PETROLEUM REVENUE GENERATION ON HUMAN CAPITAL DEVELOPMENT IN NIGERIA

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Abstract

The justification for this study was to examine the Petroleum Revenue Generation on Human capital development in Nigeria over the last 10 years. The specific objectives were on Crude oil sales, Petroleum Profit Tax, Oil and Gas Royalties on Human Capital Development measured with Human Development index parameter anchored on Human capital theory. Data set were extracted from the CBN Statistical Bulletins, FIRS, NEITI and World bank databases for the periods (2015-2024). However, these data set were analyzed using descriptive statistics, correlation and least square regression. expo-facto design was applied and secondary data sourced. Judgmental sampling technique was adopted out of total Petroleum Revenues. The implications of the findings showed that Crude oil sales have a positive and significant impact on human capital development index, oil and gas royalties as well as petroleum profit tax also showed a significant positive impact on human capital development as measured by HDI. The study recommended that the Nigerian government should effectively and efficiently utilize the oil funds in strategic development projects so as to improve the peoples standard of living especially in terms of Education and health. The implications are periodic audits, public reporting, and stakeholder engagement to ensure that Revenue funds are not diverted from human capital development priorities.

Keywords: *Petroleum Revenue, Crude oil sales, Oil and Gas Royalties and Human Capital Development*

Introduction

The advent of pre and postcolonial rule tremendously experienced revenue generation from agricultural output and colonial tax system that were used to facilitate numerous projects from the elite by the British colonial masters and up to the first decade after independence, agriculture was the mainstay of the Nigerian economy. The agricultural sector then contributed about 95% of the country's total foreign exchange earnings. The sector also generated over 60 percent of the country's employment capacity, and approximately 56% of gross domestic product (Akpan, 2012; Sertoglu , 2017). However, with the discovery of petroleum in 1956, and the subsequent oil boom of the 1970s, the attention of the government was shifted away from the agricultural sector since the revenue and expenditure needs of the government were met with the proceeds from crude oil export and local sales. Hence, the once vibrant agricultural sector was neglected as a result of the massive crude oil production. This undoubtedly attracted local and foreign investors into the sector as part of foreign direct investments into Nigerian economy with presence of shell, (SPDC) Total, Texaco NLNG, Mobil and other International Oil companies (IOCs).

The accelerated oil boom which Nigeria experienced in the 1970s moved the country to recover rapidly from the civil war and at the same time created an opportunity and global support to the

government programme of rapid industrialization. Consequently, many industrial parks were established and the economy recorded a marginal high growth rate of about 8% per year which made Nigeria, by 1980, the largest economy in Africa (Yakub, 2008). However, the growth was not sustained as the new oil wealth was not able to significantly reduce the widespread poverty and the collapse of basic infrastructure and social services in the country. Hence, in 1981 the price of crude oil fell due to the oil glut, i.e excess supply of crude oil in international market and corruption and mismanagement still prevailed at all levels, the economy became severely depressed (Yakub, 2008; Adeniyi, 2009). Undoubtedly, the Petroleum Industry Act (PIA act) of 2021 and Global memorandum of understanding (GMOU) by international oil companies have come to stay such as Dangote Refineries in Lagos and other modular refineries by Federal Government of Nigeria to streamline the participation of other player into petroleum sectors and deregulation policy of the government aim to stimulate and grow other sectors of the economy for improvement of human lives. (Elom. Nwaeze & Chukwu 2025).The idea of PIA act of 2021 and 2023 are to streamline the operations of oil and gas sectors by allowing other local prayers to patriciate and deregulate the sector for optimum revenue to the government and available of petroleum products for human and industrial consumption.

Human capital development encapsulates three parameters 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 (kpolovie et al, 2017).The foregoing discussion shows that, due to its oil dependent nature, the performance of the Nigerian economy in terms of human capital development has not been satisfactory. In this context, successive governments have introduced several policies and programmes. These policies and programmes were meant to fast-track economic growth and development by altering the structure of production and consumption pattern, diversify the country's economic base, generate employment and above all, create a globally competitive and stable economy (Anyanwu et al, 1997; Eneh, 2011; Amani & Hassan, 2021; Effiong, 2022).

Public spending from oil revenues sources on health and education is predicted to improve economic performance and enhance human capital development through its influence on the discipline of fiscal policy and the effective allocation of resources towards infrastructure development, institutions also have a significant impact on human capital development (Shuaibu & Oladayo, 2016). However, the majority of revenue to be expended on critical areas necessary for improved human development in Nigeria is derived from the petroleum industry. Oil provided near 90% of foreign exchange earnings and approximately 80% of Federal revenue and contributes to the growth of the Nigerian economy. The income from oil exploration and exploration as stated by (IFRS 6) over time has been the mainstay of the economy (Efanga et al, 2020) and at such the industry has the biggest role to play in addressing poor human capital development in the nation over the years.

United Nations' Human Development Index (HDI) reports, showed that Nigeria is among some of the poorest nations in the world. Thus, Nigeria is depicted as a good example of the resource curse phenomenon- a paradox of suffering in the midst of plenty (Elwerfelli & Benhin, 2018). The policies and programmes of successive governments meant to fast-track economic growth and development have failed due to several impediments including political instability, corruption, lack of faithful implementation. Hence the various policies and programmes were not able to deliver the developmental objectives for which they were introduced (Wilson, 2002; Effoduh, 2015; Effiong, 2022). Today, the country is facing severe developmental challenges, and it is generally being asserted that there is an urgent need to reduce the dependence and perceived vulnerability of the economy to the oil industry. This study therefore is an attempt to re-examine the impact of the income from petroleum industry on human capital development in the Nation. Human capital development has remained a serial problem bedeviling the Nigerian state since independence as several efforts geared towards improved human capital have failed to yield significant results. There still persist in Nigeria the problems of unemployment, high mortality rate occasioned by poor health care system, brain drain as a result of poor educational funding, lack of critical infrastructures, high inflation rate, insecurity etc.
Records of other studies on Human development in Nigeria (Ibadin & Oluwatuyi, 2021; Ebimobowei, 2022.Elom, etal 2025) have been based on the effect of tax revenue on human and economic development. While others like (Ezenwobi & Akamelu, 2024) used Gross domestic product as a

measure of human capital development. Conversely, total revenue realized from crude oil sales, royalties from oil and gas and Petroleum profit tax is yet to be conceptualized in Nigeria especially with regards to its impact on human capital development in the country. Hence, the need for this present research. Specifically, the study sought to:

i, Ascertain the impact of crude oil sales on human development index in Nigeria.
ii, Determine impact of oil and gas royalties on human development index in Nigeria.
iii, Examine the impact of petroleum profit tax on human development index in Nigeria.

Review Of Related Literature

2.1.1 Petroleum Revenue Generation

Petroleum revenue Generation is the revenue flow to the federation, other tiers of government and subnational entities from sources such as crude oil sales, taxes, royalties and other revenues from oil and gas production and exploration activities. Petroleum revenue has been conceptualized in the literature even though so much has been said about it by several authors and researchers (Abdullahi et al., 2015). According to Sunley *et al*. (2021), oil and gas extraction plays a dominant role as a source of export earnings and, to a lesser extent, employment in many developing countries. But the most important benefit for a country from development of the oil and gas sector is likely to be its fiscal role in generating tax and other revenue for the government. To ensure that the state as resource-owner receives an appropriate share of the economic rent generated from extraction of oil and gas, the fiscal regime must be appropriately designed as new tax system and reforms is said be operational in 2026. The government, as resource owner, has a valuable asset in the ground. This asset a crude oil or natural gas deposit can only be exploited once. In order to convert this asset into financial resources, the government must attract capital on terms that ensure it gets the greatest possible value for its resources. Sunley et al. (2021), further assert that, the government can collect revenue from the oil and gas sector by a variety of fiscal and monetary means. Most countries collect the government share of economic rent primarily through production-based or profit-based instruments. In some countries, the government participates more directly in project by taking an equity interest.

Bonuses can ensure some up-front revenue for the government and may encourage companies to explore and develop contract areas more rapidly. In many countries with petroleum resources, revenues from different instruments accrue to different parties; for example, as contained in Sunley et al. (2021), royalty payments may be made to local units of government, landowners or the petroleum ministry, income tax, resource rent tax, production sharing, state equity, indirect taxes, import duties, value added taxes, export duties and other nontax payments. The Nigerian government sources a large proportion of its total revenue from oil since Nigeria has been seen as some country rich with the natural resources. The petroleum industry generated about 82% income for federal government while 18% come from non-oil revenue (Obi, 2012).

The petroleum industry constitutes a major source of income and occupies a strategic position in the economic development of Nigeria (Barineka, 2018). For the past decade, the industry has been playing vital and dominant role to the economic growth of Nigeria, both in foreign exchange earnings and domestic income generation (Ibadin & Oladipupo, 2015). It was determined that the main petroleum revenues due to the national treasury in respect of oil and gas activities in Nigeria are: Domestic Crude Oil Sales, Equity Crude Oil Sales, Gas Sales, Refined Petroleum Products sales, Profits from NNPCL subsidiaries, Petroleum Profits Tax, Company Income Tax, Signature Bonus, Concession Rentals, Royalties from Oil and Gas, Gas Flare Penalties, and Miscellaneous Oil Revenues (Udo, 2020).

2.1.2 Crude Oil Sales

In many oil-producing countries, the National Oil Company (NOC) sells vast quantities of physical oil and gas. These physical assets are available to sell by NOCs as a result of: the NOC's upstream activities; the oil and gas resulting from the government's equity share in operating joint ventures and participation in production sharing contracts; and the oil and gas received as in-kind payments made by private companies. The revenue generated from the sale of this oil and gas, often referred to as commodity trading, is a significant revenue stream for certain oil-producing countries,

and in some cases, constitutes a country's largest source of income. Despite the economic importance of the sale of oil and gas for oil-producing countries, this form of physical commodity trading is currently subject to limited scrutiny or regulation, and is open to abuse. While revenue generated from the sale of the government's share of oil and gas remains an opaque economic activity, "payments to governments" (PtG) laws in Europe and Canada require companies to publish annual PtG reports focused on their "extractive activities" (the payments they make for the right to extract resources). The resulting data enable citizens in resource-rich countries to scrutinize certain tax, royalty and other payments made to government entities by companies engaged in the exploration and extraction of natural resources (Nnah,2020). These in-kind payments can arise both when a company makes a production entitlement payment, often paid to the government as part of a production sharing contract, and when it makes in-kind payments to meet royalty and tax obligations. In order to transform production entitlements or other in-kind payments into revenue that can be transferred to the national treasury and used to fund national priorities such as health and education, the NOC engages in commodity trading activities, marketing and selling this oil to domestic and foreign buyers. This briefing uses this in-kind payment disclosure data for extractive activities to identify countries that receive a significant percentage of their payments in the form of physical oil and gas from companies covered by PIA Act, thereby indicating a potential reliance on the sale of oil and gas as a significant government revenue stream. One of the central motivations, behind the push for greater commodity trading transparency is to address the governance and corruption risks brought about by these activities. In Nigeria Crude oil sales revenue is payable to Nigerian National Petroleum Company Limited (NNPCL) (Ezenwobi and Akamelu, 2024).

2.1.3 Oil and Gas Royalties

Oil royalties are payments made by international oil companies (IOC's) as compensation for the exploitation of irreplaceable natural resources (Richard & Dominic 2015). It is paid based on a percentage of the quantity of oil produced. It is fixed as follows: On shore production 20%, Off shore up to 100m – 18.5%, Off shore 100m-200m- 16.6% Off shore 20lm-500m –12.00%. Many investors look toward commodities that have potential earning values that have a little downside and great upside potential. Buying and selling oil and gas royalty interests is a valuable and time tested investment protocol for many investors. Oil royalties along with gas royalty payments can be lucrative investment opportunities for both buyers and sellers. The important thing to remember is regardless of whether you're buying or selling oil and gas royalty payments as an investment, you need a reliable, trusted, and experienced brokerage. Like royalties paid on manufactured products to their inventors or musicians for their songs, oil and gas royalties are paid on how much material is produced and the current value of the oil or natural gas at the time of its extraction. The first thing to consider when looking at oil and gas royalty payments is how much interest an investor has in a particular well. Landowners can potentially receive 100% of the royalty payments generated by a well on their property, or they can sell shares in future royalty payments to make cash for themselves. It is worth taking the time to understand the type of investment commodity, the industry it exists inside, the trends for the commodity's use, the commodity's longevity, and many other issues and factors (Ibadin & Oladipupo, 2015). Royalty interest is an oil and natural gas lease that gives the owner of the interest the right to receive a portion of the production from the leased acreage (or of the proceeds of the sale thereof), but generally does not require the owner to pay any portion of the costs of drilling or operating the wells on the leased acreage. Whether the royalty owner's interest in the lease is purely due to an investment scenario or due to being in the oil and gas drilling industry, it is essential to consider the source of the property or the lease holder's interest before deciding to invest. There are two designations for investors in oil and gas royalties: interest owner and non-interest owner (Popoola et al., 2017). An interest owner is an investor who also owns the property and/or the company that is prospecting, drilling, or extracting materials from the ground. An interest owner can be an oil drilling and/or production company Royalties are payable to the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) and credited to the Nigerian Sovereign Investment Authority.

2.1.4 Petroleum Profit Tax

Odusola (2006) opined that petroleum profit tax (PPT) is a tax applicable to upstream operations in the oil industry. It is particularly related to rents, royalties, margins and profit sharing elements associated with oil mining, prospecting and exploration leases. It is the most important tax in Nigeria in terms of its share of total revenue contributing 95 and 70 percent of foreign exchange earnings and government revenue, respectively. Section 8 of Petroleum Profit Tax Act (PPTA) states that every industry engaged in petroleum operations is under an obligation to render return, together with properly annual audited accounts and computations, within a specified time after the end of its accounting period. Petroleum profit tax involves the charging of tax on the incomes accruing from petroleum operations (Nwezeaku, 2005). He noted that the importance of petroleum to the Profitability of oil and gas firms in Nigeria gave rise to the enactment of a different law regulating the taxation of incomes from petroleum operations. The petroleum profit tax is charged, assessed and payable upon the profits of each accounting period of any industries engaged in petroleum operations during any such accounting period, usually one year (January to December) (Anyanwu, (1993). Petroleum profit tax involves the charging of tax on the incomes accruing from petroleum operations of oil companies (Abdullahi, Madu &Abdullahi,2015). In Nigeria The PPT rates vary as follows:

50% for petroleum operations under production sharing contracts (PSC) with the Nigerian National Petroleum Corporation (NNPC).

- 65.75% for non-PSC operations, including joint ventures (JVs), in the first five years during which the company has not fully amortised all pre-production capitalised expenditure.
- 85% for non-PSC operations after the first five years.
- 30% for upstream gas profits.

Following the enactment of the Petroleum Industry Act 2021, holders of a Petroleum Prospecting Licence and Petroleum Mining Lease will be subject to both CIT at 30%, and Hydrocarbon Tax (HCT). HCT rates are as follows: 30% for converted/renewed onshore and shallow offshore Petroleum Mining Lease. 15% for onshore and shallow onshore Prospecting Petroleum Licence and Marginal Fields. This means that the highest headline tax rate for companies in the upstream oil and gas industry will be 60%. Current Oil Mining Licence and Oil Prospecting Licence holders will continue to be taxed in line with the Petroleum Profits Tax Act (PPTA) unless a conversion contract is executed in line with the provisions of the Petroleum Industry Act 2021(Pwc.com.ng, 2025). PPT is payable to the Federal Inland Revenue Service (FIRS) and credited to the federation account (Ezenwobi & Akamelu, 2024).

2.1.5 Human Capital Development

Human capital 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 capital 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” (kpolovie et al, 2017). “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” (Osirim,Wadike & Chukwu, 2022).

2.1.6 Human Development Index

The Human Development Index (HDI) came into existence based on Human Development Report in 1990 by the United Nation Development Programme, (UNDP). This global parameter unarguably is the index that captures the societal well-being, as it accounts for a country's achievements in three (3) categories of economic development (Ibadin & Eiya,2019; Osberg & Sharpe, 2005). These categories include (i) healthy and long life, ably represented by life expectancy at birth (ii) knowledge, represented by school enrolment and literacy rates, and (iii) decent standard of living, ably represented by GDP per capita {Ibadin & Eiya, 2019).HDI provided the ambience to recognize people

at the centre of development and, in consequence, leads to its yearly reporting (Hassan, 2012). The Human Development Report (HDR) (1990) To this end, HDI is summarized in a single composite index, combining three indicators – longevity, education and living standards (Nafziger, 2006).In summation, HDI ranks a country's level of economic development based on the criteria of Health, Education and Standard of living indexes (Ofoegbu,Akwu, 2016).

2.2 Theoretical Framework

2.2.1 Human Capital Theory

This theory was designed by Schultz (1961), which Becker (1964) advanced through a study on economics of employers. Evidence from the study indicated that trained workers were more productive and earn more income due to advancement in knowledge and capacity. According Becker (1967), the theory assumes that investments in human capital are invaluable to individual earnings and national development, Education and training are invaluable investments and that the effects of human capital are quantifiable. The theory is relevant to the current research in the sense that human capital development is a result of investments in health, education and general wellbeing of a people and these investments need to be funded this study is examining the impacts of these investments as funded by revenue from Petroleum on Human capital development in Nigeria.

2.3 Empirical Review

Elom, Nwaeze and Chukwu (2025) examined the impact of petroleum income on human development index in Nigeria. The study data were sourced from Central Bank Statistical Bulletin and World Development Indicator. The stated hypotheses were analyzed using descriptive statistics, unit root test and multiple regression. The findings of this study revealed that: crude oil export income has a positive but statistically non-significant effect on human development in Nigeria petroleum profit tax exerts a negative and significant effect on human development .In conclusion, petroleum income, while economically substantial, does not guarantee developmental outcomes in contexts where governance and resource allocation frameworks may be weak or misaligned with developmental goals. It was recommended that the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) should establish a mandatory development fund sourced from royalty payments. This fund should be transparently managed and strictly allocated to human development priorities in oil-producing communities, including healthcare delivery, educational support, and livelihood enhancement programs. Similarly Eganga et al (2020) conducted a study on the oil revenue and economic growth of Nigeria for the period 1981 to 2018. The study used ex post facto and correlational research designs. The study collected secondary data from the Central Bank of Nigeria for the period under review. The data collected from CBN was analyzed using Auto-Regressive Distributed Lag (ARDL) model to analyze data, other diagnostic tests such as; unit root test, a test of Normality, Autocorrelation test, Heteroskedasticity test and Breusch-Godfrey Serial Correlation LM test. The results disclosed that oil revenue positively and significantly affects the economic growth of Nigeria for the period between 1981 and 2018. The study, therefore, recommended that since oil revenue had a significant positive influence on the economic growth of Nigeria within the period under review and also makes up about 70% of Nigeria's annual budget, it was vital for the government to improve oil exploration and guarantee that the actions of militants and oil facilities criminals are minimized to the barest minimum if not completely eliminated so as to increase oil production in Nigeria and in turn assist the improvement of economic growth in Nigeria. On the other hand, Obaretin and Monye-Emina (2019) investigated petroleum profit tax and economic growth in Nigeria for the period 1994 to 2015. The study employed ex post facto and correlational research designs. The study used time series secondary sources of data collection from the Central Bank of Nigeria and the office of the National Bureau of Statistics for the period under review. The secondary data were analyzed using the ordinary least square statistical method. The findings revealed that petroleum income tax, foreign direct investment positively and significantly influence economic growth in Nigeria for the period under investigation. Thus, the authors recommended amongst others that incentives given to investors in the petroleum industry are sufficient to decrease the influence of the social crisis on the risk premium of investors etc. Nnah & Lazbary (2023) investigated the impact of petroleum revenue on public spending in Nigeria with exchange rate as a moderating variable. To achieve this objective, research questions were raised,

hypotheses were formulated and a review of the extant literature was made. The empirical works reviewed still portrays some gaps in the reviewed works. The research by Jabir et al. (2020), Eganga et al (2020), Obaretin and Monye-Emina (2019) and Asangunla and Agbede (2018) though studied oil revenue as an independent variable was focused on its effect on economic growth as measured by GDP. More over, the latest time series data used in the reviewed works was by Eganga et al (2020).

3.Methodology

Research design used in this study is *expo-facto* design, which involves collecting, analyzing and interpretation of secondary data. In order to appraise adequately the effect of petroleum products prices and consumer products prices in Nigeria within the period. (2015-2024).A quantitative correlation design was used to examine the effect of the dependent variable (Petroleum Revenue Generation) on the independent variables (Human Capital Development). suitable in this study since the data used for the study was time series data. this is restricted to petroleum Revenue (crude oil sales, oil and gas royalties, petroleum profit tax) and human development Index Secondary data used for the investigation were sourced from the Central Bank of Nigeria (CBN) statistical bulletins, Federal Inland Revenue Service Website, Nigeria extractive industry transparency initiative website and the World Bank Development Website. Ordinary least square multiple regression model was used to analyze the data generated for the study with the use of Econometric Views (E-Views) .

Operationalization of Variables

Table 3.1 gives specific summary of variables description, measurements and source of data.

Variables	Label	Description	Source
Dependent Human development	HDI	The three dimensions of human development—a long and healthy life, access to education, and a reasonable level of living—measured by the Human development index.	WDI
Independent Crude oil sales	COS	Total revenue from crude oil export	CBN/NNPC
Oil and gas royalties	OGR	Payments made by oil companies (OC's) as compensation for the exploitation of irreplaceable natural resources	NEITI
Petroleum Profit Tax	PPT	A tax required from companies that operate in the petroleum industry	FIRS

Source : Researchers compilation from literatures reviewed (2025)

Notes: CBN: Central Bank of Nigeria Statistical Bulletin; NEITI: Nigerian Extractive industries Transparency Initiative; WDI: World Development Indicators for Nigeria, and FIRS: Federal Inland Revenue Services.

Model Specification

In order to examine the relationship between dependent and independent variables, using ordinary least square multiple regression .This study used Ojong et al's (2016) model, which was adjusted to fit the needs of the research:

= (COS, OGR, PPT)…… (1)

The full specification of the regression equation using unranked OLS was assumed to be:

LOG = 0 + 1*LOGCOS* + 2*LOGOGR* + 3*LOGPPT* + ……..... (2)

Where:

HDI = Human Development Index

COS = Crude Oil Sales .

OGR =Oil and Gas Royalties.

PPT = Petroleum Profit Tax.

LOG stands for natural logarithms; t stands for time in years; is the error term.

RESULTS AND DISCUSSION

4.1 Data Analyses

Table 4.1 Descriptive Statistics

	HDI	LOGCOS	LOGOGR	LOGPPT
Mean	0.5343	2.701003	1.887356	3.286608
Median	0.5335	2.752477	1.998369	3.279389
Maximum	0.56	2.853345	2.308884	3.624181
Minimum	0.513	2.443412	1.243038	3.040583
Std. Dev.	0.013833	0.13957	0.384152	0.180767
Observations	10	10	10	10

Source: **EVIEWS 10.0**, **Output**

The number of observations for the study is 10, this means longitudinal data was gathered for the independent and dependent variables over 10 years (2015-2024). For the dependent variable, the study found that Human development index has a mean of 0.5343 and standard deviation of 0.0138. Human development index also showed a minimum value of 0.513 and a maximum value of 0.56. In respect of the independent variable, crude oil sales as measured in logarithm form has a mean value of 2.701 and standard deviation of 0.139 it also showed a minimum value of 2.443 and maximum value 2.853. oil and gas royalties has a mean of 1.887 and a standard deviation of 0.384 with a minimum value of 1.243 and maximum value of 2.309 . Petroleum profit tax as measured in log form showed a mean value of 3. 286 and a standard deviation of 0.181 with a minimum value of 3.040 and maximum value of 3.624.

Table 4.2 Multicollinearity Test

	LOGCOS	LOGOGR	LOGPPT
LOGCOS	1	-0.159957455	0.554168343
LOGOGR	-0.15996	1	0.083624884
LOGPPT	0.554168	0.083624884	1

Source: **EVIEWS 10.0**, **Output**

Table 4.2 shows that the independent variables are not highly correlated with the highest correlation being 0.554 between crude oil sales and Petroleum profit tax.

Table 4.3: Regression Result for the Test of Hypothesis

Dependent Variable: HDI
Method: Least Squares
Date: 06/07/25 Time: 17:53
Sample: 2015 2024
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.331617	0.060806	5.453711	0.0016
LOGCOS	0.060764	0.034821	1.745062	0.0216
LOGOGR	0.027015	0.008036	3.361707	0.0152
LOGPPT	0.003781	0.026632	0.141976	0.0317

R-squared	0.740920	Mean dependent var	0.534300
Adjusted R-squared	0.611380	S.D. dependent var	0.013833
S.E. of regression	0.008623	Akaike info criterion	-6.379536
Sum squared resid	0.000446	Schwarz criterion	-6.258502
Log likelihood	35.89768	Hannan-Quinn criter.	-6.512310
F-statistic	5.719614	Durbin-Watson stat	2.236254
Prob(F-statistic)	0.034129		

4.2 Interpretation of Regression Result

Test of Variable Significance

The significance of the independent variables in explaining the dependent variable is ascertained through the probability values of the independent variables. If the probability values of the independent variables are less than 0.05, then it means that the respective independent variables is important or explains the dependent variable in a good way. If the probability value of the independent variables are greater than 0.05, then it means that the respective independent variables is not so statistically significant for determining the dependent variable.From the regression result, the probability value of crude oil sales is 0.0216 which is < 0.05. It means that crude oil sales determines Human capital development (HDI) in a good way. The probability values of oil and gas royalties and Petroleum profit tax are 0.0152 and 0.0317 respectively which are all < 0.05. This indicates that all of the independent variables variable determines Human capital development as measured by human development index in a good way.

From the regression analysis, it can be observed that the independent variable *LOGCOS* has a significant positive relationship with HDI, *LOGOGR* has a significant positive relationship with HDI while *LOGPPT* has a significant positive relationship with the dependent variable.

The implication is that 1% increase In Crude oil sales will increase human development index by 0.060, 1% increase in oil and gas royalties will increase human development index by 0.027, while 1% increase in petroleum profit tax will increase human development index in Nigeria by 0.003.

After adjustment the R-squared value stood at 0.611380 which indicates that 61 percent of the systematic variation in HDI which is the dependent variable is explained by the independent variable while the remaining 31% is attributable to other factors.

4.3 Discussion of Findings

Crude oil sales (*LOGCOS*) has a positive and significant effect on Human capital development (HDI) with a coefficient of 0.0607 and a p-value of 0.0216. This finding is consistent the work of Eganga et al (2020) and implies that increased crude oil sales will increase Nigerian government spending on human capital development programmes. Oil and gas royalties (*LOGOGR*) has a positive and significant effect on HDI. The result is consistent with the findings of Asangunla and Agbede (2018). The implication of this findings is that increase in oil and gas royalties from oil companies in Nigeria will go a long way in financing human capital development initiatives of Nigerian government.Petroleum profit tax (*LOGPPT*)) has a positive and significant effect on HDI with a coefficient of 0.0378 and a p-value of 0.0317. This result is in agreement the findings of Obaretin and

Monye-Emina (2019). This implies that increase in Tax on profits of oil companies in Nigeria will go a long way in funding government investments in health, education and general well being of the Nigerian Populace ultimately boosting the economic growth of the nation through development of its human assets.

5.1 Summary of Findings

The findings emanating from the study have led to the following conclusions:

Crude oil sales has a positive significant impact on human development index Nigeria.

Oil and gas royalties has a positive significant impact on human development index Nigeria.

Petroleum profit tax has a positive significant impact on human development index Nigeria.

5.2 Conclusion and Recommendations

The study conducted to determine the impact of petroleum income on human capital development in Nigeria has thus shown that: Crude oil sales has a positive significant impact on human capital development in Nigeria. The revenue from oil and gas royalties has a positive significant impact on human capital development in Nigeria while revenue generated from Petroleum profit tax also has a positive significant impact on human capital development as measured by human development index in Nigeria.

1 Strengthen Petroleum Revenue Management for Human Capital Investment

The study revealed that crude oil sales significantly impact the Human Development Index in Nigeria. It is therefore recommended that the government strengthens its petroleum revenue management strategies to ensure that proceeds from crude oil sales are allocated to critical sectors such as education, healthcare, and social infrastructure, which directly contribute to human capital development.

2 Enhance Collection and Utilization of Oil and Gas Royalties

Given the positive and significant impact of oil and gas royalties on human development, regulatory bodies such as the Department of Petroleum Resources (DPR) and the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) should enforce stricter compliance in royalty payments and transparency.

3 Adopt Policies for Sustainable Petroleum Income Deployment

Policymakers should develop frameworks that prioritize sustainable utilization of petroleum income for human development. This includes creating a Sovereign Wealth Fund mechanism or improving existing ones (e.g., Nigeria Sovereign Investment Authority) to ensure that petroleum income benefits both current and future generations. This can be achieved through periodic audits, public reporting, and stakeholder engagement to ensure that funds are not diverted from human capital development priorities.

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