
Effect of Tax Revenue on Economic Growth in Nigeria

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Abstract

This study investigates the effect of tax revenue on economic growth of Nigeria between 1997-2016. The times series data sourced from Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service (FIRS), were analyzed using unit root tests, co-integration tests and vector error correction mechanism (VECM). The unit root test result reveals that CIT and CED and CGT are stationary at level. While RGDP, PPT, VAT and RDT are stationary at first order, that is after first difference. The co-integration tests (both Johansen and Engle-Granger) showed that a long run relationship existed between the economic growth and RGDP, PPT, VAT and RDT CIT, CED. The results obtained from the analysis of the model revealed that CGT and EDT have no significant effect on economic growth while PPT, CIT, VAT and CED have significant effect on the economic growth in Nigeria. The study recommends to boost economic growth in Nigeria, government should ensure the tax revenue generated are channeled towards building capital stock that can create more jobs which will generate more revenue to government through other forms of tax.

Keywords: economic growth, tax revenue, real economic growth, direct and indirect tax

Introduction

The level of economic growth and development of any economy depends on the amount of the revenue generated and channeled towards the development of the country, one of the sure way of generating revenue is through tax. A country's tax system is a major determinant of the macroeconomic indexes for developed and developing economies; hence, there exist a relationship between the tax structure and the level of economic growth (Libabatu, 2014). Kiabel (2009) and Vincent (2001) argued that there is a strong relationship between the level of economic growth, tax base and tax policy objectives which vary with the stages of development. Similarly, the economic criteria by which a tax structure is to be judged and relative importance of each tax source vary over time (Vincent, 2001). Using tax as a source of revenue generation in financing development activities in Nigeria has been a difficult issue primarily because of various forms of resistance, such as evasion, avoidance and corruption in the administration. These activities are considered as sabotaging the economy and government readily present them as reasons for the underdevelopment of the country.

The purpose of government among others is to provide basic amenities, protect the lives and property of the citizens and create the enabling environment for individual and corporate organization to strive. However, for the government to carry out this responsibility, it needs to mobilize revenue through taxation of the citizens and corporate organization. Thus the whole essence of tax is to generate revenue which could be used to advance the welfare of the citizen and to regulate the economy (fiscal policy). While taxation plays a significant role in income redistribution, protection of weak and infant industry, the revenue generated through it plays a crucial role in promoting economic growth and development. However, if the tax is

poorly administered the revenue generated will not contribute much to economic growth and development.

In Nigeria, tax revenue contributes the highest revenue to the federation account which is shared by the three tiers of government- federal, state and local governments. The tax system is structure in line with the fiscal power of the tiers of government with each having different tax jurisdictions. However, as observed by Odusola (2004), the tax system is lopsided and dominated by oil revenue which accounted for at least 70% of the revenue; this indicates that traditional tax revenue has never assumed a strong role in the country's management of fiscal policy. Revenue generated through tax has not meet the expectation of government. Government has equally expressed this disappointment and is working towards expanding the non oil tax revenue (Festus & Samuel 2007). It is in the light of the foregoing that this study examines the extent to which tax revenue has contributed to economic growth of Nigeria. The objective of this study is to evaluate the impact of tax policy on the economic growth of Nigeria for the last two decades.

Literature Review and Theoretical Framework

According to Dwivedi (2004), economic growth is a sustained increase in per capita national output or net national product over along period of time. It implies that the rate on increase in total output must be greater than the rate of population growth. Another quantification of economic growth is that national output should be composed of such goods and services which satisfy the maximum want of the maximum number of people. Economic growth can be determined by four important determinants namely, human resources, national resources, capital formation and technological development. The theories of economic growth can be examined under the Harrod-Domar theory of growth, Kaldor model of distribution, Pasinetti model of profit and growth, Joan Robinson's model of capital accumulation, Meade's Neo Classical model of economic growth and the slow model of long run growth. All this models of economic growth the various views of scholars on the most suitable explanation of growth. Tax is a compulsory levy imposed on a subject or upon his property by the government to generate needed revenue required to provide security, social amenities and create conditions for the economic well-being of the society (Appah and Oyandonghan, 2011). Tax is imposed by government for various purposes ranging from revenue generation, income distribution, and protection of weak or infant industry to regulation of the macro economy. In line with this, Anyanfo (1996) posits that tax can be imposed to regulate the production of certain goods and services, protection of infant industries, control business and curb inflation, reduce income inequalities etc.

The overview of Nigeria tax system

The Nigerian tax system is basically made of the tax policy, tax laws and tax administration. According to Odusola (2006) the Nigeria tax system is basically structured as a tool for revenue generation. This is a legacy from the pre-independence government based on 1948 British tax laws and have been mainly static since enhancement. The need to tax personal incomes throughout the country prompted the Income Tax Management Act (ITMA) of 1961. In Nigeria, personal income tax (PIT) for salaried employment is based on a pay as you earn (PAYE) system, several amendments have been to the 1961 ITIMA Act. Taxation in Nigeria is enforced by the three (3) tiers of government, i.e. federal, state, and local government with each having its sphere clearly spelt out in the levies (approved) list to investors both foreign and local. The major tax laws in existence as of September 2003, and various related amendment include the following

- (i) Personal Income Tax Act of 1993

- (ii) Companies Profits Tax of 1990
- (iii) Petroleum Profits Tax Act of 1990
- (iv) The Petroleum Tax Act of 1990;
- (v) Value Added Tax Act of 1990;
- (vi) Education Tax Act of 1993
- (vii) Capital Gain Act of 1990
- (viii) Customs and Excise Management Act of 1990;
- (ix) 1999 Constitution of the Federal Republic of Nigeria.

Most of the tax laws still in effect date back to the military era. The civilian regime, which has ruled the country since 1999 is yet to enact tax laws despite critical pending issues. With the exception of the 1999 Constitution, the laws have been amended on a yearly basis in conjunction with the annual budget to correct loopholes and to promote their use as macroeconomic management instruments.

In line with fiscal federalism, court jurisdiction over tax matters reflects the three tiers of government. The federal high courts have jurisdiction over Company Income Tax, Petroleum Profit Tax, Custom and Excise Duties as well as Stamp Duties and Corporate Capital Gains Tax, and Education Tax. Personal Income Tax (PIT) and capital gains tax and stamp duties payable by individuals are legislated by the federal government, but collected by state authorities. The fact that any appeal to the VAT tribunal is handled by the court of appeal confirms that VAT adjudication jurisdiction of the magistrate courts. (Odusola, 2006).

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) and Arnold (2011) provided different explanations of taxes on economic growth. Engen and Skinner (1996) in their study of taxation and economic growth of U.S. economy, large sample of countries and use of evidence from micro level studies of labour supply, investment demand, and productivity growth. Their result suggests modest effects on the order of 0.2 to 0.3 percentage points' differences in growth rates in response to a major reform. They stated that such small effects can have a large cumulative impact on living standards. Tosun and Abizadeh (2005) in their study of economic growth of tax changes in OECD countries from 1980 to 1999 reveal that economic growth measured by GDP per capita has a significant effect on the tax mix of GDP per capita. It is shown that while the shares of personal and property taxes have responded positively on economic growth, shares of the payroll and goods and services taxes have shown a relative decline. Arnold (2011) in their study 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) investigating 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 exists long run equilibrium relationship between GDP and the independent variables. They used the Augmented Dickey-Fuller test for the unit root test and the Johansen's Co-integration test and Error correction technique to run the regression analysis. The Augmented Dickey- Fuller test conducted on the variables showed that all the series were stationary at 1(1) and that the series were significant between 1 and 5 percent except for companies' income tax and

customs In another study by Worlu and Nkoro (2012) on tax revenue and economic development in Nigeria utilizing least square regression method of analysis, claimed that tax revenue stimulates economic growth through infrastructural development but that tax revenue has no independent effect on growth through infrastructural development and foreign direct investment.

Success, Success and Ifurueze (2012) studied the impact of petroleum profits tax on economic development (2000-2010) using the ordinary least square method of analysis and posited that petroleum profits tax has significant and positive impact on the gross domestic product (used as proxy for economic growth) of Nigeria. They claimed that the coefficient of determination indicates that petroleum profits tax contribute 72% to the gross domestic product using oil revenue and petroleum profits tax as regressors. They argued that petroleum profits tax and oil revenue are determinants of growth of the gross domestic product of the Nigerian economy which will subsequently lead to economic development via the multiplier effect. They showed no evidence of whether a unit root test was conducted for the time series data collected to ascertain the stationarity effect.

Lea and Gordon (2005) conceive, how tax strategies affect the growth of country, by means of both cross sectional and time series information between 1970-1997. They observe, that the company tax rate is negatively connected, with growth in a cross section fact of seventeen nations, managing for other economic growth stimulators and tax variables. According to estimates, by reducing commercial tax by ten percent, increase yearly growth rate by approximately 1.1 percent, while in permanent effect regressions, increase incorporate tax rates gives the low growth rate, in future, within countries.

Theoretical Framework

Expediency Theory: The theory is one which explains the economy, effectiveness and efficiency of tax collection instrument. It is embedded in the canon of economics as it sees taxation as a set of powerful policy tools to the authorities and which should be effectively used for remedying macroeconomic and social ills of the society ranging from income inequalities, regional disparities, and unemployment revenue mobilization and so on (Chigbu, Eze & Ebimobewe, 2011). The means that every proposed tax policy must pass the test of practicality and that must be the only consideration government authority should consider in choosing a tax policy.

Ability to Pay Theory: The theory holds that individual should pay taxes in proportion to their capacity. This means that people with higher income should pay more than people with lower income. In the context of this study one's ability to pay may suggest that as more and more expenditure are incurred by a person the same should pay more tax and vice versa. The ability-to-pay theory can also be termed the equality of sacrifice theory by Adam, (1776), this theory which has gained popularity on the grounds of the true meaning of 'ability' of the individual believe on a just and fair means of taxing citizens. This could be the reason why most economies of the world today accept income as the best measurement of one's ability to pay.

The canons of taxation give credence to this theory, and stress the capacity of the contributor to the common pulse of the State to make such contribution at a time and in manner that it is most convenient.

Section III

The study was based on ex-post facto design and used time series data sourced from Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service (FIRS), were used in this study. The macroeconomic data used are tax revenue (TR), which include revenue from Petroleum Profit Tax (PPT), Company Income Tax (CIT), Value Added Tax (VAT), Custom And Excise Duty (CED), Capital Gain Tax (CGT), Education Tax (EDT) and Economic Growth (EG) proxy by Real Gross Domestic Product (RGDP) between 1997 and 2016 in Nigeria. Increased tax revenue is expected to have a direct effect on grossdomestic product, so the model specification shall be:

$$RGDP = f(PPT, CIT, VAT, EDT, CGT, CED) \dots\dots\dots 1$$

This can be econometrically expressed as

$$RGDP_t = \beta_0 + \beta_1 PPT_t + \beta_2 CIT_t + \beta_3 VAT_t + \beta_4 EDT_t + \beta_5 CGT_t + \beta_6 CED_t + e_t \dots 2$$

Method of Analysis

The study used Augmented Dickey Fuller test to check for the presence of a unit root i.e the stationary of the variables and to what degree. Johansen co - integration test was used to check for long run relationship that exists among the variables in the model. In the short-run, deviations from the long-run relationship established could occur due to shocks to any of the variables. The Error Correction Model (ECM) was therefore used to test the speed of adjustment from short run to long-run equilibrium and correct or eliminate the discrepancy that occurs in the short-run. That is to test if the past of the explanatory variables contains information that can be used to predict the future of the dependent variable.

4.0 Data Analysis and Interpretation

Unit root test was used to test for stationary of the data, Granger causality was used to test the cause of the independent variables on the dependent variable while Vector Error Correction Model the Co-integration test was used to determine whether a long-term relationship exist and speed of adjustment.

Unit Root Test

In other to test for stationarity of the data, the study carried out the unit root using Augmented Dickey Fuller (ADF). The summary of the result is presented below.

Variables	Order of integration	ADF @ level	1% (CV)	5% (CV)	10% (CV)
RGDP	1 (1)	-5.417701	-4.616209	-3.710482	-3.297799
PPT	1 (1)	-6.398597	-4.571559	-3.690814	-3.286909
CIT	1 (0)	-5.912865	-4.571559	-3.690814	-3.286909
VAT	1 (1)	-5.862872	-4.616209	-3.710482	-3.297799
CED	1 (0)	-5.091527	-4.571559	-3.690814	-3.286909
CGT	1 (0)	-5.856799	-4.593834	-3.640732	-3.278894
EDT	1 (1)	-5.167594	-4.624399	-3.545560	-3.267428

The stationarity result shows that CIT and CED and CGT are stationary at level. While RGDP, PPT, VAT and RDT are stationary at first order, that is after first differential was taken. These results imply that the regression results that would be obtained from the models specified in (Equation 2) would return spurious results if there is no long-run relationship among the variables in the model. As such, co -integration properties of the variables were investigated.

Co-integration tests

Co-integration tests: The hypothesis of co-integration is accepted if the number of co-integrating relationships is greater than or equal to one. Consequently, the Johansen co-integration results are presented below in Table 4. The co-integration test between RGDP, PPT, CIT, VAT, CED, CGT and EDT is supported at lag 2 by Final prediction error (FPE), Akaike information criterion (AIC) and HQ: Hannan-Quinn information criterion (HQ).

Table 4: Unrestricted Cointegration Rank Test

Hypothesized No of CE(s)	Max- Eigen statistics	Prob. value5%	Trace statistics	Prob. Value 1%
Co-integration Rank Test for RGDP and PPT				
None*	29.2086	0.0363	45.8430	0.0032
At most 1*	27.4144	0.0098	27.4144	0.0098
At most 2	18.9481	0.2377	24.3876	0.1394
Co-integration Rank Test for RGDP and CIT				
None *	40.2391	0.0045	72.4533	0.0063
At most 1*	37.3146	0.0051	37.3146	0.0051
At most 2	21.8320	0.2349	25.1576	0.1971
Co-integration Rank Test for RGDP and VAT				
None *	37.9301	0.0074	55.3557	0.0037
At most 1*	33.8481	0.0095	33.8481	0.0095
At most 2	15.7384	0.4359	9.56776	0.3441
Co-integration Rank Test for RGDP and CED				
None *	34.3454	0.0062	45.2447	0.0037
At most 1*	31.7433	0.0047	31.7433	0.0043
At most 2	14.8984	0.7844	13.2576	0.5292
Co-integration Rank Test for RGDP and CGT				
None *	32.8701	0.0074	44.6317	0.0023
At most 1*	29.2331	0.0089	29.2331	0.0066
At most 2	09.8494	0.7539	9.1196	0.4851
Co-integration Rank Test for RGDP and EDT				
None *	36.3501	0.0352	46.2057	0.0031
At most 1*	32.4781	0.0045	38.1581	0.0037
At most 2	11.9484	0.1359	19.3186	0.4771

Source: researcher (2017) summary from e-view software 9.

From the Johansen co-integration test results presented in Table 4 below, the Trace statistic indicates two co-integrating equations judging from the P-values at None* and 1* which are both significant at 1% level. The Max-Eigen statistic also indicates two co-integrating equations judging from the P-values at None* and 1* which both showed a significant level of 1%. The result reveals that the co-integrating relationships is greater than one, and the null hypothesis of no co-integration was rejected in favour of the alternative hypothesis that the variables used in model 2 are co-integrated.

Vector error correction mechanism

The error correction model (ECM) was used to capture the short run and long-run behaviour of the variables.

Variables	Coefficient	T-statistics	Probability -value
D(PPT(-1))	11.2706	4.5368	0.0033*
D (CIT(-1))	4.4928	2.9786	0.02371**
D (VAT(-1))	1.3187	2.4771	0.0446**
D (CED(-1))	2.8446	3.5368	0.0033*
D (CGT(-1))	0.2988	0.7786	0.2671
D (EDT(-1))	0.8755	0.3577	0.1046
ECM (-1)	0.6539	2.9326	0.0164*
R-sq(adj)	0.6149		
F-statistics	11.6499		
F-statistics Prob. Value	0.006**		

Source: researcher (2017) summary from e-view software 9. Note: * 1%; ** 5% sign level

The result reveals that CGT and EDT with one year lag has no statistical significant effect on economic growth of Nigeria. PPT, CIT, VAT and CED with one year lag has statistical significant effect on the economic growth in Nigeria. The long-run error correction mechanisms (ECM) proved to be statistically significant in correcting the disequilibrium at lag one in the model. It shows that about 65% correction is made to the disequilibrium result from the co-integrating vector, at every one year to position tax revenue to its equilibrium root. This also means that tax revenue adjusts rapidly to changes in the economic growth variables. The R-squared adjusted of 0.6149 shows that the tax policy variables can jointly explain about 61.49% of changes economic growth of Nigeria. The F-statistic probability value of 0.006 shows that the regression result is statistically significant.

Conclusion and Recommendations

The co-integration results show that there is a long run relationship between Tax revenue and economic growth. The Vector Error Correction mechanism shows that growth in tax revenue has direct impact on the economic growth. The government desire to achieve sustainable economic growth and development can fulfilled through sustained increase in tax revenue. This behaviour is often reflected in their desire to generate more revenue through tax by block tax loop holes with policy and program among them is the just introduced voluntary asset and income declaration (VAIDs) etc. However, the sustained increase in government revenue can only translate into sustained economic growth if the revenue generated is channeled toward building of capital stocks and human resource development.

Our result reveals that CGT and EDT with one year lag has no statistical significant effect on economic growth of Nigeria. PPT, CIT, VAT and CED with one year lag has statistical significant effect on the economic growth of Nigeria. Based on the findings of this study, the following recommendations were proffered.

1. To boost economic growth in Nigeria, government should ensure the tax revenue generated are channeled toward building capital stock that can create more jobs which will generate more revenue to government through other forms of tax.
2. The government should use tax policy more as a macroeconomic policy not just as a tool for revenue generation as this will result to long run sustain economic growth and tax revenue.

3. Government should ensure all tax loopholes are minimized or blocked and Corporate and Individual tax evasion should be properly investigated and sanctions metted out.

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