TAXATION AND ECONOMIC DEVELOPMENT OF NIGERIA: 2006 – 2018

BY
ODOGU, ISAAC LAIME,
OBALAKUMO, PEREOWEI ANDERSON
OPUOFONI, CAPTAIN AYIBAKARI

Abstract

This paper examines the impact of taxation on the economic development of Nigeria for the period 2006 – 2018. The paper used secondary data from the Central Bank of Nigeria (CBN) and Federal Inland Revenue Service (FIRS). The secondary data collected were analysed using multiple regression, diagnostic test and granger causality test. The results showed that taxation is statistically significant to economic development. On the basis of the findings, the paper concludes that taxation as an instrument of fiscal policy stimulate economic development in terms of growth, increase in per capita income, infrastructural development and decrease in inflation. Therefore, the paper recommends that the government need to improve on the income tax collection process to enable more individuals disclose their income for tax assessment and thereby increase in the revenue generation process of government for the provision of social goods for the citizens.

Keywords: *Economic Growth, Development, Per Capita Income, Taxation,*

Introduction

The process of Nation-building is slow and complex but is now increasingly recognized as the necessary condition for effective socio-economic development. Hence, the political, economic and social development of any country depends on the amount of revenue generated, for the provision of infrastructure in that given country. However, one means of generating the amount of revenue for providing the needed infrastructure is through a well structured tax system. Therefore, the state-building approach to taxation, therefore, recognizes tax as one of the few core capabilities that any state needs in order to function effectively (Wambai and Hanga, 2013). Hence, taxation is 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 members of any particular society (Ola, 2001; Nwezeaku, 2005; Appah, 2014). Taxation remains one of the most important sources of generating revenue for the government for the purposes of providing infrastructure and running government (Umeora, 2013). According to Azubike (2009), a tax system is an opportunity for government to collect additional revenue needed in discharging its pressing obligations. A tax system offers itself as one of the most effective tools of mobilizing a nation's internal resources and it lends itself to creating an environment conducive to the promotion of economic development. According to Nzotta (2007), Kiabel (2011) taxation plays key functions in every society. First, a tax is a compulsory contribution made by the citizens to the government and this contribution is for general common use. Secondly, a tax imposes a general obligation on the taxpayer. Thirdly, there is a presumption that the contribution to the public revenue made by the tax payer may not be equivalent to the benefits received. Finally, a tax is not imposed on a citizen by the government because it has rendered specific services to him or his family. Thus, it is evident that a good tax structure plays a multiple role in the process of economic development of any nation of which Nigeria is not an exception.

According to Ogbonna and Appah (2011), tax is a major source of government revenue all over the world. Government use tax proceeds to render their traditional functions, such as the provision of public goods, maintenance of law and order, defense against external aggression, regulation of trade and business to ensure social and economic maintenance. Azubike (2009), Musgrave and Musgrave (2004) also stated that the economic effects of tax include micro effects on the distribution of

income and efficiency of resource use as well as macro effect on the level of capacity output, employment, prices, and growth. It has been observed over the years that income tax revenue has generally been grossly understated due to improper tax administration arising from under assessment and inefficient machinery for collection (Ola, 2001; Oluba, 2008; Adegbie and Fakile, 2011).

The importance of taxation and its revenue on the economic development of Nigeria cannot be over emphasized. Taxation is an important instrument for fiscal policy which can be used for mobilizing resources for capital formation in the public sector. To raise ratio of savings to national income and thereby raise resources for development, it is necessary that marginal saving rate be kept higher than average saving rate. By imposition of direct progressive taxes on income and profits and higher rates of direct taxes such as exercise duties and sales tax on luxury goods for which income elasticity of demand is higher, the marginal saving rate can be made higher than the average rate. This will cause a continuous increase in saving rate and development in the economy (Ahuja, 2012).

Consequently, an efficient and effective tax administration results in increased revenue yield, but this is not possible because of the presence of evasion and avoidance due to loop holes in the tax laws. On the other hand, people do not expect that by sacrificing their private resources to the state in the form of taxes, government is expected to reciprocate by spending public revenue in a way that will enhance their welfare. Government and tax collectors have been dubious mismanaging public treasury. There is high level of manipulation and diversion of tax revenue by the collectors. The dwindling tax revenue as presently witnessed results from lack of encouragement to the taxpayers, due to the fact that there is very little evidence to show for taxes collected. For these reasons, there are increased cases of tax evasion. Therefore, this study on the impact of taxation revenue on economic development in Nigeria is to add to the growing call for tax revenue role to achieve macroeconomic objectives. Folorunsho (2010) while arguing on the need for government at all levels to mobilize its citizen to pay tax states that

> the present state of the Nigerian economy is such that the level of decay in infrastructural facilities is so much that government at all levels require all available resources they can put together in order to combat this critical state. And, in the face of dwindling oil revenues resulting from falling crude oil prices and agitation-cum violence in the Niger Delta, attention of governments at all levels is now focused on internally generated revenue, mainly from taxation".

The objective of this study therefore, is to examine the relationship taxation and economic development in Nigeria. To achieve this objective, the paper is divided into five interconnected sections. The next section presents the review of relevant literature. Section three examines the materials and methods used in the study. Section four presents the results and discussion and the final section examines the conclusion and recommendations.

Literature Review
Theories of Taxation

A taxation theory may be based on a link between tax liability and state activities. It would assume that the state should charge the members of the society for the services provided by it. This reasoning, on the one hand, justifies imposition of taxes for financing state activities and on the other, by inferences, provides a basis, for apportioning the tax burden between members of society (Bhartia, 2004; Ogbonna and Appah, 2012; Appah, 2014).

The Expediency Theory:

This theory asserts that every tax proposal must pass the test of practicability. It must be the only consideration weighing with the authorities in choosing a tax proposal. Economic and social objectives of the state as also the effects of a tax system should be treated as irrelevant. Taxation provides a powerful set of policy tools to the authorities and should be effectively used for remedying economic and social ills of the society such as income inequalities, regional disparities, unemployment, cyclical fluctuations, and so on.

The Socio-Political Theory:

This theory states that a tax system should not be designed to serve individual members of the society, but should be used to cure the ills of society as a whole.

The Benefits-Received Theory:

This theory proceeds on the assumption that there is basically an exchange or contractual relationship between tax –payers and the state. The state provides certain goods and services to the members of the society and they contribute to the cost of these supplies in proportion to the benefits received.

The Cost of Service Theory:

This theory is very similar to the benefits – received theory. It emphasis the semi-commercial relationship between the state and the citizens to a greater extent. The implication is that the citizens are not entitled to any benefits from the state and if they do receive any, they must pay the cost thereof.

Ability to Pay Theory:

According to this theory, a citizen is to pay taxes just because he can, and his relative share in the total tax burden is to be determined by his relative paying capacity. The basic tenet of this theory is that the burden of taxation should be shared by the members of society on the principles of justice and equity, and that these principles necessitates that the tax burden is apportioned according to their relative ability to pay.

Meaning of Taxation

Taxation, in a simple language, can be defined as a compulsory non-quid-pro-quo withdrawal of resources from the private sector of the economy (Emerenini, 2003). Anyanwu (1993) defined taxation as the compulsory transfer or payment (or occasionally of goods and services) from private individuals, institutions or groups to the government. Similarly Jhingan (2004), Nzotta (2007), Ola (2001), Osiegbu, Onuorah and Nnamdi (2010), Bhartia (2004), Anyanfo (1996), Musgrave and Musgrave (2004), defined taxation as follows: "a compulsory contribution imposed by a public authority, irrespective of the exact amount of service rendered to the taxpayer in return". "a compulsory contribution from a person to the government to defray the expenses incurred in the common interest of all, without references to special benefits conferred".

Objectives of Taxation
According to Anyanwu (1997), there are three principal objective of taxation. These are to raise revenue for the government, to regulate the economy and economic activities, and to control income and employment. Anyanfo (1996) Anyanwu (1997), Bhartia (2004), Jhingan (2004), Musgrave (2004), Appah (2004), Ogbonna and Appah (2012) therefore, the objective of taxation can be explained as follows:

To Raise Revenue:
The primary objective of taxation is to raise revenue for the government. Such funds collected are necessary for the provision of essential services to the people. These services include, provision of social amenities etc.

To Regulate the Production of Certain commodities:
The government may impose certain taxes to regulate and control the production of certain commodities considered harmful or injuries to the health of either the worker or the consumer.

To Regulate and Control the Consumption of Certain Commodities:

The government imposes taxes to regulate and control the consumption of certain commodities considered either as harmful, injuries or too luxuries\non-essential. This sumptuary taxation can be levied in expensive clothing.

To Protect Infant Industries:
Protective tariffs are also imposed to prevent the demise of infant local industries as a result of foreign competition. Import duties are specifically designed to serve this purpose.

To Control Business and Commerce:
Taxes are imposed to influence the form, method and kind of business. The underlying motive may be to protect or subsidize the said business or commerce. Negative tax is usually adopted to encourage any form of business.

To control Monopoly:
Certain types of taxes be anti-monopoly in purpose. Such taxes include undistributed profits tax, excess profit tax, consolidated return tax.

To curb inflation:
Certain taxes are imposed to stabilize prices with reasonable level of full employment and economic growth. Thus, higher taxation unaccompanied by increased government expenditure will increase consumers' purchasing power and hence help to check inflation.

To Prevent Dumping:
Certain taxes are also imposed, to serve as anti-dumping device, since there is the tendency for certain industrialized nations\dumping their relative cheap commodities.

To Control Income and Employment:
When the employment problem is viewed as one of over-all purchasing power flows, the tax system can be adjusted to remedy the situation. The motive here may be to provide incentive to save and invest which will then, through the multiplier process, accelerate income and thus increase employment.

To Allocate Resources:
Taxation is also aimed at allocating resources between, for example, private and public goods and between investment and consumption of goods. It may also be aimed at correcting deficiencies in the pricing mechanisms resulting.

Economic Development

Development is a multidimensional process involving major changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequalities, and the eradication of poverty. Development, in its essence, must represent the whole gamut of change by which an entire social system, tuned to the diverse basic needs and desires of individuals and social groups within that system, moves away from a condition of life widely perceived as unsatisfactory toward a situation or condition of life as materially and spiritually better (Torado and Smith. 2009). It also defined as the process of prolong and sustained increases in the real national income of a country accompanied by positive changes in the economic, technological, social, and political structures of the economy such that the real income per capital of the nation increases over a long period of time subject to the stipulation that the number of people below the poverty line does not become more un – equal and development does not become less sustainable environmentally.

According to Torado and Smith (2009), development in all societies must have at least the following three objectives:
1. To increase the availability and widen the distribution of basic life sustaining goods such as food, shelter, health and protection.
2. To raise levels of living including, in addition to higher incomes, the provision of more jobs, better education, and greater attention to cultural and human values, all of which will serve not only to enhance material well-being but also to generate individual and national self-esteem.
3. To expand the range of economic and social choices available to individuals and nations by freeing them from servitude and dependence not only in relation to other people and nation-states but also to the forces of ignorance and human misery.

Economic Development Theories

The emergence of economic growth theories can be traced back to Adams Smith's Wealth of Nations. In Smith's view, economic growth of a nation strictly speaking, 'wealth of Nations' depends on the division of labour and is limited by the limits of division of labour. The Smithian view was later superceded by the view of Richardo, Malthus and Mill. The growth theories suggested by these great economists are collectively called classical theory of economic growth. And then, during the nineteen thirties and forties, R.F. Harrod and Dumar developed a path breaking theory of economic growth-the capital accumulation theory of economic growth, popularly called Harrod-Domar growth model.

Prior Empirical Studies

Engen and Skinner (1996) in their study of taxation and economic growth of U.S economy, large sample of countries and the use of evidence from microlevel 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 tax 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 the OECD countries. The analysis reveals that different taxes respond to the growth of the GDP per capita. It is shown that while the shares of personal and property taxes have responded positively to economic growth, shares of the payroll and goods and services taxes have shown a relative decline.

Arnold, Brys, Heady, Johansson, Schwellnus and Vartia (2011) in their paper entitled "Tax policy for Economic Recovery and Growth" found that short term recovery requires increase in demand

while long term growth requires increase in supply. As short term tax concessions can be hard to reverse, this implies that policies to alleviate the crisis could compromise long run growth.

Owolabi and Okwu (2011) examined the contribution of Value Added Tax to Development of Lagos State Economy, using simple regression models as abstractions of the respective sectors considered in the study. The study considered a vector of development indicators as dependent variables and regressed each on VAT revenue proceeds to Lagos State for the study period. Development aspects considered included infrastructural development, environmental management, education sector development, youth and social development, agricultural sector development, health sector development and transportation sector development. The results showed that VAT revenue contributed positively to the development of the respective sectors. However, the positive contribution was statistically significant only in agricultural sector development. On the aggregate, the analysis showed that VAT revenue had a considerable contribution to development of the economy during the study period.

Also Unegbu and Irefin(2011) in their paper, the impact of value added tax (VAT) on economic and human developments of emerging Nations from 2001 to 2009 , using regression, discriminant analysis and ANOVA, found out that VAT allocations have a very significant impact on expenditure pattern of the state during the same period. Also observed that, the perceptions by the citizenry across the administrative areas of the state suggest that VAT has minimum impact level on the economic and human developments of Adamawa State from 2001 to 2009.

Adegbie and Fakile(2011) concentrated on the Company Income Tax and Nigeria Economic Development relationship. Using Chi-square and Multiple Linear Regression analysis in analyzing the primary and secondary data respectively and concluded that there is a significant relationship between company income tax and Nigerian economic development. And that tax evasion and avoidance are major hindrances to revenue generation. Lee and Gordon (2004) in their paper, Tax structure and economic growth, explore how tax policies affect a country's growth rate, using cross-country data during 1970–1997. Their findings revealed that statutory corporate tax rates are significantly negatively correlated with cross-sectional differences in average economic growth rates, controlling for various other determinants of economic growth, and other standard tax variables. And also, that in fixed-effect regressions increases in corporate tax rates lead to lower future growth rates within countries.

Ogbonna and Appah (2012) examined the Impact of Tax Reforms and Economic Growth of Nigeria using relevant descriptive statistics and econometric analysis and concluded that the various test shows that tax reforms is positively and significantly related to economic growth and that tax reforms granger cause economic growth. Also, that tax reforms improves the revenue generating machinery of government to undertake socially desirable expenditure that will translate to economic growth in real output and per capita basis.

Worlu and Nkoro (2012) investigated the impact of tax revenue on the economic growth of Nigeria, judging from its impact on infrastructural development from 1980 to 2007. To achieve this objective, relevant secondary data were collected from the Central Bank of Nigeria(CBN) Statistical Bulletin, Federal Inland Revenue Service (FIRS) and previous works done by scholars. The data collected were analyzed using the three stage least square estimation technique. The results show that tax revenue stimulates economic growth through infrastructural development. That is, it highlights the channels through which tax revenue impacts on economic growth in Nigeria. The study also reveals that tax revenue has no independent effect on growth through infrastructural development and foreign direct investment, but just allowing the infrastructural development and foreign direct investment to positively respond to increase in output.

Methodology

The time series data for the study were sourced from Statistical Bulletin of the Central Bank of Nigeria (CBN) and Federal Inland Revenue Service (FIRS) for taxation and economic development indicators for the period 2006 – 2018. Excel software helped us to transform the variables into format suitable for analysis, after which the econometric view (E-view) was used for data analysis. The ordinary least square was adopted for the purpose of hypothesis testing. The ordinary least square was guided by the following linear model:

ECOD = f (PITR, CITR, PPTR, VATR) --- 1
$LnGDP = \alpha + \beta1LnPITR1t + \beta2LnCITR2t + \beta3LnPPTR3t + \beta4LnVATR5t + \varepsilon$ --------------- 2
$LnPCI = \alpha + \beta1LnPITR1t + \beta2LnCITR2t + \beta3LnPPTR3t + \beta4LnVATR5t + \varepsilon$ ----------------- 3
$LnIFD = \alpha + \beta Ln1PITR1t + \beta2LnCITR2t + \beta3LnPPTR3t + \beta4LnVATR5t + \varepsilon$ ---------------- 4
$LnINR = \alpha + \beta Ln1PITR1t + \beta2LnCITR2t + \beta3LnPPTR3t + \beta4LnVATR5t + \varepsilon$ ---------------- 5
This is B1 – β4>0 for equation 2; B1 – β4<0; for equation 3; B1 – β4>0 for equation 4 and B1 – β4<0 for equation 5.
Where:
ECOD = Economic Development, Personal Income Tax Revenue, CITR = Companies Income Tax Revenue, VATR, Value Added Tax Revenue, PPTR = Petroleum Profit Tax Revenue, α is the intercept of the regression, β1, β2, β3 and β4, are the coefficients of the regression, while ε is the error term capturing other explanatory variables and explicitly included in the model.However, the model was tested using the diagnostic tests of heteroskedasitcity, serial correlation, normality and misspecification (Gujarati and Porter, 2009; Asterious and Hall, 2007). Augmented Dickey-Fuller was also used in the study for stationarity of data.

Results and Discussions
Hypothesis One

There is no significant relationship between tax revenue and economic growth of Nigeria.

Model two (2) in was used for the purpose of hypothesis one:

$LnGDP = \alpha + \beta1LnPITR1t + \beta2LnCITR2t + \beta3LnPPTR3t + \beta4LnVATR5t + \varepsilon$ --------------- 2

Diagnostic Tests:

Table 1: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	6.929189	0.121336
	Probability	
Obs*R-squared	13.34731	0.101264
	Probability	

Source: e-view output
Table 1 shows the Breusch – Godfrey Serial Correlation LM test for the presence of auto correlation. The result reveals that the probability values of 0.12 (12%) and 0.10 (10%) is greater than the critical value of 0.05 (5%). This implies that there is no evidence for the presence of serial correlation.

Table 2: White Heteroskedasticity Test:

F-statistic	0.942165	0.496821
	Probability	
Obs*R-squared	9.519861	0.483577
	Probability	

Source: e-view output
Table 2 shows the White Heteroskedasticity test for the presence of heteroskedasticity. The econometric result reveals that the probability values of 0.496 (50%) and 0.483 (48%) are considerably in excess of 0.05 (5%). Therefore, there is no evidence for the presence of heteroskedasticity in the model.

Table .3: Ramsey RESET Test:

F-statistic	0.067894	Probability	0.794795
Log likelihood ratio	0.071133	Probability	0.789695

Source: e-view
output

Table 3 shows the Ramsey RESET test for misspecification. The econometric result suggests that the probability values of 0.794 (79%) and 0.789 (79%) are in excess of the critical value of 0.05 (5%). Therefore, it can be seen that there is no apparent non-linearity in the regression equation and so it would be concluded that the linear model for the accounting services is appropriate.

Table 4 Multiple Regression Results/Output for all Hypothesis
Dependent Variable: LnGDP
Method: Least Squares
Date: 06/03/20   Time: 07:00
Sample(adjusted): 2006 2018
Included observations: 13 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	286327.4	80872.94	3.540459	0.0041
LnPITR	977.4957	349.0664	2.800314	0.0160
LnCITR	1.771444	0.239146	2.407364	0.0420
LnPPTR	3.006314	4.086981	2.035583	0.0261
LnVATR	5.124505	1.864347	2.748686	0.0176
R-squared	0.435165	Mean dependent var	466619.5
Adjusted R-squared	0.362887	S.D. dependent var	176186.7
S.E. of regression	32060.78	Akaike info criterion	23.82858
Sum squared resid	1.23E+10	Schwarz criterion	24.07365
Log likelihood	-197.5430	F-statistic	117.7975
Durbin-Watson stat	2.105089	Prob(F-statistic)	0.000100

SOURCE: Eview Output 3.1

Table .4 shows the multiple regression analysis for tax revenue and economic growth of Nigeria using gross domestic product as a proxy for the period 2006 to 2018. The result suggests that PITR (Personal Income Tax Revenue), PPTR (Petroleum Profit Tax Revenue), CITR (Companies Income Tax Revenue) with p-values of 0.0160, 0.0420, 0.0261, and 0.0176 is less than the critical value of 0.05. Hence, we deduce that there is a significant relationship between tax revenue and economic growth in Nigeria for the period 2006 - 2018. The R^2 (coefficient of determination) of 0.435165 and adjusted R^2 of 0.362887 shows that the variables combined determines about 44% and 36% of economic growth of Nigeria. The F-statistics and its probability shows that the regression equation is well formulated explaining that the relationship between the variables combined are statistically significant (F-stat = 5.567008; F-pro. = 0.000100). This result is consistent with the findings of Ogbonna and Appah (2011), Ogbonna and Appah (2012), Chigbu, Akujuobi and Appah (2012) that taxation affects the economic growth of countries positively and significantly.

Table 5: Pairwise Granger Causality Tests
Date: 06/6/20   Time: 22:56
Sample: 2006 2018
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
LnPITR does not Granger Cause LnGDP	13	5.43344	0.65191

		F-Statistic	Prob.
LnGDP does not Granger Cause LnPITR		0.43698	0.01967
LnCITR does not Granger Cause LnGDP	13	4.56926	0.07771
LnGDP does not Granger Cause LnCITR		0.00236	0.02764
LnPPTR does not Granger Cause LnGDP	13	3.54714	0.06024
LnGDP does not Granger Cause LnPPTR		0.01421	0.03590
LnVATR does not Granger Cause LnGDP	13	5.04352	0.53227
LnGDP does not Granger Cause LnVATR		0.46406	0.03276

Source: e-view output

Table 5 shows granger causality tests results for the impact of taxation (PIT, CIT, PPT and VAT) on economic growth in Nigeria for the period 2006-2018. From the test results, the probability value of 0.65191 and 0.01967 of (LnPIT) and (LnGDP) of the F-statisitcs is greater than the critical values of 1%, 5%, 10%. This implies that personal income tax granger cause (impact) on economic growth (GDP) in Nigeria for the period under review and (LnGDP) does not granger cause (impact) on (LnPIT). The probability value of 0.07771 of (LnCIT) and (LnGDP) F-statistics is greater than the critical values of 1%, 5% and 10%. This means that companies income tax granger cause economic growth and also 0.02764 is less than the critical value of 5% and 10%, which implies that economic growth does not granger cause companies income tax. The probability value of the F statistics of 0.06024 is greater than the critical value of 1%, and 5% of petroleum profit tax does granger cause economic grwoth. But 0.03590 is less than 5% and 10%, which implies economic growth does not granger cause petroleum profit tax;. Finally, the probability statistics of 0.53227 is greater than the critical value of 1%, and 5% respectively. This means that value added tax granger cause economic growth. But the F statistics of 0.03276 is less than the critical value of 5% and 10%, which implies that economic growth does not granger value added tax. The granger causality analysis shows that there exists an impact of taxation variables on economic growth in Nigeria for the period 2006-2018. This result is consistent with the multiple regression result that there is a significant relationship between taxation and economic growth.

Hypothesis Two
HO2: There is no significant relationship between tax revenue and per capital income of Nigeria. Model three (3) in was used for the purpose of hypothesis two:

$$LnPCI = \alpha + \beta 1 LnPITR1t + \beta 2 LnCITR2t + \beta 3 LnPPTR3t + \beta 4 LnVATR5t + \varepsilon \text{ ------------------------- (3)}$$

Diagnostic Tests:

Table .6: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	6.929189		0.121336
		Probability	
Obs*R-squared	13.34731		0.101264
		Probability	

Source: e-view output
Table 6 shows the Breusch – Godfrey Serial Correlation LM test for the presence of auto correlation. The result reveals that the probability values of 0.12 (12%) and 0.10 (10%) is greater than the critical value of 0.05 (5%). This implies that there is no evidence for the presence of serial correlation.

Table .7: White Heteroskedasticity Test:

F-statistic	0.942165		0.496821
		Probability	

| Obs*R-squared | 9.519861 | | 0.483577 |
| | | Probability | |

Source: e-view output

Table 7 shows the White Heteroskedasticity test for the presence of heteroskedasticity. The econometric result reveals that the probability values of 0.496 (50%) and 0.483 (48%) are considerably in excess of 0.05 (5%). Therefore, there is no evidence for the presence of heteroskedasticity in the model.

Table .8: Ramsey RESET Test:

F-statistic	0.067894	Probability	0.794795
Log likelihood ratio	0.071133	Probability	0.789695

Source: e-view output

Table 8 shows the Ramsey RESET test for misspecification. The econometric result suggests that the probability values of 0.794 (79%) and 0.789 (79%) are in excess of the critical value of 0.05 (5%). Therefore, it can be seen that there is no apparent non-linearity in the regression equation.

Table 9 Multiple Regression Results/Output for all Hypothesis

Dependent Variable: LnPCI
Method: Least Squares
Date: 06/03/20   Time: 07:00
Sample(adjusted): 2006 2018
Included observations: 13 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	286327.4	80872.94	3.540459	0.0041
LnPITR	3.590017	1.540664	2.330265	0.0250
LnCITR	3.478734	1.239146	2.807364	0.0220
LnPPTR	2.973527	1.086981	2.735583	0.0215
LnVATR	4.005896	1.864347	2.148686	0.0364
R-squared	0.414665	Mean dependent var		466619.5
Adjusted R-squared	0.375687	S.D. dependent var		176186.7
S.E. of regression	32060.78	Akaike info criterion		23.82858
Sum squared resid	1.23E+10	Schwarz criterion		24.07365
Log likelihood	-197.5430	F-statistic		117.7975
Durbin-Watson stat	2.105089	Prob(F-statistic)		0.000100

SOURCE: Eview Output 3.1

Table 9 shows the multiple regression analysis for tax revenue and per capita income of Nigeria for the period 2006 to 2018. The result suggests that PITR (Personal Income Tax Revenue), PPTR (Petroleum Profit Tax Revenue), CITR (Companies Income Tax Revenue) with p-values of 0.0250, 0.0220, 0.0215, and 0.0364 is less than the critical value of 0.05. Hence, we deduce that there is a significant relationship between tax revenue and per capita income in Nigeria for the period 2006-2018. The R^2 (coefficient of determination) of 0.414665 and adjusted R^2 of 0.375687 shows that the variables combined determines about 41% and 37% of economic growth of Nigeria. The F-statistics and its probability shows that the regression equation is well formulated explaining that the relationship between the variables combined are statistically significant (F-stat = 117.7975; F-pro. = 0.000100). Hence, taxation affect the per capital income of Nigeria for the period under review.

Table10: Pairwise Granger Causality Tests
Date: 06/6/20   Time: 22:56
Sample: 2006 2018

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
LnPITR does not Granger Cause LnGDP	13	5.43344	0.65191
LnGDP does not Granger Cause LnPITR		0.43698	0.01967
LnCITR does not Granger Cause LnGDP	13	4.56926	0.07771
LnGDP does not Granger Cause LnCITR		0.00236	0.02764
LnPPTR does not Granger Cause LnGDP	13	3.54714	0.06024
LnGDP does not Granger Cause LnPPTR		0.01421	0.03590
LnVATR does not Granger Cause LnGDP	13	5.04352	0.53227
LnGDP does not Granger Cause LnVATR		0.46406	0.03276

Source: e-view output

Table 10 shows granger causality tests results for the impact of taxation (PIT, CIT, PPT and VAT) on per capital inocme in Nigeria for the period 2006-2018. From the test results, the probability value of 0.65191 and 0.01967 of (LnPIT) and (LnPCI) of the F-statisitcs is greater than the critical values of 1%, 5%, 10%. This implies that personal income tax granger cause (impact) on per capital income in Nigeria for the period under review and (LnPCI) does not granger cause (impact) on (LnPIT). The probability value of 0.07771 of (LnCIT) and (LnPCI) F-statistics is greater than the critical values of 1%, 5% and 10%. This means that companies income tax granger cause per capita income and also 0.02764 is less than the critical value of 5% and 10%, which implies that per capita income does not granger cause companies income tax. The probability value of the F statistics of 0.06024 is greater than the critical value of 1%, and 5% of petroleum profit tax does granger cause per capita income. But 0.03590 is less than 5% and 10%, which implies per capita income does not granger cause petroleum profit tax. Finally, the probability statistics of 0.53227 is greater than the critical value of 1%, and 5% respectively. This means that value added tax granger cause economic growth. But the F statistics of 0.03276 is less than the critical value of 5% and 10%, which implies that per capita income does not granger value added tax. The granger causality analysis shows that there exists an impact of taxation variables on per capita income in Nigeria for the period 2006-2012. This result is consistent with the multiple regression result that there is a significant relationship between taxation and per capita income

Hypothesis Three

HO3: There is no significant relationship between tax revenue and infrastructural development of Nigeria.

Model four (4) in was used for the purpose of hypothesis three:

$LnIFD = \alpha + \beta_1 LnPITR1t + \beta_2 LnCITR2t + \beta_3 LnPPTR3t + \beta_4 LnVATR5t + \varepsilon$ -------------------- 4

Diagnostic Tests:

Table 11: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	6.929189	0.121336
	Probability	

Obs*R-squared	13.34731		0.101264
		Probability	

Source: e-view output

Table 11 shows the Breusch – Godfrey Serial Correlation LM test for the presence of auto correlation. The result reveals that the probability values of 0.12 (12%) and 0.10 (10%) is greater than the critical value of 0.05 (5%). This implies that there is no evidence for the presence of serial correlation.

Table 12 White Heteroskedasticity Test:

F-statistic	0.942165		0.496821
		Probability	
Obs*R-squared	9.519861		0.483577
		Probability	

Source: e-view output

Table 12 shows the White Heteroskedasticity test for the presence of heteroskedasticity. The econometric result reveals that the probability values of 0.496 (50%) and 0.483 (48%) are considerably in excess of 0.05 (5%). Therefore, there is no evidence for the presence of heteroskedasticity in the model.

Table 13: Ramsey RESET Test:

F-statistic	0.067894	Probability	0.794795
Log likelihood ratio	0.071133	Probability	0.789695

Source: e-view output

Table 13 shows the Ramsey RESET test for misspecification. The econometric result suggests that the probability values of 0.794 (79%) and 0.789 (79%) are in excess of the critical value of 0.05 (5%). Therefore, it can be seen that there is no apparent non-linearity in the regression equation and it is appropriate.

Table 14 Multiple Regression Results/Output for all Hypothesis
Dependent Variable: LnIFD
Method: Least Squares
Date: 06/03/20   Time: 07:00
Sample(adjusted): 2006 2018
Included observations: 13 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	286327.4	80872.94	3.540459	0.0041
LnPITR	3.566659	1.273664	2.800314	0.0160
LnCITR	3.144164	1.239146	2.537364	0.0420
LnPPTR	3.006314	4.086981	2.035583	0.0261
LnVATR	5.124505	1.864347	2.748686	0.0176
R-squared	0.435165	Mean dependent var		466619.5
Adjusted R-squared	0.362887	S.D. dependent var		176186.7
S.E. of regression	32060.78	Akaike info criterion		23.82858

Sum squared resid	1.23E+10	Schwarz criterion	24.07365
Log likelihood	-197.5430	F-statistic	117.7975
Durbin-Watson stat	2.105089	Prob(F-statistic)	0.000100

SOURCE: Eview Output 3.1

Table 14 shows the multiple regression analysis for tax revenue and infrastructural development of Nigeria for the period 2006 to 2018. The result suggests that PITR (Personal Income Tax Revenue), PPTR (Petroleum Profit Tax Revenue), CITR (Companies Income Tax Revenue) with p-values of 0.0160, 0.0420, 0.0261, and 0.0176 is less than the critical value of 0.05. Hence, we deduce that there is a significant relationship between tax revenue and infrastructural development in Nigeria for the period 2006 - 2018. The R^2 (coefficient of determination) of 0.435165 and adjusted R^2 of 0.362887 shows that the variables combined determines about 44% and 36% of economic growth of Nigeria. The F-statistics and its probability shows that the regression equation is well formulated explaining that the relationship between the variables combined are statistically significant (F-stat = 5.567008; F-pro. = 0.000100). This result is consistent with the findings of Worlu and Nkoro (2012) that taxation affects infrastructural development.

Table 15: Pairwise Granger Causality Tests
Date: 06/6/20   Time: 22:56
Sample: 2006 2018
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
LnPITR does not Granger Cause LnIFD	13	5.43344	0.65191
LnIFD does not Granger Cause LnPITR		0.43698	0.01967
LnCITR does not Granger Cause LnIFD	13	4.56926	0.07771
LnIFD does not Granger Cause LnCITR		0.00236	0.02764
LnPPTR does not Granger Cause LnIFD	13	3.54714	0.06024
LnIFD does not Granger Cause LnPPTR		0.01421	0.03590
LnVATR does not Granger Cause LnIFD	13	5.04352	0.53227
LnIFD does not Granger Cause LnVATR		0.46406	0.03276

Source: e-view output

Table 15 shows granger causality tests results for the impact of taxation (PIT, CIT, PPT and VAT) on infrastructural development in Nigeria for the period 2006-2018. From the test results, the probability value of 0.65191 and 0.01967 of (LnPIT) and (LnGDP) of the F-statisitcs is greater than the critical values of 1%, 5%, 10%. This implies that personal income tax granger cause (impact) on infrastructural development (IFD) in Nigeria for the period under review and (LnIFD) does not granger cause (impact) on (LnPIT). The probability value of 0.07771 of (LnCIT) and (LnIFD) F-statistics is greater than the critical values of 1%, 5% and 10%. This means that companies income tax granger cause infrastructural development and also 0.02764 is less than the critical value of 5% and 10%, which implies that infrastructural development does not granger cause companies income tax. The probability value of the F statistics of 0.06024 is greater than the critical value of 1% and 5% of petroleum profit tax does granger cause infrastructural development. But 0.03590 is less than 5% and 10%, which implies infrastructural development does not granger cause petroleum profit tax; Finally, the probability statistics of 0.53227 is greater than the critical value of 1%, and 5% respectively. This means that value added tax granger cause infrastructural development. But the F statistics of 0.03276 is less than the critical value of 5% and 10%, which implies that infrastructural development does not granger value added tax. The granger causality analysis shows that there exists an impact of taxation variable on infrastructural development in Nigeria for the period 2006 -2018. This result is consistent with the multiple regression result that there is a significant relationship between taxation and infrastructural development.

Hypothesis Four

HO4: There is no significant relationship between tax revenue and inflation of Nigeria.

Model five (5) in chapter three was used for the purpose of hypothesis one:

LnINF = α + β1LnPITR1t + β2LnCITR2t + β3LnPPTR3t + β4LnVATR5t + ε ------------------------ 5

Diagnostic Tests:

Table 16: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	6.929189		0.121336
		Probability	
Obs*R-squared	13.34731		0.101264
		Probability	

Source: e-view output

Table 16 shows the Breusch – Godfrey Serial Correlation LM test for the presence of auto correlation. The result reveals that the probability values of 0.12 (12%) and 0.10 (10%) is greater than the critical value of 0.05 (5%). This implies that there is no evidence for the presence of serial correlation.

Table 17: White Heteroskedasticity Test:

F-statistic	0.942165		0.496821
		Probability	
Obs*R-squared	9.519861		0.483577
		Probability	

Source: e-view output

Table 17 shows the White Heteroskedasticity test for the presence of heteroskedasticity. The econometric result reveals that the probability values of 0.496 (50%) and 0.483 (48%) are considerably in excess of 0.05 (5%). Therefore, there is no evidence for the presence of heteroskedasticity in the model.

Table 18: Ramsey RESET Test:

F-statistic	0.067894	Probability	0.794795
Log likelihood ratio	0.071133	Probability	0.789695

Source: e-view output

Table 18 shows the Ramsey RESET test for misspecification. The econometric result suggests that the probability values of 0.794 (79%) and 0.789 (79%) are in excess of the critical value of 0.05 (5%). Therefore, it can be seen that there is no apparent non-linearity in the regression equation and so it would be concluded that the linear model is appropriate.

Table 19 Multiple Regression Results

Dependent Variable: LnINF

Method: Least Squares
Date: 06/03/20   Time: 07:00
Sample(adjusted): 2006 2018
Included observations: 13 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	286327.4	80872.94	3.540459	0.0041
LnPITR	-977.4957	349.0664	-2.800314	0.0160
LnCITR	-1.771444	0.239146	-2.407364	0.0420
LnPPTR	-3.006314	4.086981	-2.035583	0.0261
LnVATR	-5.124505	1.864347	-2.748686	0.0176
R-squared	0.235165	Mean dependent var	466619.5	
Adjusted R-squared	0.202887	S.D. dependent var	176186.7	
S.E. of regression	32060.78	Akaike info criterion	23.82858	
Sum squared resid	1.23E+10	Schwarz criterion	24.07365	
Log likelihood	-197.5430	F-statistic	117.7975	
Durbin-Watson stat	2.105089	Prob(F-statistic)	0.000100	

Source: Eview Output 3.1

Table 19 shows the multiple regression analysis for tax revenue and inflation of Nigeria for the period 2006 to 2018. The result suggests that PITR (Personal Income Tax Revenue), PPTR (Petroleum Profit Tax Revenue), CITR (Companies Income Tax Revenue) with p-values of 0.0160, 0.0420, 0.0261, and 0.0176 is less than the critical value of 0.05. Hence, we deduce that there is a negative significant relationship between tax revenue and inflation in Nigeria for the period 2006 - 2018. The R^2 (coefficient of determination) of 0.235165 and adjusted R^2 of 0.202887 shows that the variables combined determines about 24% and 20% of inflation in Nigeria. The F-statistics and its probability shows that the regression equation is well formulated explaining that the relationship between the variables combined of inflation are statistically significant (F-stat = 5.567008; F-pro. = 0.000100).

Table 20: Pairwise Granger Causality Tests
Date: 06/6/20   Time: 22:56
Sample: 2006 2018
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
LnPITR does not Granger Cause LnINF	13	5.43344	0.01915
LnINF does not Granger Cause LnPITR		0.43698	0.01967
LnCITR does not Granger Cause LnINF	13	4.56926	0.02571
LnINF does not Granger Cause LnCITR		0.00236	0.02764
LnPPTR does not Granger Cause LnINF	13	3.54714	0.03424
LnINF does not Granger Cause LnPPTR		0.01421	0.03590
LnVATR does not Granger Cause LnINF	13	5.04352	0.03227
LnINF does not Granger Cause LnVATR		0.46406	0.03276

Source: e-view output

Table 20 shows granger causality tests results for the impact of taxation (PIT, CIT, PPT and VAT) on inflation in Nigeria for the period 2006-2018. From the test results, the probability value of 0.01915 and 0.01967 of (LnPIT) and (LnINF) of the F-statistics is less than the critical values of 5%. This implies that personal income tax does not granger cause (impact) on inflation (LnINF) in Nigeria for the period under review and (LnINF) does not granger cause (impact) on (LnPIT). The probability value of 0.02571 of (LnCIT) and (LnINF) F-statistics is less than the critical values of

5% and 10%. This means that companies income tax does not granger cause inflation and also 0.02764 is less than the critical value of 5% and 10%, which implies that inflation does not granger cause companies income tax. The probability value of the F statistics of 0.03424 is less than the critical value of 1%, and 5% of petroleum profit tax does not granger cause inflation. Also 0.03590 is less than 5% and 10%, which implies inflation does not granger cause petroleum profit tax;. Finally, the probability statistics of 0.03227 is less than the critical value of 5%, and 10% respectively. This means that value added tax does not granger cause inflation. But the F statistics of 0.03276 is less than the critical value of 5% and 10%, which implies that inflation does not granger value added tax. The granger causality analysis shows that taxation variables do not impact on inflation in Nigeria for the period 2006 -2018.

Conclusion and Recommendations

The study examined the impact of taxation on the economic development of Nigeria for the period of 2006 – 2018. Review of relevant literature provides strong evidence of the impact of taxation on the economic growth and development of countries. Our research empirically substantiated the results of prior studies of the impact of taxation using companies income, petroleum profit tax, value added tax and personal income tax as proxies on economic development using gross domestic product, infrastructural development, per capita income and inflation. The empirical analysis provided a significant relationship between taxation as an instrument of fiscal policy on the economic development of countries. On the basis of the empirical result, the paper concludes that taxation can be used to stimulate economic development through increase in the growth potential, infrastructural development, per capita income and reduction of inflation. Hence, the paper recommends amongst others that tax administration mechanisms should be improved to reduce the level of tax evasion in Nigeria.

References

Adebisi, I. (2004). "Increasing Revenue Generation of both State and Local Governments under Democratic Setting", The Nigerian Accountant, 37(4): 32-36.

Adebisi, J.F. and Gbegi, D.O. (2013). "Effect of Tax Avoidance and Tax Evasion on Personal Income Tax Administration in Nigeria", American Journal of Humanities and Social Sciences, 1(3): 125-134.

Aguolu, O. (2004). *Taxation and Tax Management in Nigeria*. Enugu: Meridian Associates.

Appah, E. (2014). *Principles and Practice of Nigerian Taxation*. Lagos: Andy Best Publishers.

Appah, E. and Eze, G.P. (2013). "A Causality between Tax Compliance and Tax Audit in Nigeria", European Journal of Business Management, 5(2): 107-120.

Ariwodola, J.A. (2001). *Personal Taxation in Nigeria including Capital Gain Tax.* Lagos: JAA Nigeria Ltd.

Azubike, J.U.B. (2009). "Challenges of Tax Authorities, Tax Payers in the Management of Tax Reform Process", *The Nigerian Accountant,* Vol.42 (2):36-42.

Bhartia, H.L. (2004). *Public Finance.* New Delhi: Vikas Publishing House PVT Ltd.

Alli, B.D. (2009). "Managing the Tax Reform Process in Nigeria", *The Nigerian Accountant*, Vol. 42(1): 45-51.

Folorunsho, A. (2010). "*Taxation and Insolvency Issues*". A Paper Presented at the Mandatory Continuing Professional Education Programme Organized by the Institute of Chartered Accountants (ICAN) from 1st- 2nd September, 2010.

Kiabel, B.D. and Nwokah, N. G. (2009). "Boosting Revenue Generation by State

Governments in Nigeria: The Tax Consultants Option Revisited", *European Journal of Social Sciences,* Vol. 8(4): 532-539.

Micah, L.Y., Ebere, C. and Umobong, A.A. (2012). "Tax System in Nigeira-Challenges and Way forward", Research Journal of Finance and Accounting, 3(5): 9-16.

Nwezeaku, N.C. (2005). *Taxation in Nigeria: Principles and Practice*. Owerri: Springfield Publishers Ltd.

Nzotta, S.M. (2007). "Tax Evasion Problems in Nigeria: A Critique", *The Nigerian Accountant,* Vol. 40(2): 40-43.

Ogbonna, G.N. and Appah, E. (2011). Impact of tax reform and Economic growth of Nigeria; A Time Series Analysis. Current Research Journal of Social Sciences.4 (1):62-68.

Ogbonna, G.N. and Appah, E. (2012). Petroleum profit tax and Economic growth: Cointegration Evidence   from Nigeria. Asian Journal of Business Management. (3): 267-274.

Ola, C.S. (2001). Income Tax Law and Practice in Nigeria, Ibadan: Heinemann Educational Books (Nigeria) Plc.

Osiegbu, P.I., Onuorah, A.C. and Nnamdi, I. (2010). Public Finance: Theories and Practices, Asaba: C.M. Global Company Ltd.

Tosun, M.S. and Abizadeh, S. (2005). "Economic Growth and Tax Components: An Analysis of Tax Changes in OECD", Applied Economics, 37: 2251-2263.

Torado, M.P. and Smith, S.C. (2009). Economic Development, Edinburg, England: Pearsons Educational Limited.

Umeora, C.E. (2013). "An Overview of Tax Reforms as Instrument of Achieving Sustainable Development in Nigeria", *International Centre for Business Research*, 2: 10-15.

Wambai, U.S.K. and Hanga, B.Y. (2013). "Taxation and Societal Development in Nigeria: Tackling Kano's Hidden Economy", *International Journal of Academic Research in Business,* 3(3): 114-126.

Worlu, C.N. and Nkoro, E. (2012). "Tax Revenue and Economic Development in Nigeria: A Macroeconometric Approach" *Academic Journal of Inter Disciplinary Studies*, 1(2): 211-223.