Tax Revenue And Economic Development Of The Nigerian Economy

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ABSTRACT

This study is designed to assess the relationship between components of tax revenue and economic development of the Nigerian economy. For this purpose, the ex-post facto research design was adopted and secondary time series data were sourced from relevant records of appropriate authorities for the study period (2003 – 2017). The components of tax revenue assessed in this study included value added tax, petroleum profit tax, personal income tax, company income tax and custom and excise duties, whereas, economic development was measured by real GDP and Human Development Index (HDI). The data were analyzed using the Autoregressive Distributed Lag technique alongside other necessary statistical tools. The results obtained from the study have far reaching policy implications. Specifically, we observed amongst others that even though petroleum profit tax stood as a major component of tax revenue, its relationship with measures of economic development (real GDP and HDI) were negative; thus suggesting that revenue generated from petroleum profit tax are not properly and directly channeled to the provision of the required infrastructure that will boost the economic development of Nigeria. Based on the above, we recommend that significant portions of the revenue generated from PPT and other sources should be designated and properly channeled to infrastructural development.

Keywords: Tax; Revenue, Infrastructure, Economic Development; Fiscal Policy; Nigeria

Introduction

Globally, governments at various levels deploy diverse measures to generate funds needed to provide certain infrastructural and basic/social amenities that will meet the demands of her citizenry. No doubt, the quality of available infrastructure in identified economies and the presence of law and order sometimes depict government's commitment to economic development. This is why the provision of basic infrastructures to the citizenry of any country has become one primary task of governments at all levels. It is in view of this that efforts of governments have been tailored at generating revenue in a bid to execute such tasks as infrastructural development, provision of social goods and services, maintenance of law and order amongst others. Experts and prior extant studies have maintained that taxation is an essential means through which governments generate the needed revenue to meet her financial demands and execute other functions (Azubike, 2009; Edame, 2011).

The concept of tax however, has severally been described as a mandatory levy charged by the government of a country, state, local council, municipal or jurisdiction on the income and properties of the citizens and corporate bodies in order to generate sufficient revenue that will finance the creation of infrastructures, provision of social services and support the improvement of the entire economy (Appah and Oyandonghan, 2011; Edame, 2011; Worlu and Emeka, 2012; Abata, 2014; Adudu and Ojonye, 2015; Etale and Bingilar, 2016; Oyebanji and Oyebanji, 2017). Taxes are generally categorized as either direct (where the taxes are charged on the income of body corporate or individuals) or indirect (where taxes are charged on goods and services rendered so that the burden of payment rests on the final consumers). In Nigeria, whether direct or indirect, taxes come in different forms – petroleum profit tax, personal income tax, value added tax, customs and excise duties, companies' income tax, stamp duties and capital gains tax.

Noteworthy, most developing economies has over time witnessed an ever increasing trend in debt crises, challenges with fiscal deficit financing amidst dwindling macro-economic indicators. This ugly trend has compelled governments to formulate different adjustments and/or stabilization policies to boost economic activities and sustain financial stability, growth and development (Kiabel and Nwokah, 2009; Wambi and Hanga, 2013). Additionally, with the dwindling oil prices in recent times, countries like Nigeria whose income has been dominated by oil revenue in the past is currently considering how to look inwardly to other sources of revenue that will support the quest to provide infrastructure, social amenities and the required atmosphere that will boost economic development. Therefore, since prior studies had posited that tax is a copious means through which governments could generate sufficient revenue to meet up with her ever increasing financial demands, this study thus examined the statistical association between the various forms of tax revenue and the economic development of the Nigerian economy. In this regards, we focused on an examination of the relationship between tax revenue and Nigeria's real Gross Domestic Product (GDP) and human development index.

On the basis of the aforesaid, we hypothesize as follows:

H_{01}: *there is no significant relationship between Nigeria's Real GDP and various forms of tax revenue*.

H_{02}: *there is no significant relationship between Nigeria's Human Development Index (HDI) and various forms of tax revenue*.

Literature and Conceptual Review

Tax according to Worlu and Emeka (2012) is a compulsory fee levied by the government on incomes, activities, products and properties by a government. Similarly, Abata (2014) and Adudu and Ojonye (2015) describes tax as a mandatory charge, intentionally imposed by governments on the people of a country in order to generate extra income that will support the running of the affairs of the entire state. Globally, tax is becoming an essential revenue source for governments. As observed by Azubike (2009), the income generated from tax is utilized by governments in the area of providing public goods and services, in addition to the sustenance of peace and order in the society. Tax is sometimes used to regulate business activities in specific sectors of the economy. Taxes are instruments deployed to pool available resources for public goods - infrastructure, health and safety, research, roads, pipe borne water, schools, courts, transportation, funding the police and the provision of parks and gardens amongst others. It is in view of the aforesaid that taxation has been considered a tool for the achievement of economic development in various countries.

Noteworthy, the instrumentality of taxation to economic development particularly in the purview of public policy tend to be a recent discovery, yet it presents a schema that may overshadow several of its potentials. Apparently, the deployment of taxation as an apparatus of fiscal policy in Nigeria may have been weakened due to corruption and other possible causes. This may have accounted for the abysmal level of tax revenue and poor developmental strides of past governments (Akintoye and Tashie, 2013; Abata, 2014; Adudu and Ojonye, 2015). In accordance with the above view, Kiabel and Nwokah (2009) posits that in response to the diminishing level of revenue generation accompanied by the constant rise in governance cost, government at all levels are compelled to establish policies and adopt possible approaches to foster an increase in the amount of revenue generated.

However, in order to enhance the management of tax systems and also augment the tax yield in Nigeria, the government embarked on the alteration of various tax laws which resulted to the adjustment of tax laws such as Value Added Tax (Amendment) Act, 2007. The reform in Value Added Tax (Amendment) Act, 2007 was expected to enlarge the tax generated from VAT and also enhance the methods of gathering VAT in Nigeria. Accordingly, the reforms in other tax laws such as Company Income Tax (Amendment) Act, 2007, Federal Inland Revenue Services (Establishment) Act, 2007 and the Personal Income tax (Amendment) Act, 2011are expected to expand the government revenue base through tax generated and ensuring adequate and strict compliance to tax laws (Chude and Chude, 2015).

Theoretical Framework

This research study is anchored on the benefits received theory of taxation (BRTT). This theory is believed to have been initiated by Knut Wicksell and popularized by Erik Lindahl (Cooper, 1994; Trotman-Dickenson, 1996). Proponents of the theory argue that an exchange relationship exist between the government of a people and the tax payers. On the basis of this relationship therefore, the government has a responsibility of providing goods, services and basic infrastructures for use by members of the society, who in return are expected to make contributions through taxation in proportion to whatever benefits that may have been derived from their access to the amenities, infrastructures, goods and/or services provided by government (Trotman-Dickenson, 1996; Bhartia, 2009; Ihenyen and Mieseigha, 2014). Impliedly, a contractual relationship tends to exist between the government of a people and the taxpayers; as such, the government has a responsibility to provide public goods and/or services; whereas, the responsibility to bear the costs associated with the provision of such public goods and services rest on the taxpayers in proportion to the level of benefits received (Chigbu, Akujuobi, and Appah, 2012). Clearly, the assumption of the BRTT is that citizens of a state or country should be taxed proportionate to the consumption of social goods and/or the services rendered by government. Since tax revenue of every government ought to be ploughed back to provide basic infrastructures and social amenities for sustainable economy development, the researcher is of the view that the BRTT is suitable for this study. It is on this note that the work was anchored on the BRTT as we set out to examine the statistical link between the revenue generated from the different forms of taxation in the country and economic development.

Review of Empirical Studies

Prior studies have been carried out to ascertain the relationship between taxation and economic development within and outside the Nigerian economy. Lee and Gordon (2004) examined the correlation between tax structure and economic growth. The aim of the study was focused at examining how tax policies influence the growth rate of a country. The study employed the use of cross-country data covering a period of 27 years ranging from 1970 to 1997. The study found out that company tax rate and differences in economic growth rate exhibit a negative significant relationship. Additionally, the result revealed that an increase in corporate tax rate will result an inverse increase in countries' future growth rate.

Adereti, Adesina and Sanni (2011) examined the relationship between Value Added Tax and economic growth in the Nigerian economy. The study employed time series data on both the dependent and independent variables such as Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and Total Federal Government Revenue over a period of 14 years ranging from 1994 – 2008. The study's methodology comprised of a combination of descriptive and inferential statistics. The outcome of the study suggested a positive relationship exists between revenue generated from VAT and Gross Domestic Product (GDP).

Adegbie and Fakile (2011) carried out a study which aimed at ascertaining the statistical correlation between Company Income Tax (CIT) and the development of the Nigerian economy covering a period of 26 years spanning from 1981 – 2007. The Gross Domestic Product (GDP) was employed in the study as a proxy for economic development, and this was estimated against total revenue generated from CIT. primary and secondary data were utilized in the study and these data were analyzed using the Chi-square and multiple regression analysis. The result of the analysis depicts that Company Income Tax has a significant impact on economic development proxy as GDP. The study revealed that tax evasion and tax avoidance are the major factors responsible for dwindling in the level of revenue generated.

Similarly, Worlu and Emeka (2012) studied the relationship between tax revenue and economic development in Nigeria covering a period of 27 years spanning from 1980 – 2007 focusing on the on infrastructural development. Data employed in the study were secondary data, collated from Central Bank of Nigeria (CBN) Statistical Bulletin, Federal Inland Revenue Service (FIRS) and relevant articles. The analysis was carried out using the three stage least square estimation technique. The result revealed that tax revenue enhances economic growth via infrastructural development. Additionally, the study suggested that no independent relationship exists between tax revenue and economic growth through foreign direct investment and development of infrastructure.

Ude and Agodi (2014) studied the impact of non-oil revenue on the growth of the Nigerian economy. The study utilized secondary data from annual observations ranging from 1980 to 2013. The study

employed revenue from agriculture and manufacturing as proxy for non-oil revenue. The analytical findings revealed that non-oil revenue proxy as agricultural revenue; manufacturing revenue and interest are found to have significant impact on the growth of the Nigerian economy.

In a study carried out focusing on the OECD countries, Macek (2014) examined that influence of tax on economic growth. The study adopted a multiple regression model which pictures the relationship between the dependent and explanatory variables. The period covered in the study ranges from 2000 to 2011. Personal Income Tax, Company Income Tax, Social Security Contribution, VAT were employed as Tax variable, while GDP, capital accumulation, human capital and government expenditure proxy for economic growth. The study revealed that Company Income Tax has a statistical significant effect on economic growth.

Akwe (2014) examined the effect of non-oil tax revenue on economic growth in Nigeria. The study employed secondary data, which were collected from the Central Bank of Nigeria (CBN) Statistical Bulletin covering a period of 19 years spanning from 1993 – 2012. The study analysis employed the use of the Ordinary Least Square technique and the analytical result revealed that non-oil tax revenue has positive impact on economic growth in Nigeria.

Ifeacho, Omoniyi and Olufemi (2014) in their study which focused on the Nigeria economy, considered how non-oil export affects economic development. Per capita income was employed as a measure of economic development, which was dependent on the volume of non-oil export, trade openness, rate of inflation and exchange rate capital formation. The analytical result obtained using the Ordinary Least Square estimation technique revealed the presence of a positive significant correlation between non-oil export and economic development measured at Per Capita income.

In another Nigerian study, Akhor and Ekundayo (2016) analysed the link between revenue from indirect taxes and economic growth in Nigeria. The study focused on value added tax and custom and excise duty as the explanatory variables while real gross domestic product was adopted as the dependent variable. The study covered a 21-year period (1993 – 20130 and relied on secondary data which were collated from the statistical bulletins of the Central Bank of Nigeria (CBN) over the study. Analysis of data was based on descriptive and inferential statistics which included correlation analysis, co-integration test and the regression analysis via the Error Correction Model (ECM). The result from the analytical procedure suggests that revenue from value added tax and customs and excise duties had negative effect economic development. Specifically, it was observed that the relationship between VAT and economic development, though negative, was significant, whereas, the relationship between customs and excise duties was weak.

Kalas, Mirovic and Andrasic (2017) conducted a study in the United States of America and examined the effect of taxes on economic growth. The study covered a period of 20 years from 1996 to 2016. The study utilized the Personal Income Tax and Company Income Tax as proxies for tax revenue while growth and Social Security Contributions on GDP were deployed as proxies of economic growth. The study employed the use of correlation matrix and other relevant statistical techniques in data analysis. The result revealed that Company Income Tax and GDP are not significantly correlated.

Research Method

The *Ex post facto* research design was adopted for this study. Time series data for the period 2003 - 2017 were sourced from the Federal Inland Revenue Service (FIRS), Central Bank of Nigeria Statistical Bulletin and United Nations Development Programme (UNDP) reports of the World Bank. The emphasis of the study is to ascertain the effect of tax revenue (value added tax, petroleum profit tax, personal income tax, company income tax and custom and excise duties) on economic development (measured by real GDP and Human Development Index). The data were analyzed using the Autoregressive Distributed Lag technique. Following prior empirical studies (Baghebo and Edoumiekumo, 2012; Okafor, 2012; Ihenyen and Mieseigha, 2014), the structural form of the model is specified thus with some modification:

$$\ln RGDP_t \quad _0 \quad _1 \ln VAT_t \quad _2 \ln PPT_t \quad _3 \ln PIT_t \quad _4 \ln CIT_t \quad _5 \ln CEXD_t \quad _t \quad \text{..... (1); and}$$

$$\ln HDI_t \quad _0 \quad _1 VAT_t \quad _2 \ln PPT_t \quad _3 \ln PIT_t \quad _4 \ln CIT_t \quad _5 \ln CEXD_t \quad _t \quad \text{..... (2)}$$

Equations (1) and (2) are specified in their structural form where $RGDP_t$ is per capita GDP; HDI_t is Human Development Index; VAT_t is Value Added tax; PPT is Petroleum Profit Tax; PIT_t is Personal Income Tax; CIT_t represents Company Income Tax; $CEXD_t$ represents Custom and Excise Duties; and ... are coefficient estimates of $_t$ explanatory variables and represents the stochastic error term.

Based on economic theory, the expected signs of coefficients are such that; and ... >0
The short run (ARDL) model is thus specified as;

$$\ln RGDP_t = {}_0 + \sum_{i=1}^{p} \ln RGDP_{t-i} + \sum_{i=1}^{q} {}_1 \ln VAT_{t-i} + \sum_{i=1}^{r} {}_2 \ln PPT_{t-i} + \sum_{i=1}^{s} {}_3 \ln PIT_{t-i} + \sum_{i=1}^{v} {}_4 \ln CIT_{t-i} + \sum_{i=1}^{w} {}_5 \ln CEXD_{t-i} + ECT_{t-1} + {}_t \quad \text{..... (3)}$$

Where $RGDP_t$, HDI_t, VAT_t, PPT, PIT_t, CIT_t, $CEXD_t$ are already defined; is the difference operator and ECT_{t-1} is the error term lagged one period; represents the speed of adjustment; ${}_0$ is the drift component, ${}_t$ denotes time components and ${}_t$ is the stochastic error term.

Results and Discussion

Before applying the Johansen's multivariate approach to co-integration and the ARDL test, the Augmented Dickey Fuller (ADF) unit root test was conducted in order to investigate the stationarity properties of the variables. All the variables were examined by first inspecting their summary analysis as shown in table 1.

Descriptive Statistics

Table 1: Summary of Descriptive Statistics

	LNRGDP	*LNHDI*	*LNVAT*	*LNPPT*	*LNPIT*	*LNCIT*	*LNCEXD*
Mean	10.841	-0.706	6.090	7.589	3.915	6.173	5.836
Maximum	11.142	-0.634	6.884	8.381	4.129	7.096	6.442
Minimum	10.364	-0.798	4.915	6.527	3.669	7.727	5.180
Std. Dev	0.265	0.054	0.673	0.527	0.146	0.859	0.428
Skewness	-0.397	0.005	-0.567	-0.137	-0.168	-0.611	-0.046
Jarque-Bera	1.317	0.877	1.686	0.329	0.929	1.682	1.341
Probability	0.517	0.647	0.430	0.848	0.628	0.431	0.511
Observation	15	15	15	15	15	15	15

Source: Author's Computation (using E-views 10)

Table 1 shows the descriptive statistics of the variables adopted. The mean value of real GDP for the period (2003-2017) is 10.84; human development (HDI) (-0.706); Value Added Tax (6.090); Petroleum Profit Tax (7.589); Personal Income Tax (3.915); Company Income Tax (6.173) and Custom and Excise Duties (5.836). From the mean values generated as shown in table 1, revenue generated from the petroleum profit tax is assumed to contribute higher to government total revenue for the period studied. This is followed by company income tax and value added tax. The Jarque bera values suggest that all the variables are normally distributed as the probability values are in excess of 5% level of significance.

Unit Roots Test

Table 2: Results of Unit root tests

	Augmented Dickey-Fuller Unit Root Test		
Variable	At level (prob.)	First difference (prob.)	Decision
CEXD	-3.056 (0.153)	-3.935 (0.046)**	I(1)
CIT	-0.720 (0.949)	-4.908 (0.016)**	I(1)
HDI	-2.318 (0.399)	-3.404 (0.030)**	I(1)
PIT	-6.201 (0.002)**	-	I(0)
PPT	-2.236 (0.436)	-3.776 (0.054)***	I(1)
RGDP	-2.808 (0.086)***	-	I(0)
VAT	-0.513 (0.967)	-3.160 (0.048)**	I(1)

Source: Author's Computation (using E-views 10)

N.B: CEXD = Custom and Excise Duties; CIT = Company Income Tax, HDI = Human Development Index; PIT Personal Income Tax; PPT = Petroleum Profit Tax; RGDP = GDP per capita; VAT = Value Added Tax

*** indicates significant at the 0.05 level, *** indicates significant at the 0.1 level*

The test of stationarity as shown in table 2 shows that the time series data for revenue generated from custom and excise duties, company income tax, petroleum profit tax, value added tax and human development index were found to be non-stationary at level, implying the presence of random walk, but became stationary at first difference. This further implies that the afore-stated variables are integrated at order one. Conversely, time series data on personal income tax and real GDP were found to be stationary at level, which implies that the variables are integrated of order zero. Based on the mixed stationarity outcomes, the Autoregressive Distributed Lag model is adopted to ascertain the relational effect of the

various dimension of tax revenue on economic development.

Cointegration Tests

The one-on-one Johansen cointegration test between real GDP and components of tax revenue was conducted to establish the long run causal relationship existing between and among the variable as shown in table 3. Results from table 3 reveals that there exist a bi-directional long run causal relationship between value added tax and real GDP with probability of the trace and Maximum-Eigen values less than 5% level of significance.

Table 3: Results of Cointegration Test [Tax Revenue and Economic Development]

Cointegration Results of RGDP versus VAT					
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Critical Value***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.569	**18.080****	15.494	**10.951**	14.264
At most 1	0.422	**7.129****	3.841	**7.129****	3.841
Normalised Cointegrating Coefficients of RGDP versus VAT					
Series	***RGDP***	***VAT***			
	1.000	-0.335 (0.012)			
Cointegration Results of RGDP versus PPT					
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Critical Value***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.782	**21.235****	15.494	**18.312****	14.264
At most 1	0.216	**2.923****	3.841	**2.923**	3.841
Normalised Cointegrating Coefficients of RGDP versus PPT					
Series	***RGDP***	***PPT***			
	1.000	-1.388 (0.197)			
Cointegration Results of RGDP versus PIT					
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Critical Value***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.736	**18.228****	15.494	**17.361****	14.264
At most 1	0.064	**0.866**	3.841	**0.866**	3.841
Normalised Cointegrating Coefficients of RGDP versus PIT					
Series	***RGDP***	***PIT***			
	1.000	7.070 (1.68)			
Cointegration Results of RGDP versus CIT					
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Critical Value***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.563	**17.575****	15.494	**10.779****	14.264
At most 1	0.407	**6.796****	3.841	**6.796****	3.841
Normalised Cointegrating Coefficients of RGDP versus CIT					
Series	***RGDP***	***CIT***			
	1.000	-0.175 (0.027)			
Cointegration Results of RGDP versus CEXD					
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Critical Value***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.898	**36.791****	15.494	**27.414****	14.264
At most 1	0.542	**9.377****	3.841	**9.377****	3.841
Normalised Cointegrating Coefficients of RGDP versus CEXD					
Series	***RGDP***	***CEXD***			
	1.000	-0.536 (0.025)			

Source: Author's Computation (using E-views 10)

Furthermore, the normalized cointegrating coefficient of (0.335) reveals that a positive relationship exists between value added tax and real GDP, which implies that economic development measured by real GDP experiences an upward trajectory triggered by a 1 percent change in the revenue generated from VAT. Similarly, a uni-directional causal relationship exists between real GDP and revenue generated from petroleum profit tax. With a normalized coefficient value of (1.338), it

indicates that that a 1 percent change in revenue generated from PPT will trigger a 133.8 percent increase in real GDP.

A uni-directional long run relationship was found to exist between personal income tax and real GDP with probability of the trace and Maximum-Eigen values less than 5% level of significance. Conversely, a negative relationship exists between personal income tax and economic development as revealed from the normalized cointegrating coefficient value of (7.010).

As indicated from the results from table 3 further reveals that a bi-direction causal relationship exists between revenue generated from company income tax and real GDP and between revenue generated from custom and excise duties and real GDP. Similarly, the normalized cointegrating coefficient values of (-0.175) and (-0.536) for CIT and CEXD suggests that a 1 percent increase in revenue generated from CIT and CEXD will yield a 17.5 percent and 53.6 percent increase in real GDP respectively

Table 4: Results of Cointegration Test [Tax Revenue and Human Development]

Cointegration Results of HDI versus VAT						
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Value***	***Critical***	***Max. Eigen Statistic***	***0.05 Critical Valu e***
None	0.701	**19.440****	15.494		**14.498****	14.264
At most 1	0.337	**4.941****	3.841		**4.941****	3.841
Normalised Cointegrating Coefficients of HDI versus VAT						
Series	***HDI***	***VAT***				
	1.000	-0.088 (0.011)				
Cointegration Results of HDI versus PPT						
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Value***	***Critical***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.440	**8.627**	15.494		**7.559**	14.264
At most 1	0.078	**1.068**	3.841		**1.068**	3.841
Normalised Cointegrating Coefficients of HDI versus PPT						
Series	***HDI***	***PPT***				
	1.000	2.381 (-1.902)***				
Cointegration Results of HDI versus PIT						
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Value***	***Critical***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.630	**20.511****	15.494		**12.943****	14.264
At most 1	0.441	**7.567****	3.841		**7.567****	3.841
Normalised Cointegrating Coefficients of HDI versus PIT						
Series	***HDI***	***PIT***				
	1.000	-75.152 (18.898)**				
Cointegration Results of HDI versus CIT						
Hypothesized No. of CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Value***	***Critical***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.924	**37.736****	15.494		**28.460****	14.264
At most 1	0.569	**9.275****	3.841		**9.275**	3.841
Normalised Cointegrating Coefficients of HDI versus CIT						
Series	***HDI***	***CIT***				
	1.000	-0.003 (0.003)				
Cointegration Results of HDI versus CEXD						
Hypothesized No. o f CE(s)	***Eigen Value***	***Trace Statistics***	***0.05 Value***	***Critical***	***Max. Eigen Statistic***	***0.05 Critical Value***
None	0.882	**26.077****	15.494		**23.587****	14.264
At most 1	0.202	**2.490**	3.841		**2.490**	3.841
Normalised Cointegrating Coefficients of RGDP versus CEXD						
Series	***HDI***	***CEXD***				
	1.000	-0.111 (0.006)				

Source: Author's Computation (using E-views 10)

Notwithstanding, in relation to its contribution to human development, table 4 results shows that revenue generated from value added tax, personal income tax, company income tax and custom and excise duties show a positive relationship to HDI as revealed by the normalized cointegrating coefficient values and at the same time exhibits a long run causal relationship to human development. On the other hand, no long run relationship was found to exist between revenue generated from petroleum profit tax and human development as the normalized coefficient value of (2.381) reveal that an inverse relationship exists between PPT and HDI

Results of Bound Test

The results in table 5 reveal the short and long run

estimates showing the relationship between tax revenues and development. From analysis in table 5, in the short run, a one period lags generated revenue from value added tax, personal income tax, company income tax and custom and excise duties shows a positive relationship to real GDP with coefficient values (0.027), (0.200), 0.081 and (0.0009) respectively. From the aforementioned tax revenues, only company income tax contributes significantly to real GDP for the period under review. This implies that the short run movement in development is triggered significantly by company income tax revenue.

On the other hand, revenue generated from petroleum profit tax shows a negative relationship to real GDP, which implies that, a 1 percent change in PPT results in a negative effect on economic development. Furthermore, the coefficient of the error correction value of (-1.437) is significant at 5 percent having the correct sign. This implies that any short run deviation of development path is restored in the long run. The coefficient of the error term is relatively large which indicates that the speed of adjustment is relatively fast.

Table 5: ARDL Bounds Test Result

Short Run and Long Run Estimates			
Dependent Variable: RGDP		***Dependent Variable: HDI***	
$D(\ln RGDP)_{t-1}$	0.605 (3.047)**	$D(\ln VAT$	-0.028 (-0.442)
$D(\ln VAT_{t-1}$	0.027 (0.509)	$D(\ln PPT)$	-0.007 (-0.749)
$D(\ln PPT_{t-1}$	-0.0004 (-0.052)	$D(\ln PIT$	0.942 (0.875)
$D(\ln PIT_{t-1}$	0.200 (0.148)	$D(\ln CIT$	0.004 (0.147)
$D(\ln CIT_{t-1}$	0.081 (3.345)**	$D(\ln CEXD)$	0.006 (0.239)
$D(\ln CEXD)_{t-1}$	0.0009 (0.040)	ECM_{t-1}	-0.936 (-2.355)**
ECM_{t-1}	-1.437 (-3.089)**	C	-0.015 (-0.466)
C	-0.007 (-0.212)		
F-Bounds Test			
F-Statistic	34.051**	F-Statistics	4.888**
R-Squared = 0.940		***R-Squared = 0.506***	
Akaike Info Criterion = -5.860		***Akaike Info Criterion = -5.297***	
F-stat. = 11.379		***F-stat. = 11.995***	
D.W. stat.= 2.44		***D.W. stat.= 1.948***	

Source: Author's Computation (using E-views 10)

*** indicates significant at the 0.05 level, *** indicates significant at the 0.1 level*

As regards the relationship of tax revenues to human development, revenue generated from value added tax and petroleum profit tax shows a negative effect, which implies that, a 1 percent change in revenue generated from VAT and PPT will result in a (2.8 percent) and (0.7 percent) decline in HDI. On the other hand, revenue generated from personal income tax, company income tax and custom and excise duties triggers a positive effect on human development, howbeit not statistically significant. The coefficient of the error correction value of (-0.936) is significant at 5 percent having the correct sign. This implies that any short run deviation of development path is restored in the long run. The coefficient of the error term is relatively large which indicates that the speed of adjustment is relatively fast.

Conclusion and Recommendation

By means of empirical assessment, this paper examines the link between various forms of tax revenue and economic development of the Nigerian economy. We therefore obtained secondary data for different components of tax revenue in Nigeria and for measures of economic development (real GDP and HDI). The data were however obtained for the

period 2003 – 2017. Several statistical tools which included the Johansen's multivariate approach, Augmented Dickey Fuller (ADF) unit root test, Auto regressive Distributed Lag (ARDL) technique amongst others were adopted for the purpose of analysis. The results from the analytical process produced some insightful findings. As observed from our findings, PPT is a major component of tax revenue for Nigeria, although, its relationship with measures of economic development (real GDP and HDI) were negative; thus suggesting that revenue generated from PPT are not properly and directly channeled to the provision of the required infrastructure that will boost the economic development of Nigeria. Additionally, we observed that the revenue generated from personal income tax, company income tax and custom and excise duties positively affected human development index, howbeit not statistically significant. With the coefficient of the error correction value of (-0.936) it means that any short run deviation of development path may be restored in the long run. Based on the above, we recommend that significant portions of the revenue generated from PPT and some other tax revenue components should be designated and properly channeled to infrastructural development. Also, the Acts regulating the administration of taxation in the country is long overdue for revision. In this regards we call on the relevant tax authorities and regulatory bodies to consider the revision of the Acts regulating tax administration in the country and see that the revised Acts should create a fund that will authorize the mode of distributing revenue generated from tax. Such a fund should provide for how the economy could be developed through tax revenue.

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