Impact Analysis of Petroleum Profit Tax and the Economic Growth in Nigerian: 1985-2019.

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Abstract: *The study titled impact analysis of petroleum profit tax and economic growth in Nigeria with a view of investigating the potential impacts of the revenues from petroleum profit tax on the growth of Nigerian economy on the basis of time series data for the variables such as economic growth proxied by real gross domestic product, petroleum profit tax, non-oil tax revenue and governance proxied by government accountability specified in the estimated models. Upon verifying the stationarity properties of the series of the variables, the study employed Cointegration and fully modified ordinary least squares as the techniques of analysis to reveals: the existence long-run relationship between petroleum profit tax and economic growth in Nigeria; petroleum profit tax impact positively on economic growth at a statistical significant level; governance impact positively on economic growth in Nigeria; while non-oil tax revenue impact negatively on economic growth in Nigeria. The study therefore recommends that: Reviewing the current administration of PPTA in Nigeria to reflect the international standard on the petroleum profit tax Act; According priority to non-oil sector so as to improve government earnings from other non-oil sectors; Deliberate investment of revenue from PPT to develop other non-oil sectors and; Full entrenchment of good governance in the administration of tax system in Nigeria.*

Keywords: Economic growth and Petroleum Profit Tax

1. INTRODUCTION

Tax is a fiscal tool that aid the government to mobilize earnings for meeting up with social obligations of providing the necessary public goods and services (like adequate security, quality and affordable education and health care services, electricity and other infrastructures) to the citizenry, and to regulates the production and consumption activities for full entrenchment of healthy economy under which the desired growth and development is pursued (Mawejji, 2018; John and Suleiman, 2014; Musgrave and Musgrave, 1989). Therefore, Adereti, Adesina and Sanni (2011) and Okafor (2012) promoted the application of tax as a mechanism of fiscal policy for stimulating sectorial and/or overall growth of economy. Tax is thus universally regarded as a key source of government revenue. Consequently, the collection of tax revenue has become imperative in the face of its universal significance as it affects every economy irrespective of national differences (that is, either developed, developing or under-developed) (Oboh and Isa, 2012).

In this regards, Nigerian economy had since the discovery of oil in a large commercial quantity shifted from agrarian economy to an oil economy depending majorly on the oil/petroleum sector. Subsequently, the petroleum sector has been the major source of government earnings accounting for about 70% of its GDP annually and 95% of foreign exchange earnings for Nigeria as well as according the Nigeria the global relevance and respect as one of the key player in the production of oil and gas globally (Onaolapo, Fasina and Adegbite, 2013). In this connection, this anticipated revenue boom from activities in the petroleum sector has since inception of the exploration and production of crude oil induced the government to enacted Petroleum Profit Tax Act (PPTA) in 1959 with a view of regulating the activity of the sector and a means of boosting the government earnings for the sectoral and overall growth of the economy (Gbegi and Adebisi, 2017). Under the PPT, the tax rate was set at 67.5 percent for the first five years of operations by the oil company and 85 percent thereafter and consequently boosting the nigerian government earnings through tax revenues (Onyemaechi, 2012).

In contrast, a number of disputed arguments have arose regarding the actualization of the principal motive behind enacting the petrolum profit tax of boosting the governmnet earnings for realization of the desired growth of the economy; while some were of the view that petroleum profit tax has enhanced the government revenue and hence economic growth, while others were of the opinion that petroleum profit tax has not impacted significantly on the growth of the economy (Okoh, Onyekwelu and Iyidiobi, 2016). This is accredited to the fact, with all the revenues recorded from the petroleum profit tax, Nigeria and Nigerians still remain poor in the commity of oil producing nations and with petrolleum profit tax act (Onaolapo, Fasina and Adegbite 2013). A

typical measure for this assertion is the GDP per capita for Nigeria which stood at 2,229.90 US dollars as at the end of 2019 fiscal year as compared to other oil producing nations like Iran-5,520.3-US dollars, Iraq-5,955.1US dollars, Saudi-Arabis-23,139.8US dollars and South Africa-6,001.4 US dollars among others (world Bank Group, 2020). The shortfall of Nigeria among its member nations of oil producers can be traced to disappointment of succeeding governments to exploit revenues from petroleum profit tax and oil earnings generally to pursue the growth and development of other sectors of the economy effectively and effeciently due to uner-performance and weak institutions in Nigeria (Nafziger and Auvinen, 2003). This therefore led to the inability of the revenues from petroleum profit tax to translates to the growth and develeopment of Nigerian economy. In view of the above problem, this study seek to examine the impact of petroleum profit tax (PPT) on economic growth in Nigeria.

After the introduction given in the preceeding section (one), section two shall contains literature reviews comprising conceptual definition of the key terms used in the study, theoretical framework underpinning the study and review of empirical studies. Section shall deal with the methodology of the study, section four shall present the results and discuss the findings made by the study; which section five shall end the study with summary, conclusion and recommendations.

2. Literature Review
2.1 Definition of the key Concept:
2.1.1   Economic Growth

Generally speaking, economic growth can be said to mean an increase in the quality and quantity of resources in an economy (Adofu and Alhassan, 2018; Egwu, 2018; Haller, 2016; Orugbani, 2011). Also, Udeh, Okoroafor and Ihezie (2013) conceptualized economic growth as an increasing productive capacity of the country to fulfil the needs and wants of the economy overtime. Similarly, according to Haller (2016), economic growth is a process of increasing the size of national economies, with macro-economic indications, especially per capita Gross Domestic Product (GDP), in an upward but not necessarily linear direction, with positive effects on the economic and social indices of the economy. Thus, economic growth is conventionally measured as the percentage rate of increase in Real Gross Domestic Product or Real GDP.

2.1.2   Petroleum Profit Tax

Petroleum Profit Tax according to Ibrahim, Bukar, Ali and Mamuda (2018) is a indirect system of tax levied by the government on the activities of comapanies that operates in the upstream subsector of the petrolum industry. This is specifically associated to the rents, royalties, margins and profit sharing elements related to oil mining, prospecting and exploration contract agrrements. Similarly, Petroleum Profit Tax (PPT) can be viewed as tax applicable to upstream operations in the oil industry (Odusola, 2006). However, Petroleum operation as defined in the Petroleum Profit Tax Act of 1959 basically involves petroleum exploration, development, production activities. Concisely, PPT is one of the most essential tax in Nigeria in terms of its share of contribution to the total government revenue and foreign exchange earnings, that is 70 and 95 percent respectively (Onaolapo, Fasina and Adegbite, 2013).

2.2 Overview of Petroleum Profit Tax (PPT) in Nigeria

Following the discovery of oil in a large commercial quantity, the enactment of petroleum profit tax in 1959 came into being. Though, it is noteworthy that the significance of petroleum to the Nigerian economy amounted to the enactment of a different law regulating the taxation of incomes from petroleum operations (Nwezeaku 2005).The enacted Act(s) was promoted mainly to regulates the activities of the operators in the upstream subsector of the petroleum industry and as a means of enhancing government earnings through the petroleum industry (Ibrahim, et al., 2018). Notably, the section 8 of Petroleum Profit Tax Act (PPTA) stresses that every company involved in petroleum operations is under compulsion to make returns, along with appropriately annual audited accounts and estimated tax computations, within a specified time after the end of each accounting period. Petroleum profit tax therefore includes levying of tax on the incomes accruing from petroleum operations (Nwezeaku 2005). The petroleum profit tax is charged, assessed and payable upon the profits of each accounting period of any firm/company involved in the operations in petroleum industry during its accounting period, usually one year (January to December) (Anyanwu, 1993). The profits of a company in relation to the accounting period is the aggregate of:

   (i) the incomes from sales of all chargeable oil during that period;

   (ii) the monetary value of all chargeable oil sales in that period;

   (iii) the monetary value of all chargeable natural gas in that period; and

(iv) all proceeds of the company of that period incidental to and arising from any one or more of its petroleum operations (i.e. winning or obtaining and transportation of petroleum or chargeable oil in Nigeria by or on behalf of a company, for its own account by any drilling, mining, extracting or others like operations or process, not including refining at a refinery, in course of a business carried on by the company engaged in such operations, and all other operations, incidental there to and any sale of or disposal of chargeable oil by or on behalf of the company (cited in Onaolapo, Fasina and Adegbite, 2013, p.28).

Nonetheless, the purpose of petroleum profit tax on one hand is to specifies crude oil sales valued at the prices truly recognized by the oil producing company in the global oil market. On the other hand, the specified value has to be likened to the value at the posted price and make comparison between the specfied sales value and the posted price to aid in the determination of accurate tax rate. If for instance, the specified value is higher than the posted price, tax is then based on the posted price, but if in contrary the specified value is lower than the posted price, then the tax would be base on the specified values (Oremade, 2006). Though, sales of crude oil for local refining and sales of gas are valued for petroleum profit tax purposes at the real amount actualized on the sale. The management and supervision of PPTA comes under the watch and control of the Federal Board of Inland Revenue (Ofe, Onyemachi and Caroline, 2008).

The tax laws according to Adekanola (2007) have been conferred with authority to assess, collect and account for all taxes from corporate entities on the Federal Inland Revenue Services (FIRS). Taxes administered at the Federal level comprise the Petroleum Profits Tax, Companies Income Tax, Education tax, Technology Tax, Stamp Duties and the Value Added Tax as well as the Capital Gain Tax, when such capital gains are realized by the business entities and Personal Incom Tax from Armed forces and Foreign Affairs staff. Ofe et al (2008) stressed more that the Board may ensure all acts as may be deemed essential and expedient for the valuation and mobilization of the tax, and shall be made to explain for all amounts so collected in a modus to be appropriate to the Federal Minister of Finance. Whenever the Board shall consider it obligatory with respect to any tax due, it may obtain, grip and demand of any tax or of any judgment debt/balance due in reference of any tax and shall expalin for any such property and the earnings of sale thereof in a way to be prearranged by the Minister of Finance.

The Board may charge and be charged in its authorized name. In the application of the authorities and responsibilities deliberated upon it, the Board shall be subject to the authority, instruction and control of the Minister of Finance. Any written instruction or order given by the Minister after session with the chairman of the Board shall be executed by the Board. Conversely, the Minister shall not give any such instruction in respect of any particular firm which would have the consequences of demanding the Board to raise or lower any assessment made or to be levied upon or any reprieve to give tax, punishment or judgment debt due by such firm would have the consequence of varying the usual course of any earnings, whether courteous or illegal, linking either to the retrieval of any tax or punishment or to any wrongdoing relating to the tax. Any Act, matter or thing ready by or with the authority of the Board in fulfilment of the requirements of PPTA shall not be subject to encounter on the ground that such was not or was not period to be in accordance with any direction, order or instruction given by the Minister (Ofe et al 2008).

Oil firms that only market petroleum products comprising firms involved in refining of crude oil such as petrol do not fall into the category of companies/firms involving in petroleum operations and they are then taxable under Companies Income Tax Act (CITA). Where a company is engaged in both petroleum operation and marketing of petroleum product, the transaction results from the petroleum operations would be taxed under the Petroleum Profits Tax while the results from the marketing activities will be taxed under the Companies Income Tax Act seperately.

2.3 Empirical Reviews

Several studies have attempted investigating the petroleum profit tax as an instrument of enhancing the government earnings and its impacts on economic growth in Nigeria. Consequently, some of the reviewed studies are:

Ogbonna and Appah, (2012) examined the relationship between Petroleum Profit Tax and Economic Growth in Nigeria for the period of fourty years (1970 to 2010). The study adopted co-integration test and Granger Causality test as method of esimation. Cointegration test result shows that there exist long-run relationship between economic growth and petroleum profit tax in Nigeria. The result of granger causality test reveals that petroleum profit tax does granger causes economic growth in Nigeria. The study therefore concluded that petroleum profit tax is a major factor promoting economic growth in Nigeria for the years under study.

Onaolapo, Fasina and Adegbite (2013) studied the analysis of the effect of petroleum profit tax on Nigerian economic growth, the study utilized OLS in form of multiple regression equations to reveal that PPT and tax revenue from other related natural resources depoist in the country were of significant positive impact on the economic growth of Nigeria. Similarly, Ilaboya and Ofiafor (2014) studied the petroleum profit tax and economic growth in Nigeria, using the combination of Cointegration and error correction estimation techniques as method of analysis to reveals that petroleum profit tax has a statistically significant positive

relationship with real GDP growth rate in Nigeria. The study therefore concluded that petroleum profit tax has a positive impact on economic growth in Nigeria; while openness was found to have a negative but insignificant impact on economic growth in Nigeria.

Olatunji and Adegbite, (2014) studied the effect of petroleum profit tax, interest Rate and Money Supply on Nigeria Economy for the period of 1970 to 2010. Multiple regression was employed as a tool of analysis to investigate the relationship among variables. The result obatined from the estimated models shows that petroleum profit tax and interest rate have positive impact on economic growth in Nigeria. The study therefore concluded that petroleum profit tax has potential to contribute positively to the government earnings which can in turn be translated to the growth and development of the economy if prudently well managed. Likewise, Ayuba (2014) investigated the impact of non-oil tax revenue on economic growth in Nigeria, using OLS on the obtained secondary data sourced from the CBN Statistical Bulletin for the period of 1993 - 2012. The results of finding showed that, non-oil tax revenue impacted positively on economic growth in Nigeria.

Also, Okoh, Onyekwelu and Iyidiobi (2016) studied the effect of petroleum profit tax on economic growth in Nigeria. The study employed OLS to reveals that PPT impact positively on Nigerian GDP at a significant level of statistics. More so, Khadijat and Taophic (2018) researched on the effect of petroleum profit tax and companies income tax on economic growth in Nigeria, using FMOLS to found that petroleum profit tax (PPT) and company income tax (CIT) have positive significant impact on real gross domestic product (RGDP) in Nigeria. The study therefore concluded that PPT and CIT serves as one among the major source of earnings to the government, hence contribute to the growth and development of Nigerian economy.

2.4 Theoretical Framework

2.4.1 The Benefits-received Theory

This theory was developed by Knut-Wicksell in 1896 and refined by Erik-Lindahl in 1919 which was subsequently restated by Paul-Samuelson (Richard and Peggy, 1973; Bernd, 2000). The theory maintained that, there exist an exchange or contractual relationship between taxpayers (citizenry) and the state (government), such that government make provision of essential public goods and/or services like adequate security, essential infrastructure (such as good road networks, stable power supply and portable water supply, among others), health care facilities, construction and rehabilitation of public schools and a host of others for overall wellbeing of citizenry and economy; while citizenry in turn make payment of tax on the taxable activities and assets to the government to enable the government meets up with its financially social obligations of providing essential public goods and services to the citizenry (Bernd, 2000). However, inability of either of the party (citizen or government) to discharge its obligation of either to pay tax or to provide public goods/services would affects the ability of other party to fulfil its own obligation.

Therefore, in this quid pro quo set up relationship, tax revenue is a means of earnings to the government for pursuing its growth and development goals of the economy. Furthermore, this theory bears the possible use of the tax policy for bringing about desired growth and stabilization (control of externalities from hampering the natural environment) of an economy. This study is therefore hinged on the principle of benefit-received theory on the premise of the existence of mutually reinforcing relationship between the taxpayers (citizenry) and tax recipients (government) to sustain the anticipated growth of the Nigerian economy.

3. Methodology
3.1 Data Sources and Description

This study is designed to investigate the impact of the Petroleum Profit Tax and (PPT) on economic growth in Nigeria from the period of 1985 to 2019.The study relied on secondary data spanned for the period 1985 to 2019 obtained from annual Statistical Bulletin of the Federal Inland Revenue Service of Nigeria (FIRS, 2019), National Bureau of Statistics (NBS, 2019) and the International Country Risk Guide (ICRG, 2018). Based on the theoretical framework underpinning this study, economic growth measured in term of Real Gross Domestic Product is a function of revenues accrued to the government from Petroleum Profit Tax and Tax revenue from non-oil sector as well as ability of government to put the anticipated earnings from Tax revenue into judicious uses that would be translated to the growth of an economy. Therefore, governance system is a key factor as far as efficient and prudent utilization of the government earnings is concerned and so the governance here is proxied by government accountability (which is also an indicator of governance) (ICRG; WDI, 2018).

3.2 Model Specification
Flowing from the theoretical frameworks underpinning the work and reviewed empirical studies, the model meant to examine the impact of Petroleum Profit Tax on economic growth in Nigeria is thus specified as:

RGDP = f(PPT, NOT, GOV)………………………………………….(3.1)

Where GDP = Gross domestic Products which is the dependent variable;

PPT = the petroleum profit tax;

NOT = the non-oil tax revenue

GOV = Governance

Consequently, the econometric model of the equation 3.1 to account for error term in the specified model is thus specified as:

$RGDP_t = \beta_0 + \beta_1 PPT_t + \beta_2 NOT_t + \beta_3 GOV_t + \varepsilon_t$ …………………………… (3.2)

3.3 Model estimation Procedure

Firstly, the study test the stochastic properties of the series employed for the variables specified in the model using complementary test of ADF and PP unit root test frameworks. The PP unit root test is employed to complement ADF for its greater reliability than the ADF due to robustness in the midst of serial correlation and hetersokedasticity (Hamilton, 1994). The unit root test for variables is carried out with both trend and intercept using the following specification:

$\Delta InRGDP_t = \alpha_0 + \beta_1 InRGDP_{t-1} + \beta_2 T + \sum_{i=0}^{n} \varphi i \; \Delta InRGDP_{t-i+} \varepsilon_t$ …………….. (3.3)

Where, β_0, β_1, β_2 and φi... φ_n are parameters to be estimated, and ε_t is the disturbance error term.

The unit root test is followed by the test of cointegration using the Johansen (1988, 1991) framework. The renowned Johanson's (1998) cointegration method is used to confirm the long-run relationship among the specified variables in the model. The Johansen Cointegration is one that modelled time series as reduced rank regression in which it computed the maximum likelihood estimates in the multivariate Cointegation model with Gaussian error terms. Thus, the Cointegration model is specified as:

$\Delta Z_t = \sum_{i=1}^{p-1} \mu + \Gamma_i \Delta Z_{t-k} + \Pi Z_{t-1} + \delta_t$…………………………………………..(3.4)

Where Z_t is an (n x1) column vector of p variables; μ is an (n x1) vector of constant terms and Π represent coefficient matrices; Δ is a difference operator; k denotes the lag length and; $\varepsilon_t \sim N(0, \Sigma)$. The coefficient matrix Π is known as the impact matrix, and it contains information about the long-run relationships. The estimation of Johansen Cointegration specified in equation (3.4) follows that the residuals are used to compute two likelihood ratio test statistics: the trace test and maximal eigenvalue ($\lambda - max$) test. The trace test considers the hypothesis that the rank of Π is less than or equal to r cointegrating vectors (i.e there are at most r cointegrating vector), and it is expressed as:

Trace = -T $\sum_{i=r+1}^{n} In(1-\pmb{\lambda})$ …………………………………………………….(3.5a)

Alternatively, the maximal eigenvalue test ($\lambda - max$) computes the null hypothesis that there are exactly r cointegrating vectors in the system and it is given as:

$\lambda - max = TIn(1-\pmb{\lambda}_r)$………………………………………………………(3.5b)

The distributions for these tests are not given by the usual chi-square distributions. The asymptotic critical values for the two likelihood ratio tests are calculated via numerical simulations. The null hypothesis is rejected when the estimated likelihood ratio tests statistics exceeds critical values. Since each of the two tests have their strength and limitations, it is preferable to make inference using both tests.

4. Presentation of Result and Analysis

The summary of the descriptive statistics and the result of correlation matrix analysis of the data used for the variables employed in the study are provided in the appendix I and appendix II respectively.

4.1 Pre-estimation tests

The complementary tests using ADF and PP unit root tests shown in table 4.1 reveals that all the variables are non-stationary since they are all integrated at order one (i.e I/1) and that at order one (I/1) they are stationary at 1% level of statistical significance except non-oil tax revenue (InNOT) that is integrated at order I/1 but at 5% level of statistical significance.

Table 4.1: The Result of Unit Root Test

Variables	Order of integration	Critical Values		Prob.	Decsions
		ADF	PP		
InRGDP	I(1)	-4.7415*	-4.3662*	0.00	Stationary
InPPT	I(1)	-5.4820*	-9.6065*	0.00	Stationary
InNOT	I(1)	-3.6240**	-3.8630**	0.04	Stationary
GOV	I(1)	-5.7053*	-10.7140*	0.00	Stationary

Source: Authour's Computation

As shown in the table provided in appendix III, the optimal lag length chosen for all the examined variables specified in the model is one (1) lag period. The one (1) lag period selected is uniform to the entire test frameworks.

4.2 Estimation of the Results

The results shown in both table 4.2 and 4.3 reported both trace statistics and maximum eigenvalue of Johansen Cointegration tests. The results shows that, for the Trace test statistics there are two (2) coitegrating equations at 0.05 levels of significance between petroleum profit tax and economic growth in Nigeria and for the max-eigenvalue test statistics, it indicates that there is no presence of cointegration at 0.05 level of statistical significance between petroleum profit tax and economic growth in Nigeria.

Table 4.2: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value (0.05)	Prob.**
None*	0.535563	59.67303	47.85613	0.0027
At most 1 *	0.437013	34.36433	29.79707	0.0139
At most 2	0.277399	15.40586	15.49471	0.0516
At most 3 *	0.132332	4.684205	3.841466	0.0304

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table4.3: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	Critical Value (0.05)	Prob.**
None	0.535563	25.30870	27.58434	0.0951
At most 1	0.437013	18.95847	21.13162	0.0981
At most 2	0.277399	10.72166	14.26460	0.1687
At most 3 *	0.132332	4.684205	3.841466	0.0304

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Authors' Computation

However, it is worth stated that for instance, if there are three explanatory variables in the cointegration test, the maximum rank of Π is less than three. That is, if k= 3 and the maximum rank of matrix (Π) is less than 3 (that is, Π< k), then the maximum cointegration is only two (2), and this portend that there is presence of cointegrating relationship between the examined variables

(Min and Guna, 2018). Therefore, from our estimated cointegration test, the $K=3$ and maximum cointegration is two (2), then the study found the presence of cointegration between petroleum profit tax and economic growth in Nigeria.

4.3 The Long-rum parameters

Although, cointegration or long-run relationship between petroleum profit tax and economic growth in Nigeria has been established, however, the Johansen Cointegration did not offer adequate explanation on the magnitude of the impacting relationship of the each of the explanatory variables on the economic growth in Nigeria. Consequently, fully modified ordinary least square (FMOLS) is employed in order to obtain the parameter estimate and the extent to which petroleum profit tax and other variables impact on economic growth in Nigeria. The employment of FMOLS follows the principle that the variables under examination are non-stationary series, that is they are all integrated at order one (I/1) as earlier shown in the table 4.1. The result of the long-run parameter test is thus presented in table 4.4.

Table 4.4: Result of Long-run parameters (FMOLS)
Dependent Variable: InRGDP
 Method: Fully Modified Least Squares (FMOLS)
Sample: 1986 2018
Included observations: 32 after adjustment
Long-run covariance estimate (Bartlett kernel, Newey-West fixed-
bandwidth = 4.0000)

Variables	Coefficients	Standard Errors	T-Stat.	Prob.
InPPT	0.268742	0.117860	2.280174	0.0301
InNOT	-0.143700	0.147069	-0.977094	0.3366
GOV	0.216632	0.112850	1.919643	0.0648
C	23.12439	0.318952	72.50127	0.0000
@Trend	0.057114	0.036776	1.553054	0.1313

R^2 0.884129
R^2-Adjusted   0.868147
Normality Test: Jarque –Bera (prob.) 1.905753 (0.385630)

Source: Authour's Computation

As shown in the table 4.4, both petroleum profit tax (PPT) and governance (GOV) impacted positively on economic growth giving credence to the theory underpinning the study; while revenue from non-oil tax has negative impact on economic growth in Nigeria negating the theory underpinning the study. Taking individually:
From table 4.4, it indicates that, petroleum profit tax (InPPT) has a positive impact on economic growth (InRGDP) and this conform to the apriori expectation of the theory. That is, as shown in the table 4.4, one per cent level of increase in petroleum profit tax (InPPT) results in 0.268742 (i.e approximately 30%) increases in the level of economic growth (InRGDP). Interestingly, the result of such impacts is statistically significant because the corresponding p-value (0.0301) is less than 0.05 or 5% statistical level of significance.

Similarly, governance (GOV) system in the administration and utilization of tax revenue from petroleum profit tax positively impact on economic growth in Nigeria and this conform to the apriori expectation of the theory. That means, one per cent increase in the level of entrenching good governance in the administration and utilization of tax revenue from petroleum profit tax result in corresponding increase in the level of economic growth (InRGDP) by 0.216632 (that is approximately by 22%), though slightly at insignificant level of statistics owing to its corresponding p-value (0.0648) greater than 0.05 or 5% level of statistical significance.

Likewise, the tax revenue from non-oil activities (InNOT) has a negative impact of economic growth (InRGDP) in Nigeria and this negate the apriori expectation of the theory underpinning the study. This is to say that, one per cent increase in the level of tax revenue from non-oil activities lead the economic growth in Nigeria to fall by -0.143700 (i.e approximately 14%). Though, the result of such negative impact of non-oil tax revenue on economic growth in Nigeria is statistically insignificant because its corresponding p-value (0.3366) is greater than 0.05 or 5% level of statistical significance.

Nonetheless, in the long run, the constant term (regarded as β_0 in the specified model) is estimated at 23. 12439. This means that, holding the values of all the other variables specified in this regression model constant, the value of economic growth (InRGDP) is 23.12439 during the period under study. Impliedly, the level of InRGDP in the economy is 23.12439 without the influence of any of the variable specified in the estimated model; while the dynamism of the model captured by the trend coefficient is 0.057114 with p-value 0.1313 which means that the obtained result from the estimated model is not significantly affected by the lagging

period should the estimated be subjected to any lagged period. Nonetheless, the R^2-adjusted shows that any variation from regression line is captured by 87% error term as shown in the table 4.4; while the normality test proved that the residual term specified in the estimated model is normally distributed exhibiting the bell-shaped normal distribution of the residuals along the sampled period.

4.3 Discussion of Findings

The first major finding of this study established that, there exists long-run relationship between petroleum profit tax and economic growth in Nigeria. This finding is consistent to the findings of Ogbonna and Appah (2012); Ilaboya and Ofiafor (2014) that in their respective studies established the existence of long run relationship between petroleum profit tax and economic growth in Nigeria. Also, the study found that petroleum profit tax impact positively on the economy growth in Nigeria. This finding is consistent to the findings of Onaolapo, Fasina and Adegbi (2013); Ofiafor,Olatunji and Adegbite (2014) and; Okoh, Onyekwelu and Iyidiobi (2016) who in their respective studies unveiled the positive and significant impact of petroleum profit tax on economic growth in Nigeria. And by implication, the effective tax system in petroleum industry sector through appropriate levying of PPT, effective mobilization of PPT and prudently channelling of mobilized revenue from PPT towards growth and development of economy would in no little measure contribute incrementally to the growth of Nigerian economy through availing the government enough financial resources to undertake and discharge its financial obligations especially in its determination to make available the provision of public goods and utilities like schools, infrastructural facilities, security, hospitals and a host of others to its citizenry.

The study also found that non-oil tax revenue impact negatively on the economic growth in Nigeria. This finding is in variant to the findings of Ayuba (2014) and; Khadijat and Taophic (2018) who revealed in their respective studies that non-oil tax revenue impact positively on economic growth (RGDP) in Nigeria. The resulting effects of this finding, that is negative impact of non-oil tax on economic growth is ringing the noise to the ears of government to according priority to the activities of non-oil sectors which would aid the government in its aspiration to shift the economy from over-relying on oil sector through diversification of the Nigerian economy.

The study also found that the governance has a positive impact on economic growth in Nigeria though slightly at insignificant level of statistics, and this conforms to the apriori expectation of the theory underpinning the study. In contrast to the reviewed empirical studies, this study found noteworthy that governance system is key to the policy formulation on tax system (PPT inclusive) for tax administration, tax assessment, tax mobilization and tax utilization for the overall growth and development of the economy, and thus included governance among the variables of estimate as stressed by Mawejje (2019). The implication here is that with good governance in place, the administration of tax system would live up to the expected task in generating revenue through tax (including PPT) and use or channelled the generated tax revenues towards growth and development of the economy devoid of avoidable wastage in the processes.

5. Summary, Conclusion and Recommendations

This study is designed to investigate the impact analysis of petroleum profit tax and economic growth in Nigeria built on benefit-received theory of taxation upon which the estimated model is based and specified. Upon investigating the stochastic properties of the series for variables employed in the study using complementary tests of ADF and PP unit root test frameworks, the study employed Johansen Cointegration and fully modified ordinary least square regression. The study therefore reveal that, there exist long-run relationship between PPT and economic growth in Nigeria; PPT portends significant positive impact on economic growth in Nigeria; non-oil tax revenue holds negative impact on economic growth in Nigeria; while governance system has positive impact on economic growth in Nigeria. Consequently, the study recommends:

(i.)   Deliberate efforts must be made in reviewing the current administration of PPTA in Nigeria to reflect the international standard on the petroleum profit tax Act as it relates to the assessment of firms in the upstream subsector of the petroleum industry, charging appropriate tax on taxable earnings of operators in the upstream subsector of the petroleum industry.

(ii.)   Due priority must also be accorded to non-oil sector so as to improve government earnings from other non-oil sectors to significantly contributes to the growth and development of the economy.

(iii.)   Government should be encouraged to persistently invest tax revenues from oil sector (particularly PPT) to develop other sectors of the economy so as to bridge the gaps between revenue accrued to the government and infrastructural deficiencies.

(iv.)   There must be full entrenchment of good governance in the administration of tax system in Nigeria.

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Appendix I: Summary of Descriptive Statistics

Variables	InGDP	InPPT	InNOT	GOV
Mean	25.56993	5.439448	4.792654	2.986095
Median	25.28120	6.009059	5.344724	3.041667
Maximum	27.06627	8. 071318	8.031716	4.500000
Minimum	24.04658	1.570905	0.004291	0.500000
Std. Dev.	0.992752	2.117809	2.723534	0.956087
Skewness	0.187535	-0.338870	-0.500022	-0.965982
Kurtosis	1.397587	1.656025	1.876781	3.463947
Jarque-Bera	3.949757	3.304001	3.298323	5.757104
Probability	0.138778	0.191666	0.192211	0.056216
Sum	894.9476	190.3807	167.7429	104.5133
Sum Sq. Dev.	33.50891	152.4939	252.1997	31.07946
Observations	35	35	35	35

Source: Author's Computation

Appendix II: Result of Correlation Matrix

Variables	InGDP	InNOT	InPPT	GOV
InGDP	1.000000			
InNOT	0.887718	1.000000		
InPPT	0.866861	0.952131	1.000000	
GOV	0.727632	0.627768	0.581397	1.000000

Source: Author's Computation

Appendix III: Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-159.5364	NA	0.209852	9.790082	9.971477	9.851116
1	-10.47400	249.5604*	7.52e-05*	1.846909*	2.753883*	2.152078*
2	3.409095	20.19359	8.96e-05	1.975206	3.607760	2.524511

Source: Author's computation

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