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EFFECTS OF FEDERAL GOVERNMENT TAX REVENUE ON INFRASTRUCTURAL DEVELOPMENT AND ECONOMIC GROWTH IN NIGERIA

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Abstract: Government all over the world is saddled with the responsibility of improving the welfare of the citizenry by providing key infrastructure that forms the basis of economic growth. Over the years, it has been observed that a substantial part of revenue generated in Nigeria is from taxes, yet the role of taxation in promoting economic activities and growth is not felt, mainly because of feasible evidences which cannot be seen nor perceived by the citizens in terms of infrastructure and basic amenities. Past documentations have revealed that revenue from taxes in developed nations have high impact on its economic growth which is clearly seen by the amenities provided by such nations. Thus, the main objective of this study was to explore the relationship between tax revenue and economic growth and infrastructural development in Nigeria. Multiple Linear Regression analysis was employed to analyze the data. The findings revealed that petroleum profit tax, company income tax and value added tax have a positive impact on Nigeria's economic growth and infrastructural development, though not significant enough to be felt directly with Adjusted R2 of .0013 and p value of 0.37. The conclusion from the study was that the utilization of the generated revenue from taxes calls for serious concern, and requires a special attention of policy makers, non-compliance with tax laws on the part of the tax payers is a hindrance and ineffective administration of tax has given enough loop holes for tax evasion, the consequence of which is poor revenue. It was recommended among others therefore, that generation of tax revenue should be enhanced through better administrative efficiency and tax policy and also that reasonable amount generated from taxes should be utilized for financing infrastructural development.

Keywords: *Economic Growth, Infrastructural Development, Taxation, Tax Administration, Tax Revenue*

Introduction

The government of any country has the key responsibility of providing basic social amenities and Infrastructure for the citizens (Efanga, Umoh & Etim, 2020). According to Efang et al (2020), it is the right of the citizens to enjoy this social package including provision of security, protection of life and property as entrenched in Nigerian Constitution. The provision of these basic amenities require humongous amount of money therefore government needs a lot of revenue to be able to fulfill this sensitive and very important responsibility. Tax is one the major source of resource among other sources that can be utilized by the government.

Taxation is a compulsory levy by the government on individuals, groups and institution. Taxation started centuries ago as a key factor in overall national building as it does not only contribute immensely to revenue generated by any country but also an instrument of reshaping and restructuring of the economy through its role of redistribution of income and discouraging the consumption of some dangerous commodities. Taxes are used to achieve economic growth, achieve equity in income and wealth

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distribution and maintain equilibrium in the economy (Nasira, Haruna & Abdullahi, 2016) In addition Oriakhi (2014) submitted that taxes are imposed to see to the regulation in the production of certain goods and services, protection of infant industries, to intervene in the operation of business and commerce, curb inflation and all these according to him will result to economic growth.

Taxation is so germane in any economy because of its contributions to national progress because it provides the revenue for government developmental projects targeted at boosting the economic base of the nation in all sectors. Etanga et al. (2020) buttressed this fact by stating that the development of the infrastructural facilities of any nation is a factor of how much revenue is generated to finance such projects. Studies carried out by scholars like Inyiama, Edeh and Chukwuani (2017) and Ajiteru, Adaranijo and Alebiosu (2018) found out that tax revenue impacts significantly on infrastructural development. This is buttressed by Oshiogbugie and Akpokerere (2019) that asserted that tax revenue is significantly the basis of economic growth. In Nigeria, a lot of infrastructural facilities like good roads, functional medical facilities in our hospitals, provision of equipment and structures in the education sector to mention a few, are so essential for the achievement of economic growth. Maintenance of law and order and protection of territorial integrity is also to be guaranteed. All these are financed from revenue generated within the economy. Etanga et al. (2020) therefore submitted that the level of revenue generated and made available to the government determines the extent of provision of social amenities. Therefore, taxation is an essential tool that enhances economic development of any nation (Ibadin & Oladipupo, 2015). Thus, taxation can be an instrument of growth acceleration in Nigeria. A sound system of taxation promotes entrepreneurial development in the country and this is absolutely essential for economic growth (Eyisi, Chioma & Bassey, 2015).

In every country in the world, there is the established responsibility between the government and the governed regarding the roles expected from each party. Government has the major responsibility of providing social amenities and adequate infrastructure that will enhance people's welfare and make life better and ensuring macroeconomic stability. On the other side, the citizens are expected to be responsible enough to contribute their quota to the development of the state especially in the area of paying their taxes regularly and as expected. Any behaviour that is tantamount to tax evasion represents an act of disservice and frowned at by the government of any nation. Revenue from tax is the overall generated from all forms of taxes both direct and indirect and this amounts to a humongous amount of money after accounting from funds generated from crude oil.

The infrastructural development takes its cue from the money generated from taxes and this infrastructure form the bedrock of economic growth. Economic growth is measured by the real output generated by a nation and sustained over time. Economic growth necessitates expanding the size of national economies, with macro-economic indicators, especially per capital Gross Domestic Product (GDP), in an upward direction but not necessarily linear, with positive impact on the economic and social indices of the economy (Ibadin & Oladipupo, 2015). Hence economic growth is generally conceptualizes as the percentage rate of increase in Real Gross Domestic Product.

In the opinion of Igbasan (2017), measure of economic growth embodies national product in form of goods and services that meet the needs of appreciable number of people. He also asserted that economic growth can be viewed in the area of four important indicators such as natural resources, human resources, technological development and capital formation. Therefore, Nedoziel, Obasanmi and Ighata (2014) posited that it is on the provision of adequate infrastructure that economic growth rides and if the provision of basic equipment and structures are lacking, there would be a retardation in the wheel of progress of economic growth because infrastructural growth is the pillar and bedrock of economic development. In a bid to improve on tax collection procedures, the government introduced the electronic tax system and other moves geared towards increasing the revenue generated from tax, there is therefore a tremendous improvement in the amount generated from tax of recent. This is buttressed by recent tax statistics published by FIRS (2019) which

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showed that there is an improvement in tax generated annually from year 2000 to date.

Despite the increase in revenue generated from tax, there has not been a commensurate commitment of the government to the provision of infrastructural facilities. The government is yet to budget reasonable amount of funds to the provision of necessary infrastructure needed to boost economic growth of the nation. In the obvious improvement in tax revenue generation, the current condition of infrastructure in Nigeria is still in a state of comatose and this has become a thing of serious concern to all and sundry. Buttressing this current situation, Okeke, Mbonu and Ndubuisi (2018), spelt out the fact that economic development is about the critical conditions needed for the micro economic working of the economy and that economic development requires combined action and all-embracing long-term investment. This long term investment will eventually translate to development of employment generation through the creation of jobs for the populace (Okeke et al, 2018).

In the light of the above, the crux of the study is to weigh the increase of tax revenue against the level of infrastructural development and to project how much of tax revenue actually goes into infrastructural development which will in turn translate into economic growth.

Aim and Objectives

The aim of this study is to examine the effect of taxation on infrastructural development and economic growth of Nigeria. The objectives however are .to:

i. examine the effect of aggregate tax revenue generated on the infrastructural development in Nigeria.
ii. to determine the impact of aggregate tax revenue generated on the economic growth in Nigeria.

Hypotheses

Hypotheses formulated in their null forms for this study are:

Ho_1: Aggregate tax revenue generated has no significant impact on economic growth in Nigeria.

Ho_2: Aggregate tax revenue generated has no significant impact on infrastructural development in Nigeria.

Methodology

This study employed ex-post facto which is used to refer to studies which investigate possible cause and effect relationships by observing an existing condition or state of affairs and searching back in time for plausible causal factors. Twenty years' period from 2001-2020 was used for the study as it allows for the collection of past data which provide basis for the full establishment of the relationship between federal government tax revenue and infrastructural development in Nigeria and Data for this study is secondary data and were sourced from relevant documentations of the federal government namely the statistical bulletin of the Central Bank of Nigeria and National Bureau of Statistics. Data for twenty years ending in 2020 were used for convenience and availability. Multiple regression was used for data analysis.

The following model has been adopted.

$$Y = f(x), \quad X = x_1, x_2, x_3, \quad Y = y_1, y_2, y_3, y \qquad (1)$$

Where; Y= Economic Growth/Infrastructural Development

y_1= Gross Domestic Product (GDP), y_2= Roads (R),

y_3= Health Care (HC) y_4= Education (ED)

X= Federally Collected Taxes (FCT) x_1= Companies Income Tax (CIT),

x_2= Petroleum Profit Tax (PPT), x_3= Value Added Tax (VAT)

Functional Relationships

$$GDP = F(CIT, PPT, VAT) \qquad (2)$$

$$R = F(CIT, PPT, VAT) \qquad (3)$$

$$HC = F(CIT, PPT, VAT) \qquad (4)$$

$$ED = F(CIT, PPT, VAT) \qquad (5)$$

Model Specification

Model 1

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$y_1 = \beta_0 + \beta_1 CIT_{it} + \beta_2 PPT_{it} + \beta_3 VAT_{it} + \mu$ (6)

Model 2

$y_2 = \beta_0 + \beta_1 CIT_{it} + \beta_2 PPT_{it} + \beta_3 VAT_{it} + \mu$ R = f(x_2) (7)

Model 3

$y_3 = \beta_0 + \beta_1 CIT_{it} + \beta_2 PPT_{it} + \beta_3 VAT_{it} + \mu$) (8)

Model 4

$y_4 = \beta_0 + \beta_1 CIT_{it} + \beta_2 PPT_{it} + \beta_3 VAT_{it} + \mu$ (9)

The above functional relationships are the underlying functions of the effect of tax revenue on the infrastructural development on the economic growth of Nigeria.

Analysis, Results and Discussion of Findings

Model 1

Table 1 Regression Analysis of Research Model One - GDP

Variable	Ceoff	Std.Err	t-test	Prob
CIT	107.8224	607.3073	0.18	0.859
PPT	904.2026	464.0706	1.95	0.053
VAT	78.53139	499.303	0.16	0.875
Constant	378.5715	596.698	0.63	0.527
Adjusted R^2	0.0013			
F-stat (Prob)	F(4, 195) = 1.06, Prob> F = 0.3756			

Dependent var: GDP

Source: Researcher's Computation, 2022 *Significant at 5%*

The model summary results presented in Table 1 shows the adjusted R^2 which explains the variance in GDP and accounted for by the aggregate of PPT, CIT and VAT is 0.0013 .

GDP

$= 378.51 + 107.82PPT + 904.20CIT + 78.53VAT.$ (10)

Interpretation of Model 1:

The adjusted R^2 value of 0.0013 showed that 0.13% in independent variables (PPT, CIT and VAT) is attributed to increase in GDP and the remaining 99.87 is attributed to other factors not included in the model. The t-statistics 1.06 and P-value of 0.3756 implies that the impact of aggregate tax revenue is not significant at 5% level (p>0.05). The null hypothesis (H_{01}) is hereby accepted that aggregate tax revenue has no significant impact on GDP.

Model 2

Table 2: Regression Analysis of Research Model Two – Road Infrastructure

Variable	Ceoff	Std.Err	t-test	Prob
CIT	102.6224	407.3083	0.14	0.874
PPT	901.2046	445.0707	1.87	0.067
VAT	72.33139	659.309	0.19	0.879
Constant	394.5719	896.694	0.73	0.427
Adjusted R^2	0.0011			
F-stat (Prob)	F(4, 193) = 1.04, Prob> F = 0.3737			

Dependent var: R

Source: Researcher's Computation, 2022 *Significant at 5%*

The model summary results presented in Table 2 shows the adjusted R^2 which explains the variance in Road Infrastructure and accounted for by the aggregate of PPT, CIT and VAT is 0.0011 . The resulting equation from the

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model is:

$R = 394.5 + 102.62\text{CIT} + 901.21\text{PPT} + 72.33\text{VAT}$ (11)

Interpretation of Model Two:

The adjusted R^2 value of 0.0011 showed that 0.11% in aggregate tax revenue is attributed to increase in Road Infrastructure and the remaining 99.89% is attributed to other factors not included in the model. The t-statistics 1.04 and P-value 0.3737 implies that the impact of aggregate tax revenue is not significant at 5% level ($p>0.05$). The null hypothesis (H_{02}) is hereby accepted that aggregate tax revenue has no significant impact on Road Infrastructure.

Model 3

Table 3: Regression Analysis of Research Model Three- Health Infrastructure

Variable	Ceoff	Std.Err	t-test	Prob
CIT	104.8235	607.3073	0.13	0.822
PPT	704.2078	464.0706	1.98	0.030
VAT	58.53139	499.303	0.12	0.840
Constant	398.5315	596.698	0.72	0.537
Adjusted R^2	0.008			
F-stat (Prob)	F(1, 191) = 1.01, Prob> F = 0.2756			

Dependent var: HC

Source: Researcher's Computation, 2022 *Significant at 5%*

The model summary results presented in Table 3 shows the adjusted R^2 which explains the variance in Health Care Infrastructure and accounted for by the aggregate of PPT, CIT and VAT is 0.008 .

HC= 398.5 + 104.82CIT +704.21PPT +58.53VAT.

Interpretation of Model 3:

The adjusted R^2 value of 0.008 showed that 0.08% in aggregate tax revenue is attributed to increase in Health Care Infrastructure and the remaining 99.92% is attributed to other factors not included in the model. The t-statistics 1.01and probability of 0.2756 implies that the impact of aggregate tax revenue is not significant at 5% level ($p>0.05$). This value is not significant at 5% level. ($p>0.05$) The null hypothesis (H_{02}) is hereby accepted that aggregate tax revenue has no significant impact on Health Care Infrastructure.

Model 4

Table 4: Regression Analysis of Research Model Four- Education

Variable	Ceoff	Std.Err	t-test	Prob
CIT	102.8239	604.1072	0.16	0.927
PPT	709.2178	362.0706	1.92	0.020
VAT	58.53409	478.301	0.18	0.784
Constant	368.5317	584.678	0.74	0.528
Adjusted R^2	0.008			
F-stat (Prob)	F(3, 191) = 1.03, Prob> F = 0.2675			

Dependent var: ED

Source: Researcher's Computation, 2022 *Significant at 5%*

The model summary results presented in Table 4 shows the adjusted R^2 which explains the variance in Education Infrastructure and accounted for by the aggregate of PPT, CIT and VAT is 0.008 . The resulting equation from the model is:

ED= 368.5 + 102.82PPT +709.22CIT + 58.53VAT

Interpretation of Model Four:

The adjusted R^2 value of 0.008 showed that 0.08% in aggregate tax revenue is attributed to increase in Education Infrastructure and the remaining 99.92% is attributed to other factors not included in the model. The t-statistics 1.03and probability of 0.2675 implies that the

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impact of aggregate tax revenue is not significant at 5% level (p>0.05). This value is not significant at 5% level. (p >0.05) The null hypothesis (H_{02}) is hereby accepted that aggregate tax revenue has no significant impact on education Infrastructure.

Discussion of Findings

This study assessed the effect of aggregate tax revenue on some key infrastructure in the economy and the overall impact of these infrastructures on economic growth of the nation which is proxy by GDP. It was discovered that aggregate tax revenue has not actually influenced to any appreciable extent, the infrastructural development of the nation and by extension on the GDP. The amount that went into infrastructural development during the period under review in this study was very low. Therefore, other sources of revenue majorly financed infrastructural development. The role taxes are playing in the development of infrastructural development cannot be overemphasized and because of that, there a breakdown and therefore low quality of infrastructure in the nation and this has seriously retarded economic growth.

These assertions support the findings of Abomaiye, William, Samuel and Friday (2018) which find tax revenue not to have impacted much on infrastructural development and eventually, economic growth. This also supports the findings of Oshiolugie and Akpokerere (2019) who submitted that the aggregate tax revenue is jointly insignificant on Nigerian economic growth.

On the contrary, the findings of Eduwusi and Ajayi (2019), Inimino, Otubo and Akpan (2020) found tax revenue to be significant in influencing infrastructural development. Of course, the generation and commitment of adequate revenue from taxes is sine qua none to infrastructural development and economic growth. There is a cycle of activities discovered in the findings in the sense that tax revenue collection is a function of the level of infrastructural development in the country. This is because the provision of good infrastructure in terms of quality and quantity seem to instigate and encourage tax payers to willingly pay their taxes thereby leading to less tax evasion and consequently causing an increase in the tax revenue collected with a potential of spending more on infrastructural development.

One of the main purposes of tax revenue is to raise revenue that the government can use to provide adequate amenities and infrastructure for its citizens as well as enhance growth and development but the case seems to be different in Nigeria as the physical evidences does not show that funds generated from tax revenue are used for this purpose.

Conclusion and Recommendations

The result shows that petroleum profit tax, company income tax, and value added tax are significant variables in explaining the economic growth in Nigeria. The implication of the findings is majorly for policy makers, especially the Federal Board of Inland Revenue as most of the variables shows a positive but insignificant relationship with economic growth, meaning that there should be no area in tax collection that should be taken lightly as they all have the potential to be major variables capable of enhancing economic growth. Analysis has thrown some light on the impact of tax revenue on Nigeria‘s economy. It is glaring that the Nigerian total tax revenue generated has a positive but insignificant impact on the economy and development in general.

It has been found from the study and result analysis above that Tax Policies (TP) if effectively implemented can reduce tax frauds which in the long run will also reduce corruption.

Based on these findings, it is recommended that generation of tax revenue should be enhanced through better administrative efficiency and tax policy that encourages tax payers to willingly and committedly want to pay tax. Therefore, the government of the day is advised to implement Tax Legislation (TL) to its fullest maximum to maximize its potential of reducing all forms of tax frauds like tax planning, tax evasion and tax avoidance and at the same time boost government revenue through the compliant of tax payers. The government also, in its bid to showcase transparency, accountability and integrity which are required hallmark of every society and establishment must be sincere in instituting proper tax systems which will bring about accountability. Also that a reasonable amount of money generated from taxes should be utilized for financing infrastructural development in the country. Again, government should

put in place a stricter penalty for any individual or corporate body that is involved in any act of tax evasion. This will serve as deterrent to those intending to evade tax. All these will lead to an enhanced tax revenue generation and eventually culminate in increase in economic growth of the country.

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