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Tax revenue buoyancy and human capital development in Nigeria: The case of direct taxation

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Abstract
This paper is aimed at determining if direct taxes in Nigeria are buoyant and have significant relationship with human capital development. To achieve this primary objective, time series data were sourced from the Federal Inland Revenue Services and the National Bureau of Statistics covering a period from 1980 to 2017. Since the data already exist and cannot be manipulated, the ex-post facto research design was found appropriate and thus adopted. Direct taxes were proxy by petroleum profit tax buoyancy and company income tax buoyancy while human development index was used as a surrogate for human capacity development. The result shows that petroleum profit and companies income taxes are inefficient and not buoyant as the buoyancy and elasticity coefficients are less than one (bt < 1). It also shows that a positive and but insignificant relationship exist between petroleum profit tax buoyancy and human capital development. Furthermore, the relationship between companies' income tax buoyancy and human capital development is found to be positive and significant. Based on these outcomes it was recommended that to improve human capital development and buoyancy of petroleum profit tax, the mobilized tax should be efficiently utilized in providing quality education, healthcare services, and basic infrastructures to the people. To further improve company income tax buoyancy; there should be continuous and regular review of the Nigerian company income tax statutes and other tax related issues by government agencies. Such tax reviews should be systematic and in alignment with the current macroeconomic objectives of the government and international best practices that will engender foreign direct investment and create enabling environment for private businesses to thrive. Such tax reforms should be directed at blocking tax leakages especially in the black market economy and any known loopholes in the tax legislations.

Keywords: Figurative language, figures of speech, Robert Frost

1. Introduction

A buoyant and an efficient tax system are key factors in government quest to achieve sustainable economic growth and infrastructural development. In Africa and other developed countries, tax revenue has significantly contributed towards the gross domestic product and human capital development and other economic development indices. As a macro-economic policy instrument, tax determines the level and pace of economic growth in nations of the world [1]. Government could depend on taxation as the most effective and efficient instruments of generating internal revenues create employment and improve human capital development. A buoyant and properly structured tax system can improve government revenue generating capacity and the resources required to meet its obligations including human capital development/creation of job opportunities.

Tax could be used as an instrument of social engineering, to stimulate general and sectoral economic growth - and by extension human capital development [2]. Depending on the policy objectives of the government, tax can be used as a tool for behavioural change and to improve human capital development. Besides, over the years, the federal, state and local governments in Nigeria have mobilized some quantum of revenues from tax. Despite the revenue generated, the poverty index/human development index is still very high as greater percentage (%) of the Nigerian population live below one US dollar ($1) per day. The country is ranked among the economically less developed nation and over the years, the country has been grappling with other macro-economic problems such as high rate of unemployment, high inflation rate just to mention but few. A buoyant and productive tax system offer government the most efficient and effective means of generating tax revenues to promote sustainable economic growth and for human capital development.

Although there are flashes of increase in tax revenues because of tax reforms embarked by the Nigeria government, available evidence indicate that fiscal viability and tax revenue efficiency would have been more if adequate tax reforms and structures are in place to promote effective and efficient tax administration. Largely, these measures would have reduced the incidence of tax evasion and avoidance and inefficiency, which have increased over the last decades. Government cannot meet its set goals and objectives where the tax system is inefficient and where there are prevalence of tax fraud.

The revenue efforts of the government at all levels from tax are not sufficient given the developments demand. In addition, the citizens have lost confidence and trust in the government because of their perception of being short changed as they feel they are not being well represented and provided for. The inefficiency and lack of professionalism on the part of the tax administrators who have been accused of colluding with taxpayers to facilitate tax evasion is a problem in itself.

The increase in fiscal deficit in Nigeria over the years has affected macroeconomic stability and economic growth and sustainability. The report of the study group constituted to review the Nigerian tax system between 1991 and 2003 outlined that the fundamental fiscal challenges to be addressed is reduction in government spending and expansion of the tax yield. This may be achieved by instituting a holistic and honest tax reforms. Thus, the committee was saddled with the responsibility of promoting efficient tax system that would optimize revenue from different sources within Nigeria. To achieve this aim they are to evaluate performance and efficiency of the Nigerian tax system and recommends how the tax system and administration could be improved.

The achievement of efficient tax system and the overall macroeconomic growth and sustainability requires adequate planning, enforcement, and result-oriented tax reforms. "The quality of management associated with regular and result-oriented tax reforms has a significant bearing on the overall macroeconomic performance and the distribution of resources between public and private sectors as well as within the public sector" [3].

As part of the tax reforms exercise to improve tax compliance and efficiency in revenue mobilization, the FIRS (Establishment Act) of 2007 which increased its fiscal autonomy from the Ministry of Finance and granted it autonomy in human management resource decisions was introduced. The grant of autonomy to FIRS is expected to broaden its capacity to collect taxes. However, Nigeria's huge tax gap, currently estimated at 14 per cent of GDP, highlights the country's inefficiency in tax enforcement and abysmal tax performance when compared to other African countries {4} as shown in the following table:

Table 1: Tax buoyancy in selected African countries

Countries	Direct taxes	Indirect Taxes	Total Taxes	Remarks
Nigeria	0.33	0.41	0.39	Inefficient
Ghana	1.76	2.9	2.37	Efficient
Cameroun	0.96	1.94	1.59	Efficient
Kenya	1.13	1.44	1.23	Efficient
Libya	0.25	0.36	0.20	Inefficient
Zimbabwe	0.33	0.6	0.51	Inefficient
Uganda	2.4	1.3	1.66	Efficient
Egypt	2.83	1.24	2.19	Efficient

***Source*:** Qazi and Suleiman (2010)

For the eight countries surveyed by [4], Libya was the most tax inefficient country followed by Nigeria and Zimbabwe, as their buoyancies are less than unity (< 1). This is a cause for concern as a resource-endowed nation. The foregoing narratives go to show that the Nigerian tax system is inefficient. This inefficiency, which may encourage tax evasion, may be a consequence of increased corrupt tendencies and the large presence and activities of the underground economy within the Nigerian tax system. However, despite earlier tax reforms, tax yield is not still buoyant as the Nigerian tax to GDP ratio remains within 6 per cent threshold. This implies that the reforms have not been given a holistic coverage and drive. The motivation of this study therefore, is to evaluate the buoyancy of petroleum and company income taxes and their effects on human capital development in Nigeria. Specific objectives of this paper include to:

1. Determine the effect of petroleum profit tax buoyancy on human development index in Nigeria.
2. Determine the effect of companies' income tax buoyancy on human development index in Nigeria.

1.2 Research Hypotheses

Based on the above aim and objectives of the study, the following research hypotheses relating to the problems, stated in null form have been formulated:

Ho_1: There is no significant relationship between petroleum profit tax buoyancy and human development index in Nigeria.

Ho_2: There is no significant relationship between companies' income tax buoyancy and human development in Nigeria.

2.1. Literature Review

2.1.1. Tax Buoyancy

Empirical research shows that tax buoyancy and elasticity of tax are major ways of evaluating how tax revenue responds to changes in income. The buoyancy of tax measures the responsiveness of tax revenue to changes in income without controlling for the discretionary changes in tax policy. "The discretionary changes are the changes, which result in more tax revenue from the same tax base. The sources of such changes are changes in tax legislation or changes in the tax rate" [5]. Generally, a tax is buoyant when revenues rise by more than 1% for a 1% rise in GDP. Tax buoyancy estimates

the response of tax revue to variation income. "The buoyancy of a tax system reflects the total response of tax revenue to changes in national income as well as effects of discretionary changes in tax policies over time. Generally, a buoyancy coefficient greater than one, would imply that for every one percent increase in gross domestic product (GDP), tax revenue increases by more than one percent" [6]. A tax is thus considered buoyant if the mobilized tax revenues grow more than proportionately in response to a growth in gross domestic product. It is the responsiveness of increase in tax revenue as a result of increase in gross domestic product (national income or output). Ideally, a tax is considered buoyant if there is a natural growth in tax revenues, which did not result from a rise in the tax rate, which tax elasticity represent.

2.1.2 Petroleum Profit Tax

Petroleum profit tax unarguably is the most buoyant and lucrative federally collected tax in Nigeria as oil and gas accounts for over 80% of the nation's foreign earnings. No doubt, petroleum profit tax is a major indicator to consider when discussing economic performance of Nigeria. The profits of companies engage in oil exploration, development and production in Nigeria are taxable under a separate tax legislation known as Petroleum Profits Tax Act of 1959 (No.15) amended till date. It was first amended in 1967, then in 1970, 1973 and subsequently in 1979 [7].

The operating business environment is changing rapidly both in Nigeria and in the other countries and without adequate reforms, the Nigeria's petroleum market may no longer operate in a sustainable manner to meet the aspirations of all the key stakeholders including the Nigerian government. In its over 60 years of operation, petroleum operations has not been fully structured and developed to operate at a global standard and levels of efficiency expected of a vibrant 21st century oil and gas firm. The prevailing tax statutes and structure are outdated and not in tandem with international global practice hence the Petroleum Industry Act of 2021.

2.1.3 Company Income Tax

Company Income Tax is defined in accordance with Sec. 9 of CITA as "the tax payable on the profits of a company accruing in, derived from, brought into or received in Nigeria. The enabling law governing the administration of taxation of the profit of companies in Nigeria is the Company Income Tax Act (CITA). CITA which was first enacted in 1961 has undergone several amendments till date, the current one being that of April, 2007.The Federal Board of Inland Revenue was the sole authority for the administration of company income tax before in it was scrapped upon the enactment of the Federal Inland Revenue Establishment Act in April 2007 which replaced it with Federal Inland Revenue Service [7].

With effect from January 1, 1996, companies in Nigeria are chargeable to tax at the rate of 30%. Lower rates of tax of 20% is applicable to companies regarded as small companies and companies in the 'hallowed sectors' such as those engaged in agricultural and manufacturing activities and those that are into the mining of solid mineral or wholly in export activities having a turnover less than N1,000,000. The 20% tax rate is applicable for the first five years of commencement of business [7]. However, with the passage of the Finance Act 2019 with February 1, 2020 effective date, companies with a turnover less than N25 billion are now regarded as small companies and are exempted from companies' incomes tax.

CITA policy regimes can be divided into two phases, namely, pre-1992 and post-1992"The CIT policies in the pre-1992 era were narrowly based and characterized with increasing tax rates and overburdening of the taxpayers, which induced negative effects on savings and investment. Since 1992, however, measures have been taken to address these structural problems. For instance, excess profit tax was eliminated in 1991, and the capital transfer tax scrapped in 1996. Tax rates on company profits, payable on trade profits and investment income, fell from 45 per cent during 1970 - 1986 to 40 per cent between 1987 and 1991, further to 35 per cent for the period 1992-95 and to 30 per cent from 1996 to date" [3]. There has been also 20% concessionary rate from 1996 for small companies engaged in agriculture and other activities with turnover not exceeding N1million [8].

2.1.4 Human Capital Development and Human Development Index

Human development deals mainly with welfare and happiness of the people in the area of quality education, long and health life and an improved living standard. Human development is concerned with the creation of appropriate environment for people to maximize and realize their capabilities in the area of knowledge and education create and live life of the highest value and fulfilment. It is concerned with assurance of long and healthy life, knowledge and quality education, and an appropriate or fair living standard "It also covers the creation of conducive conditions for the people to actively participate in the political and community life, environmental sustainability, protection of human rights and human security, and ensuring of gender equity" [9].

"Human development is the process of enlarging people's freedoms and opportunities and improving their wellbeing. It is about the real freedom ordinary people have to decide who to be and how to live" [10]. On the other hand, human development index (HDI) is a composite index for measuring human development in three aspects, which are long and healthy life, knowledge and education and suitable living standard.

HDI is a statistical tool used to measure a country's overall achievement in its social and economic dimensions. The measurement of human development index is an aggregation of three central index of a country's social and economic development. "The core dimensions also referred to as the three key levers of HDI are life expectancy for healthy, expected years of schooling as well as the actual years of schooling for education, and gross national income per capita for the standard of living" [11]. Non income HDI value is calculated from the life expectancy and education indicators. Income HDI value is computed from an appropriate standard of living measure by the values of goods and services produced in the country divided by the population (gross domestic product per capita).

Table 2: Three Dimensional Components of HDI

Main Indicators	Sub Indicators	Conditions
Healthy long life	"Nutrition	"A household member is malnourished. Malnourish is measure by the body mass index (BMI) or by the height –for-age criteria"
	Child Mortality	"A child has died in the household within the five years before the HDI survey"
Knowledge/Quality of Education	School attainment	"No household member has finished at least primary or six years of schooling"
	School attendance	"A school –age child of 11 to 13 year old is not attending secondary school or middle school"
Standard of Living	Electricity	"Lack of access to electricity"
	Drinking water	"Lack of access to clean drinking that is within 30 minutes normal walking distance"
	Sanitation	"No access to good sanitation that is not public (not shared)"
	Cooking Fuel	"Using dirty cooking fuel like charcoal, sawdust, firewood", etc
	House-type	"Living in a mud house with thatch roof; sandy floor or floor that is not tiled"
	ICT assets	"Lack at least one information-related asset such as functional computer, telephone, television, or radio"
	Mobility assets	"Lack usable mobility-related assets like a car, truck, motorbike, motorboat, or animal cart"
	Livelihood assets	"Lack usable arable land, refrigerator, or livestock (at least a horse, a head of cattle, five goats, five sheep or 30 chicken)"

***Source*:** United Nations Development Programme (UNDP 2015b) [11]

2.2 Theoretical Review

There are several theories underpinning the concept of taxation and efficient tax system however this study is based on:

2.2.1 Structural Change Theory

The theory suggests that what is needed for the transition of a nation economy from traditional economic system to a modern and developed economy is both human and physical capital accumulation and changes in the economic structure of the country (in form of tax reforms). This theory focuses on the mechanism by which less advanced economies transform their domestic economic structures from reliance on traditional subsistence agriculture to a modern and industrialized economy using various reforms including tax policy reforms.

The structural change theory otherwise referred to as theory of tax structure development as advanced by Hinrichs [12] and several others asserts that taxation is characterized at early stage of development with low tax revenue to GDP ratio, paucity of competent tax administrators, narrowness of the personal income tax base and a lot of indirect taxation on foreign trade in the tax structure. Over time, these attribute changes from stagnation to growth and effectiveness as a result government of articulated policy measures.

2.3 Empirical Review

Temitayo and Edu [13] undertook an assessment of "the productivity and the efficiency of the Nigerian tax system for the period covering 1970 to 1995". The buoyancies of the major federal government taxes such as company income tax, petroleum profit tax and customs and excise duties were evaluated using the OLS/buoyancy approach. Their findings showed that aggregate public revenue was generally buoyant as they obtained a buoyancy of 1.6 with the base year as the denominator and 1.3 buoyancy when the current year was adopted as the denominator and 1.4 buoyancy values was obtained when the mean of the base and current periods was used as the denominator. It was thus concluded that government aggregate revenue was buoyant within the period of study. This result supports Ariyo [14] findings on the productivity of the Nigerian tax system who concluded that "the Nigerian tax system is efficient and productive".

Using yearly time series data set covering 30 years (1983 to 2012), Meshak and Jeff [15] examined the "efficiency and productivity of the Nigerian tax system". Results revealed that "individual tax sources were all significant at 5% level". They employed the tax elasticity and buoyancy method and the buoyancy result indicated that customs and excise duties, petroleum profit tax and total tax revenue were less than unity and are negative. The negative results of total tax revenue mean that the tax revenue generated was not positive but negatively responsive to variation in GDP. They reported in the conclusion that the negative result some of the tax bases to GDP may have resulted from poor tax enforcement and administrative structure, extension of tax incentives, tax evasion, poor tax efforts and of course corruption.

Ariyo [14] evaluated the productivity of the tax system in Nigeria for 1960 to 1990 using the OLS/buoyancy approach. In this study, company income tax and value added tax showed buoyancy that is more than unity (1.13 and 1.85 respectively). His findings also revealed that company income tax was elastic with an elasticity coefficient of 1.21 and having buoyancy that is more than unity (1.13). Value added tax also showed a buoyancy of 1.85 which is more than unity of 0. These results suggest an improved efficiency in tax collection from this source for the period covered. The performance of non-oil component showed a lower elasticity coefficient of 0.94. Petroleum profit tax had elasticity of 2.60 and 1.51 in relation to GDP (oil boom period) and there was an elasticity of 1.18 for government tax revenue relative to GDP for the period covered.

Fasoranti [16] investigated the productivity of tax revenue and its relationship with the growth of the Nigerian economy using a time series data covering from 1970 to 2009. The ordinary least square was adopted in analyzing the collected data. The calculated elasticity index of tax revenue revealed tax productivity in Nigeria was significantly low. The implication of the low elasticity/buoyancy is that aggregate tax revenue in Nigeria was not responsive to growth and sustainability of the economy. Hence, aggregate tax revenue relative to the Real Gross Domestic Product is ineffective and inefficient in the Nigerian tax system. She recommended among others, that the Nigerian tax system should be overhauled and transformed on the basis of administrative efficiency as well as improved method of revenue collection.

Ojonago, *et al.* [17] investigated tax buoyancy and elasticity in Nigeria. The study adopted secondary data sets and analyzed using multiple regression estimation procedure in the form of the vector error correction model. The findings from the

study showed that "tax revenue is significantly buoyant and elastic in Nigeria. Thus it was recommended that the government should introduce policies that will help her take advantage of the potentials inherent in the country and increase its tax revenue by diversification" Omorugi [18] investigated "the productivity of the Nigerian tax system by evaluating the buoyancy of the tax system for the period 1960 to 1979" He focused on both the indirect taxes such as import, export and excise duties, as well as direct taxes such as personal income tax (federally collected) and petroleum profit tax. Results showed a general satisfaction on the level of tax productivity in Nigeria during the period under review. Okwara and Amori [19] empirically evaluated "the impact of tax productivity on economic growth in Nigeria for the period 1994 to 2015" adopting the multiple regression model. The variables of study include non-oil income tax; value added tax and gross domestic product for economic growth. The results show that "non-oil income taxes has significant impact on gross domestic product while value added tax has negative relationship and insignificant impact on gross domestic product for the period under investigation" The study thus recommends that the Nigerian government should diversify the major revenue source from oil and gas to other sectors of the economy such as the extractive industries and the agricultural sector to attract direct and indirect taxes.

In other African countries, a study on the effects of tax reforms on buoyancy and elasticity of tax system in Kenya was undertaken by Omondi *et al.* [20]. The study also determined "the effect of tax modernization scheme and revenue administration reforms on tax buoyancy and tax elasticity using a data set covering between 1963 to 2010" The result of the regression analysis of tax revenue on income indicated that elasticity for Kenya overall tax system was 0.690 which implies that the increase in national income brought about a less that percentage increase in tax revenue. The findings agreed the one of Wawire [21] who found the overall tax system to be inelastic

2.3.1 Gap in Literature

Gap in Theoretical Review: The common theories adopted in most of the few existing works on tax buoyancy are anchored on the benefits received theory. However this work is basically anchored on the theory of tax structure development (Structural Change Theory). The theory focuses on the mechanism by which developing economies like the one of Nigeria can transform her economic structures from reliance on traditional Subsistence agriculture to a modern industrialized economy using tax reforms aimed at improving tax revenue buoyancy.

Gap in Methodology: Most of the work performed on tax buoyancy considered its impact on economic growth using the gross domestic product and the per capita income. However this work is a deviation from the norm as human development index was incorporated in the model. Besides, the buoyancy coefficients of each of the major taxes were adopted in the model.

Scope (time) Gap: Few of the previous studies on tax revenue buoyancy and productivity covered a lesser period of between 20 to 30 years. However, to elicit more valid and reliable empirical evidence and in order to make the work current, the period of study was extended to 38 years (1980 - 2017. Practical gap: The Nigerian society is faced with the issue of budget deficit resulting mostly from inadequate financial resources to execute programs and projects. Therefore, study on tax revenue buoyancy will help the government to devise practical and sustainable means and method of raising optimal tax revenue for human capital development.

3.1 Methodology and Model Specification

The ex-post facto research design was adopted in this paper and the time series data were sourced from the Federal Inland Revenue Services and the National Bureau of Statistics covering a period from 1980 to 2017. To explain the relationship between direct taxation buoyancy and human development index (HDI) in Nigeria, the following model was developed:

$$HDI = F\ (PPT, CIT) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (i)$$

$$HDI = \beta_0 + \beta_1\ PPT_{bt} + \beta_2\ CIT_{bt} + U_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (ii)$$

The a priori expectation is $\beta_1, \beta_2 > 0$. The greater the level of tax revenue buoyancy, the greater the human development index.

$$Log\ (HDI)_t = a_0 + a_1 \log\ (PPT)_{bt} + a_2 \log\ (CIT)_{bt} + \mu_t \ldots\ldots\ldots (iii)$$

Where:

HDI = Human Development Index; PPT = Petroleum Profit Tax; CIT = Company Income Tax

β_0 & a_0 = Intercept of the relationship/the constant term

β_1- β_2, a_0-a_1 = Coefficients of the predictor variables (measures of the slope)

Log $(HDI)_t$ = Natural logarithm of HDI in time (t).

μ = Stochastic variable (disturbance)/ Error term of the equation

b = Buoyancy

t = Period of time (1980 – 2017)

4.1 Descriptive Statistics

In order to achieve the specific objectives, "the descriptive statistics of the data employed was initially examined critically. The description statistics of data series gives relevant information about sample statistics such as mean, median, minimum, maximum value, skewness, kurtosis and Jarque-Beta statistics"

Table 3: Descriptive statistics of the variables

	HDI	PPT	CIT
Mean	0.437368	672.6342	263.9195
Median	0.410000	165.4500	39.75000
Maximum	0.530000	3070.600	1408.430
Minimum	0.380000	3.750000	0.400000
Std. Dev.	0.054011	858.9763	397.7163
Skewness	0.577276	1.289157	1.430650
Kurtosis	1.735125	3.665673	3.793135
Jarque-Bera	4.643755	11.22714	13.95883
Probability	0.098089	0.003648	0.000931
Sum	16.62000	25560.10	10028.94
Sum Sq. Dev.	0.107937	27300090	5852594.
Observations	38	38	38

***Source*:** Author's Computation from E-view 8, 2020

The mean value of petroleum profit tax and company income taxes remittances are N672.63 billion, N263.92 billion respectively. The mean value of human development index is 0.437.The skewness coefficient which is a measure of the departure of a distribution from symmetry presented in Table

4.1 above shows that the entire data variables have skewness value that exceeds 1 (one) except human development index which has less than 1 (one) coefficient (0.57727). This indicates that the entire data variables adopted for the study are normally distributed except the data series for human development index. Even though the distribution of human development index does not follow the normality trend, however it is positively skewed as it is not having a negative value. This indicate that all the distribution were positively skewed, indicating that they are not symmetrically distributed. Kurtosis result which measures the degree of peakedness of a distribution in relative terms to a normal distribution confirms that the entire data series are normally distributed and are not platykurtic (not having negative values) as their kurtosis coefficient are greater than three (3) except HDI (1.7).

The p-value for all the variables is significant for the Jarque-Bera statistics except value for human development index, which indicate a fairly abnormal distribution. Nevertheless, the issue abnormality in the Jarque-Bera statistics is taken care of given that the values of the skewness coefficient in all the variables are greater than 0.

The proportion of the dispersion of the variables indicates on the overall that the highest standard deviation is petroleum profit tax (858.9763) while human development index has the lowest standard deviation (0.054011). To ensure that the collected data are fit for the study, the stationarity test was conducted on the data.

4.2 Data Analysis

4.2.1 Result Summary of Unit Root (Stationary) Test

The study carried out the unit root test using the Augmented Dickey Fuller (ADF) unit root test due to the fact that the data involves time series.

Table 4: Stationary Test

Variables	ADF	1% Critical	5% Critical	10% Critical Prob.	Order	Stationary?
	T-Statistic	Values	Values	Values	Value	
PPT	-8.208864	-3.632900	-2.948404	-2.612874	0.00001(1)	Yes
CIT	-7.232994	-3.699871	-2.976263	-2.627420	0.00001(2)	Yes
HDI	-6.881347	-3.632900	-2.948404	-2.612874	0.0000 1(1)	Yes

***Source*:** Researchers' Compilation from E-Views 8

The results of the unit root test adopting ADF at 1%, 5% and 10% critical levels indicate that all the time series variables are stationary at first difference 1(1) except companies income tax that is stationary at second difference (1(2). The critical values at the selected levels showed signs/p-values that are significant and consistent. The test statistic values (ADF T-statistic) are also greater than the test critical levels. This confirms to a large extent the stationarity and the co-integration of the data set/variables. The result implies that the adopted variables are consistent, reliable and very appropriate in explaining and measuring the relationship between the variables.

4.3 Test of Hypotheses

Table 5: Summary of Tax Buoyancy Coefficients

Tax components	Tax buoyancy	Percentage (%)
Petroleum Profit Tax (PPT)	0.03170459	3.17
Company Income Tax (CIT)	0.01202596	1.20

***Source*:** Author's computation, 2020

Table 6: Tax Buoyancy and Tax Elasticity Coefficients

Tax	Tax Buoyancy	Tax Elasticity	Prob.	Hypotheses result
Variables	Coefficients	Coefficients	Value	
PPT	0.03170459	0.083615	0.1295	Insignificant & not buoyant
CIT	0.01202596	0.173001	0.0003	Significant but not buoyant

***Source*:** Author's computation, 2020

Table 7: Summary of Tax Elasticity Coefficient and other measures

Tax Variables (LOG)	Tax Elasticity Coefficient	PROB.	T.STAT	STD ERROR	DW
PPT	0.083615	0.1295	1.553677	0.053818	2.14
CIT	0.173001	0.0003	4.022741	0.043005	2.04
HDI	0.007112	0.0184	2.485537	0.002861	2.04

4.4 Discussion of Findings

The positive relationship between petroleum profit tax buoyancy and human development index indicates that the tax revenue from petroleum upstream activities is positively responsive to changes and improvement in human development index. However, the relationship is not statistically significant and its buoyancy coefficient is less than one and the p-value of 0.13 is greater than 0.05 level of significance. This shows that Nigeria's over reliance on petroleum profit tax and its poor administration especially in the area of utilization has contributed to poor human resources development in Nigeria. This finding agrees with the results of Uzonwanne [22] who posits that "Nigeria's overdependence on oil has contributed to the poor management of human capital and resources which has led to the migration of many talented citizens of the country to other countries in search of better life". The positive and significant relationship between company income tax buoyancies and human development index in Nigeria indicates that effective utilization of income generated from company taxes could improve the human development index in Nigeria in form of improved health care, quality education and the living standard of the people. However, the less than one (1) buoyancy coefficient shows some inefficiency associated

with its mobilization and/or the utilization

These findings are consistent with our apriori expectation because all things being equal, an increase in petroleum profit tax and companies income tax are expected to result in a (positive) improvement in human development index. The overall results indicate non-buoyancy and inefficiency of the tax composition (PPT, CIT) in Nigeria. It indicates a lesser degree of progressivity and inefficiency of the Nigerian tax structure.

5.1 Conclusions Based on the findings of this study, the following conclusions were drawn:

1. The findings on petroleum profit tax buoyancy and human development index shows that there is no significant relationship between petroleum profit tax buoyancy and human development index in Nigeria. We therefore conclude that petroleum profit tax collection and utilization spurred a less than proportionate improvement on Nigeria human capital development measured using human development index. Thus, there is no significant relationship between petroleum profit tax buoyancy and human capital development in Nigeria leading to the non-acceptance of the stated hypothesis.
2. The findings relating to companies income tax buoyancy and human development index shows that there is a significant relationship between companies' income tax buoyancy and human development in Nigeria. We therefore conclude that companies' income tax was positively and significantly responsive to improvement in the Nigerian human development index leading to the acceptance of the stated hypothesis.

Conclusively, the study was aimed at determining if the petroleum profit tax and the companies income tax in Nigeria is buoyant and have significant relationship with human capital development. Overall the study reveals that Petroleum profit and companies income taxes are inefficient and not buoyancy as the buoyancy and elasticity coefficients are less than one (1). It also shows that to a great extent, a positive relationship between the explanatory and the explained variables exist but the relationship is statistically insignificant apart from companies' income tax. This result may have resulted from poor tax enforcement and administrative structure in Nigeria coupled with unsystematic extension of tax incentives and duty waivers as well as prevalent tax evasion, and of course corruption and other unethical practices enveloping the Nigerian tax environment. Furthermore, Dickson and Presley [23] attributes the tax revenue inefficiency and low level of tax productivity in Nigeria to misguided tax exemptions and concessions, high rate of tax evasion, and excessive corruption in the administration of the tax system.

5.2 Recommendations

The results of this study suggest some basic policy recommendations, which when considered and implemented could have a far-reaching positive effect on the Nigerian economy. Therefore, based on the findings and conclusion of this study, the following recommendations become imperative:

1. To improve human capital development and buoyancy of petroleum profit tax, the mobilized tax should be efficiently utilized in providing quality education, healthcare services, and basic infrastructures to the people. The Nigerian tax administration machinery as regards petroleum profit tax should be overhauled to have an effective redress and refund system that promote quick disputes resolution and dispensation of justice to aggrieved taxpayers. For results to be achieved, the Nigerian tax laws and assessment and payment procedures should be simplified, and there should be consistency in the interpretation of tax legislations. To complement this effort, specialized tax judges are needed in a specially created tax courts to adjudicate on tax matters promptly and efficiently and to foster tax compliance.

A fraud-free and efficient tax administrative structure with capable and well-trained human resources, well-motivated, well equipped with state-of-the art information and communication facilities would enable the upstream, downstream sectors and other sectors of the Nigerian economy to make appreciable advancement in revenue diversification and tax revenue buoyancy.

2. For improvement in human capital development and to further improve company income tax buoyancy, there should be continuous and regular review of the Nigerian company income tax statutes and other tax related issues by government agencies. Such tax reviews should be systematic and in alignment with the current macroeconomic objectives of the government and international best practices that will engender foreign direct investment and create enabling environment for private businesses to thrive. Such tax reforms should be directed at blocking tax leakages especially in the black market economy and any known loopholes in the tax legislations.

Competing Interests

Authors have declared that no competing interests exist.

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