tax can be defined as a monetary levy imposed by the government of a country, on individuals or entities. Dike (2014) defined a tax as a compulsory exaction from a taxpayer, either remitted in cash or in kind to the government to provide for the public services of common interest without particular regard to a particular benefit received by the taxpayer. In other words, the remittance is done individually but the outcome of the services provided is enjoyed by all rather than giving specific benefits to a taxpayer. Tax is a demand from individuals or business entities, by the government in order to raise the revenue required for economic or social duties for the benefit of the entire populace. Riedl (2017) posits that the tax system of any country is a major determinant of other macroeconomic indicators; hence there is a relationship between tax revenue and level of economic growth.

2.1.2 Concept of Economic Growth

Economic growth represents the expansion of a country’s potential GDP or output. Economic growth is the annual rate of increase in a nation’s real GDP. It is the change in the gross domestic product (GDP) of a country over one year, which represents the expansion of a country’s potential GDP or output. Todaro (1995) viewed economic growth as a long-term rise in capacity to supply increasingly diverse economic goods to its population. Growth in capacity is based on advancing technology and the institutional and ideological adjustment that it demands. According to Palmer (2012), economic growth is an increase in the productive capacity of an economy as a result of which the economy is capable of producing additional quantities of goods and services.

2.1.3 Concept of Wage Employment

Wage employment is a form of employment whereby the employer retains the rights to decide how, where, and when the employee performs the work assigned to him or her. In addition, in the presence of cordial employer-employee relationship, the employer is subject to wage laws and is expected to withhold taxes from employees' wages to be paid to the relevant tax authority at a given period of time. In wage employment situations, if wages of employees are paid, which are below minimum wage, the employer must have an approved sub-minimum wage waiver. Under wage employment, an employee is an individual that is subjected to the right of direction and control by the employer who services are performed and paid for as to the details and avenues through which the result is accomplished (Miller and Uttermolen, 2008). As such, there is a mutual agreement between the employer and employee, whereby the employee under certain terms and conditions agrees to work for the employer the employer
agrees to pay him wage or salary for the work. Wage employment is a source of a regular and steady income for the employee that can ease his living conditions.

2.1.4 Relationship between Tax Revenue, Wage Employment and Economic Growth

The figure below is a conceptual framework representing the relationship between tax revenue and economic growth. When the government imposes a tax on very profitable entities or individuals, they generate revenue to invest in the economy; this could be in form of awarding contracts to private individuals. Hence, investment in the private sector will spur the productive capacity of the economy, and these chains of reactions over time will lead to economic growth in the economy.

![Figure 1: Framework of the relationship between tax revenue and economic growth](image)

Source: economicshelp.org

Taxes employment relationship concerns both labour supply – labour force pay income taxes and labour demand – employers, who pay payroll taxes. As stated by Tvrdon (2011), Labor taxation is an extension of the wedge (tax wedge shows the difference between an employee's earnings and costs of employing him) between costs of an employer and income of an employee. When there is a shift of taxes to employers, then employment costs will increase and consequently, the demand for labour will fall. But in case there is compensation of the additional cost by firms in the form of wage reduction, then the wage/price of product ration will remain the same. Though the wage/price of product ratio of consumption will fall, social benefits will be available to more households. Therefore, an individual's incentive to work will reduce. Thus, the increase in taxation will affect employment negatively (Tvrdon, 2011).

2.1.5 An Overview of the Nigerian Tax System

Nigeria’s tax system is structured for the collection of tax revenue. The tax system as described by Simeon, Simeon and Roberts (2017) is statutory in nature, characterized by a mixture of direct and indirect taxes. In the new Order Schedule, there are 61 taxes, levies, fees and charges (9 in Part I, 25 in Part II, 21 in Part III, and 6 in Part IV), which leads to an addition of 22 taxes and levies from the earlier 39 as 2014. Other taxes and levies in the Nigerian tax system include customs and excise duties, mining, rents, royalties and premium on petroleum, which are under the provision of different laws coupled with other levies under the local government authorities outside the ambit of the law.

Tax administration in Nigeria is the responsibility of the federal, state and local governments, empowered by federal laws with their power and objectives clearly defined. The federal, state and local governments have tax authorities in charge of tax revenue generation. These are the Federal Inland Revenue Services (FIRS) for the federal government, State Boards of Internal Revenue (SBIR) for the state governments and the Local Government Revenue Committee (LGRC) for the local governments. FIRS is charged with the role of revenue assessment, collection and accounting for taxes and other revenues accruing to federal government. SBIR and LGRC on the other hand, are with the responsibility as a state in the law (Simeon, Simeon and Roberts, 2017).
The FIRS is having the jurisdiction to collect companies income tax; withholding tax on companies; petroleum profit tax; value-added tax (VAT); education tax; capital gains tax - Abuja residents and corporate bodies; stamp duties involving a corporate entity; and personal income tax – in respect of armed forces personnel; police personnel; residents of Abuja FCT; external affairs officers; and non-residents. The state is responsible for Personal income tax: Pay-As-You-Earn (PAYE) – Direct assessment, Withholding tax for only individuals; Capital gains tax; Stamp duties (instruments executed by individuals); Pools betting, lotteries, gaming and casino taxes; Road taxes; Business premises registration and renewal levy; Right of occupancy fees in state capitals; and Development levy on all taxable individuals. Whereas, those Collectible by LGRC include shops and kiosks rates; tenement rates; on and off liquor license; slaughter slab fees; marriage, birth and death registration fees; naming of street registration fee – excluding state capitals; right of occupancy fees – excluding state capitals; and market/motor park fees – excluding market that are build by the state (Dike, 2014).

2.2 Empirical Studies
Ogbonna and Ebimobowei (2012) examined the impact of tax reforms and the economic growth of Nigeria using relevant descriptive statistics and econometric analysis and found that tax reforms had a positive and significant effect on economic growth. It was also found that tax reforms improve the revenue generating machinery of government to undertake socially desirable expenditure that translates to economic growth. Worlu and Emeka (2012) examined the impact of tax revenue on the economic growth of Nigeria from 1980 to 2007. The three-stage least square technique was employed. It was found that tax revenue affected economic growth but the effect was found to be through infrastructural development. The Relationship between Tax revenue and Economic growth in Nigeria was examined by Garba (2014) using the Ordinary Least Square (OLS) technique. The study spans the 1981 – 2010 sample period. The findings of the study showed that Petroleum profit tax, company income tax, and VAT had a positive impact on economic growth. It was also found that customs excise and duties impacted negatively but overall, a significant relationship between tax revenue and economic growth was established. Employing the Vector Error correction technique, the study by Onakoya and Afinitinni (2016) examined the impact of tax revenue and Economic growth in Nigeria from 1980 to 2013. The results showed a long run relationship between taxation and economic growth. However, no significant short-run relationship was established. It was further established that petroleum profit tax and company income tax significantly and positively impacted on economic growth, while customs and excise duties had a negative impact on economic growth. The study by Ofoegbu and Akwu (2016) examined the effect of tax revenue on economic growth in Nigerian. The study covered the 2005 – 2014 sample periods, while the OLS technique was adopted for data analysis. The findings showed that there was a positive and significant effect of tax revenue on economic. Ojong, Ogar, and Oka (2016) also examined the impact of tax revenue on economic growth in Nigeria. The OLS results showed that petroleum profit tax had a significant impact on economic growth. However, company income tax was found to have no statistically significant impact on economic growth. The impact of indirect tax revenue on economic growth in Nigeria from 1993 – 2013 was examined by Akhor (2016) using the error correction technique. The findings of the study showed that the value-added tax had a negative and significant impact on real GDP. Whereas, custom and excise duty were found to had a negative and insignificant impact on real GDP. Apare and Durojaiye (2016) empirically investigated the relationship between value-added tax, government total revenue and gross domestic product (GDP) in Nigeria from 1994 – 2014. Using the error correction technique, the study found a long-run significant and positive relationship between values added tax (VAT), government total revenue and gross domestic product. The study by Otu, Adejumo, and Edame (2013) examined the effect of tax revenue on economic growth in Nigeria from 1970 – 2011 using the OLS regression technique. The results showed that tax revenue had a positive effect on economic growth. It was also found that domestic investment, labour force and foreign direct investment had a positive and significant effect on economic growth. Anichebe (2013) examined the impact of the tax on economic growth in Nigeria for the periods 1986 to 2010 using the OLS technique. The results showed that tax had a significant relationship with economic growth.

3 METHODOLOGY
3.1 Source of the Data
The study used secondary time series data from 1981-2016. The data was collected from different sources including the Central Bank of Nigeria (CBN) statistical bulletin, Federal Inland Revenue Service (FIRS) and some other sources. The variables and the data sources are provided in Table 1 below.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Gross Domestic Product (GDP)</td>
<td>CBN Statistical Bulletin (2016)</td>
</tr>
<tr>
<td>Tax Revenue</td>
<td>Federal Inland Revenue Service (FIRS)</td>
</tr>
<tr>
<td>Wage and Salary Earners</td>
<td>World Bank</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>CBN Statistical Bulletin (2016)</td>
</tr>
<tr>
<td>Foreign Direct Investment</td>
<td>CBN Statistical Bulletin (2016)</td>
</tr>
</tbody>
</table>
3.2 Model Specification

The functional form of the model for estimation is presented as follows:

$$\text{GDP} = g(\text{TAXREV, WG EARNERS, INF, FDI}) \quad . \quad . \quad . \quad (1)$$

where

RGDP = real gross domestic product
TAXREV = Total tax revenue
WG EARNERS = wage employment, measured by wage and salary earners
INF = inflation rate
FDI = Foreign direct investment

The model to be estimated is:

$$rgdp = \varphi_1 + \varphi_2 \text{taxrev} + \varphi_3 \text{wgearners} + \varphi_4 \text{INF} + \varphi_5 \text{fdi} + u_1 \quad . \quad . \quad . \quad (2)$$

Where all the variables remained as defined above, $u_1$ is the error term, while $\varphi$’s are the parameters to be estimated. Lowercased variables are log-transformed variables. The inflation rate is not log transformed because the variable is already taken in rate.

The Ordinary Least Squares (OLS) method of estimation would be employed in estimating equation (2). The justification for the use of OLS is found in the BLUE properties which its estimator yields, which means it has the Best, Linear, Unbiased, Estimators. Other reasons include that its computational procedure is fairly simple as compared with other econometric methods. In addition, a test of serial correlation, normality test, multicollinearity test, and heteroskedasticity test are some of the tests carried out in this paper.

4 RESULTS

4.1 Augmented Dickey-Fuller Unit Root Test

The Augmented Dickey-Fuller unit root test was used to determine the order of integration of the variables in equation (2). However, before the test was conducted, the lag order was empirically selected using the Akaike’s Final Prediction Error (FPE), and Akaike’s information criterions. The test results are reported in Table 2 below.

Table 2: Augmented Dickey-Fuller Unit Root Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF – Statistic</th>
<th>Model</th>
<th>Lag order</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>rGDP</td>
<td>-2.5485</td>
<td></td>
<td>1</td>
<td>I(1)</td>
</tr>
<tr>
<td>TAXREV</td>
<td>-2.6510</td>
<td></td>
<td>1</td>
<td>I(1)</td>
</tr>
<tr>
<td>WGEARNERS</td>
<td>-1.2986</td>
<td></td>
<td>1</td>
<td>I(1)</td>
</tr>
<tr>
<td>INF</td>
<td>-2.7150</td>
<td></td>
<td>1</td>
<td>I(1)</td>
</tr>
<tr>
<td>FDI</td>
<td>-0.5382</td>
<td></td>
<td>1</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

Where * denotes significance at 5% and the rejection of the null hypothesis of the presence of unit root. The optimal lag lengths were chosen according to Akaike’s Final Prediction Error (FPE), and Akaike’s information criterions. The 5% critical value at level is -3.5442 while at the 1st difference is -3.5485.

Source: Author’s Computation

At their level forms, none of the variables was stationary at the 5 per cent level. But after taking the first difference, all the variables became stationary. Thus, all the variables are integrated of order 1. Also, the cointegration test was conducted and the result is presented in Tables 3.

Table 3: Results of Johansen test for cointegration

<table>
<thead>
<tr>
<th>Number of Cointegrating Equations</th>
<th>Trace Statistics</th>
<th>5% Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>None*</td>
<td>91.15252</td>
<td>88.80380</td>
</tr>
<tr>
<td>At most 1</td>
<td>59.14751</td>
<td>63.87610</td>
</tr>
<tr>
<td>At most 2</td>
<td>31.33055</td>
<td>48.91525</td>
</tr>
<tr>
<td>At most 3</td>
<td>15.17041</td>
<td>25.87211</td>
</tr>
<tr>
<td>At most 4</td>
<td>3.982600</td>
<td>12.51798</td>
</tr>
</tbody>
</table>

Source: Author’s Computation

The model reveals one cointegrating equation. It is, therefore, concluded that cointegration exists among the variables in the regression equation.

4.2 Results of Tax Revenue, Wage employment and Economic Growth Relationship

Tax revenue has a coefficient of 0.6119 with a t-value of 5.12. Since the t-value is greater than two in an absolute sense, the null hypothesis of tax revenue having no significant impact on economic growth is clearly rejected at the 5 per cent level. The significant probability value of 0.000 also means that there is no significant error in rejecting the null hypothesis. Specifically, a percentage increase in tax revenue means 0.61 per cent increase in
economic growth. Wage employment also increases the value of real GDP as indicated by the positive coefficient. The result shows that if wage employment increases by 1 per cent, economic growth also increases by 0.02 per cent. The significant t-statistics of 8.15 and a probability value of 0.000 points to the rejection of the hypothesis of wage employment having no significant impact on real GDP.

Table 4: Regression result

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>rgdp</td>
<td>CONST 2.8101</td>
<td>0.1521</td>
<td>18.48</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>taxrev 0.6119</td>
<td>0.0119</td>
<td>5.12</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>wgearners 0.0208</td>
<td>0.0025</td>
<td>8.15</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>INF -0.0103</td>
<td>0.0003</td>
<td>-1.09</td>
<td>0.281</td>
</tr>
<tr>
<td></td>
<td>fdi 0.0703</td>
<td>0.0081</td>
<td>8.72</td>
<td>0.000</td>
</tr>
<tr>
<td>R²</td>
<td>0.7559</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.7041</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin Watson Stat</td>
<td>2.0133</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-stat</td>
<td>542.96 (0.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s Computation

The inflation rate, however, negatively affects real GDP. Though the effect of inflation on economic growth is insignificant at the 5 per cent level, a percentage increase in the rate of inflation negatively affects economic growth by 0.10 per cent. An increase in FDI leads to 0.07 per cent increase in real GDP. The t-statistics and probability values of 8.72 and 0.000 point out that the impact of FDI on real GDP in Nigeria is statistically significant.

The coefficient of determination, R² shows that the explanatory variables in the model have 75.59 per cent explanatory power. This, in other words, means that tax revenue, wage employment, inflation rate and foreign direct investment explain 75.59 per cent variation of real GDP in Nigeria. The F-statistics of 542.96 (0.000) point out that the explanatory variables together have a significant impact on real GDP. The Durbin-Watson d-statistic suggests no autocorrelation. Thus, the variables in equation (2) are free from autocorrelation and the findings are not in any way associated with the problems of autocorrelation.

### 5 Conclusions

The relationship between tax revenue, wage employment and economic growth in Nigeria have been examined in this study. The OLS technique was employed in analyzing this relationship. Tax revenue, wage employment and foreign direct investment positively and significantly affect economic growth while inflation rate negatively and insignificantly affects economic growth in Nigeria. It recommends the introduction of more programs like the VAIDS will go a long way to improve tax revenue. In addition, revenue from tax should be invested in projects that would generate employment opportunities for the people, especially the youths. Also, in addition to the formulation of efficient and feasible tax policies, the tax system and the payment process should be modernized in order to make it easier to collect and keep proper tax records.

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