Journal of Current Practice in Accounting and Finance (JCPAF)
Volume.15, Number 4; April-2024;
ISSN: 2836-9584 | Impact Factor: 9.83
https://zapjournals.com/Journals/index.php/Accounting-Finance
Published By: Zendo Academic Publishing

EMPIRICAL ASSESSMENT OF THE IMPACT OF OIL REVENUE ON THE WELFARE OF NIGERIANS

[1]OSAYI, Valentine Igbinedion, *Ph.D, PGDE, FCILRM, FERP* and [2]AKEMIEYEFA, Matthew, *PhD*
Valbobbies@yahoo.com / Osayi@fuwukari.edu.ng
Tel: 08033724999

Article Info

Keywords: Crude Oil Revenue, Welfare, Gross National Income, Crude Oil Revenue

DOI
10.5281/zenodo.11092144

Abstract

This study empirically examined the impact of crude oil revenue on the welfare of Nigerians between 1990 and 2021. Specifically, this study aimed to determine the impact of crude oil revenue on Gross National Income (GNI) per capita of Nigerians; investigating the impact of crude oil price on GNI per capita of Nigerians, and the impact of inflation rate on GNI per capita of Nigerians. Secondary data on Gross National Income per capita (GNI), oil revenue (OIR), crude oil price (COP), and inflation rate (INFL) were source from the Central Bank (CBN) Statistical Bulletins for various years and World Bank Development Indicators. The Ordinary Least Square (OLS) regression model was employed to analyze the data collected. The findings revealed that all variables except oil revenue do not have a significant impact on the welfare of Nigerians eventually. The study recommended that there, should be concerted effort by the Federal Government of Nigeria to diversify the economy from a monoproduct economy heavily dependent on crude oil. This is because the Nigerian economy cannot continue to depend on crude oil prices at the international market, which is subject to a high level of volatility that the government has no control.

Introduction

Before the discovery of oil in Nigeria, the major exportable crops were cocoa, palm products, groundnuts, timber and rubber, (Akinleye, Olowookere & Fajuyagbe 2021, and Akinlolu & Nejo, 2020). Exportation from the agrarian sector contributed about 95% of foreign exchange, 60% of employment, and 56% of gross domestic product (GDP) (World Bank 2013). However, Nigeria can be categorized as a country that is primarily rural and depends on primary products for exports (especially oil). According to a 2011 CBN report, the ratio of oil revenue to total government revenue in 1990 was 73%, which grew to 84% and 89% in 1993 and 2006, respectively. In

[1] Lecturer, Department of Banking and Finance, Federal University, Wukari, PMB 1020, Taraba, State, Nigeria.
[2] Lecturer, Department of Banking and Finance, Federal University Wukari, Taraba, Nigeria

2010, it was 74% and 64% in 2014. Nigeria currently accounts for approximately 32% and 34.2% of Africa's oil and gas, respectively. Nigeria is also the fifth largest oil exporting country of the Organization of Petroleum Exporting Countries (OPEC) and the fifth largest oil exporting country to the United States. Annual revenue accruing from oil and gas exports has run into billions of Naira in recent years, and since the mid-1970s, it consistently constitutes over 85% of national earnings. However, there is a mismatch between petroleum export revenue and development performance, as despite its huge export earnings, Nigeria is among the 15 poorest countries in the world; oil revenue has not satisfactorily impacted the living conditions of the majority of Nigerians (Udoh, 2002; Onoh, 1983; Oyefusi, 2009).

Oil was first discovered in the Olobiri area of Bayelsa State in 1956 by Shell BP and, has remained the basic source of energy and income in Nigeria (Akpokerere & Anuya, 2020; Ugwo, Umeh & Ochuba, 2019; Nweze & Greg, 2016; and Efanga, et. al 2020). In the 1970s, Nigeria experienced oil boom which Akpokerere & Anuya, (2020) and Akinlolu & Nejo, (2020) said was supposed to be an additional means but resulted in the neglect of the manufacturing and agricultural sector.

Oil being an essential means of income plays a crucial role in shaping either the political and economic behavior or activities of Nigerian citizens. Nigeria has total crude oil and condensate production of 644,362,369 barrels, giving a daily average of 1.76 million barrels per day, (NNPC statistical bulletin 2020). Nigeria is ranked 11th among countries that produce crude oil in the world and first in Africa. But Nigerians benefit less from these resources. Akinlolu and Nejo (2020) described, the switch to oil and neglect of other economic sectors (agricultural and manufacturing) as a resource curse system. They added that the curse comes from the fact that the oil revenue that has become the mainstay of the economy begins to negatively impact other parts of the economy by diverting available means of production and investment only to the oil industry. The full concentration of labour and capital with other economic resources to the oil industry can leave the country vulnerable to a downturn, high rise in unemployment rate, interest rate, and inflation rate among others.

The price of crude oil per barrel as determined by OPEC in 2021 is $69.72, which differs from the price of the immediate previous year, which was $41.47 per barrel due to the COVID-19 lockdown, which shows that the price of crude oil is not stable. Nigeria has the largest population in Africa, with over 200 million people who depend on the revenue accrued from the export of crude oil. It is expected that oil revenue ought to have been sufficient to provide for the populace. However, over-reliance of crude oil for revenue among oil price fluctuations has affected the economy because oil price was a benchmark for the nation's annual budget (Ogbonna & Appah, 2012). Instead of raising the standard of living, crude oil revenue raises the cost of living for an average citizen. They reiterated that the external reserve and balance of payment of an oil exporting country like Nigeria only improves when international oil prices increase, and if otherwise, the economy will suffer due to the corresponding fall in the country's revenue.

While some studies (e.g., Akinleye & Ekpo, 2013) pointed the importation of refined petroleum as a major cause of decline in the well-being of the masses that result from value addition, which makes domestic oil prices higher than what they should be when produced locally, thus devaluing the purchasing power of the income of the people. Budina and Wijnbergen, (2008) argued this from the perspective of poor management of the oil revenue generated, looking at the role of fiscal policy in managing the volatility of oil wealth and its implications for debt and development. However, experience from the recent fall in oil prices from around $114 a barrel to below $50 in 2015, dipping further below $35 a barrel, which was further predicted to crash to $20 per barrel in 2016 by the IMF, has shown that consistent fall in oil prices causes more damage to the well-being of citizens of oil-dependent

countries like Nigeria than the importation of refined petroleum and mismanagement of oil revenue (Adugbo, 2016).

It is against this backdrop that this study investigates the impact of crude oil revenue on the welfare of Nigerians.

Conceptual Review

Welfare of Nigerian Citizens

Welfare can be examined from the micro and macro perspectives. From the micro perspective, it is seen and interpreted in a person's daily life, while the macro perspective is viewed from the societal level. Welfare has also seemingly assumed a different connotation depending on whether one understands it mainly from economic or sociological perspective. Welfare can be related both to the individual and to the collective and involve material and not material needs. Moreover, it is often connected to various interpretations of social justice (George & Page 1995). Welfare can also include acts of altruism, channels for the pursuit of self-interest, the exercise of authority, transition to work, and moral regeneration (Deacon 1992). Welfare has also been interpreted in a restricted way by looking at it merely biologically, e.g., how many calories are needed to survive (Spicker 1995). This approach resembles, in many ways, the historical analysis of poverty. Welfare, for others, is a prominent feature of our common sense morality (Sumner1996, 2).In economics, welfare is thus mainly connected to an individual perception and utility of the use of income.

The approach of using individual utility can also partly explain why it has not been possible to establish a single and clear type of societal welfare function. Individual welfare refers to the micro level and how utility can be maximized by choices made by the individual. Social welfare refers to the sum of all individual welfare in a society (Walker 2005). However, based on the definition and discussion presented above, the following elements must be included when measuring welfare:

Macrolevel	Gross National Product and total societal spending on welfare policies (indicators of resources)
Microlevel	Subjective feeling of happiness, numbers of people living in poverty (indicators of well-being and avoiding of poverty)

Another very broad interpretation of welfare, which also includes well-being, has been used in part of the approach to happiness, as "I use the terms happiness, subjective well-being, satisfaction, utility, well-being and welfare interchangeably" (Easterlin 2001a, 465). Happiness as a measure of welfare, sometimes referred to as subjective well-being, has been increasingly researched (Layard 2005). The link to utility and Bentham in the 18th century is obvious (Burchardt 2006). This connection might be attributed to the fact that welfare (and social welfare) has been associated with individual perception of utility, and thereby, the old version of how to value and add individual utilities to the societal level of welfare. Contemporary emphasis on individualism means that the total happiness of a society is often understood as the aggregation of individuals' perceptions of their lives.

Oil Revenue

Oil revenue refers to the income earned from the sale of crude oil. Crude oil has become Nigeria's most crucial non-renewable energy source. Currently, the sector accounts for more than 90% of the country's foreign exchange earnings and about 80% of recurrent and capital expenditures (Adewusi, 1998; The World Bank, 2017). Hence, this sector's revenues are significant for the country's economic development. "Nigeria has about 37 billion barrels of condensate reserve and produces about 2 million barrels of quality crude oil per day" (Miller & Sorrell, 2006). There are substantial 183 trillion cubic feet of the country's natural gas reserves, representing 3% of the world. Approximately 50% of the 8 billion cubic feet of gas produced every day goes to export, whereas 13% is flared. Although the vision and purpose of the Government continue to pursue economic diversification, the oil sector

continues to be the primary source of revenue for this, as well as sustaining the country for the foreseeable future (Adewusi, 1998; Bentley, Mannan & Wheeler, 2007). Hence, Nigeria's most important source of budget financing is oil revenue which includes, but is not limited to, revenue from the export of crude oil, petroleum income tax receipts, and revenue from the domestic sale of crude oil. According to Budina & Van-Wijnbergen, (2008), oil is the dominant source of government revenue, accounting for approximately 90% of total exports and, approximately 80% of total government revenues. Since the discovery of oil in the early 1970s, it has become the dominant factor in Nigeria's economy. The problem of Nigeria's low economic performance cannot be attributed solely to volatility of oil earnings, but rather to a failure by government to productively utilize the financial windfall from the export of crude oil from the mid-1970s to develop other sectors of the economy, (Akinleye et al. 2021).

Oil Revenue and Gross National Income (GNI)

Extant literature reveals that despite the efforts of the Federal Government to diversify the economy away from oil to the non-oil sector, receipts from the oil and gas sector still account for a huge chunk of the country's total export earnings. An analysis of the foreign trade statistics obtained from the National Bureau of Statistics revealed that out of the total export earnings of N3.1tn for the second quarter of this year, oil and gas accounted for N2.43tn, while the non-oil sector accounted for the balance of N670bn. A breakdown of export earnings showed that petroleum oil and oil obtained from bituminous minerals generated a total sum of N2.42tn, representing 78.18%. This was followed by natural and liquefied gas with N412.49bn or 13.3%, other petroleum gasses with 1.16%, and other liquefied petroleum gasses and gaseous hydrocarbons with; N19.63bn. (Punchng). In the absence of the requisite generic and specialized capabilities to produce, the economy relies on imports. Import dependence is exacerbated by easy money from huge petroleum export earnings. Indeed, many analysts believe that Nigerians would have had good reasons to engage in deeper thinking if there were no oil wealth. However, oil revenue has made politics the most lucrative business, and rather than working in their specialized areas, the best doctors, lawyers, engineers, economists, lecturers, etc., have abandoned their professions for politics where they become disguisedly unemployed. In addition to skewing attention away from human capital building, petrodollars have caused further skill loss in the productive sector of the economy in terms of the opportunity cost of professionals abandoning their productive activities for politics.

At the macroeconomic level, oil dependency is associated with the recycling of earned revenue to consumer goods imports. This is coupled with excessively high production costs that cripple domestic production and cause low capacity utilization (African Economic Outlook, 2012). According to Ushie, Adeniji and Akongwale (2012), Nigeria is considered a classic example of the contradiction between natural resource abundance and perverse economic development outcomes (or the *paradox of plenty*). It has realized over US$ 600 billion in oil revenues since 1960, a figure greater than the resources used by the Marshall Plan in rebuilding Europe after World War II, and is currently the 8th highest net oil exporter in the world. However, Nigeria is cursed" by weak capabilities, and the paradox of plenty manifests in poorly thought-out investment decisions and weak capacity for managing the political economy and its institutions.

Theoretical Review

Dutch Disease Theory

The classic economic model describing Dutch disease was developed by economists Max Corden and Peter Neary in 1982. The Dutch disease theory was developed to explain the poor economic performance of the Netherlands following the discovery of North Sea oil. This theory opines that a natural resource boom causes a country's exchange rate to appreciate, making its manufacturing exports less competitive. According to Ismail (2010), the

Dutch disease can be seen as the process by which a boom in a natural resource sector results in a shrinking non-resource convertible. This same process, according to Manasseh et al. (2018), increases the specialization of the natural resource sector, thereby making the economy more susceptible to resource-specific shocks. The effect of Dutch disease on the economy was divided into two effects by Corden and Neary (1982), namely, the resource movement effect and the spending effect. The resource movement effect is the aspect in which the increase in the price of the discovered resource causes the marginal product of the value of the resource to increase, which consequently increases the wage rate in the newly discovered resource sector. This causes the tradable sectors to shrink, possibly in operation, some of which might shut down. The spending on the other hand, can be seen as the increase in revenue accounted for by the natural resource discovered, mainly when its price dramatically increases. The huge income obtained paves way for imports to increase with domestic absorption for both tradable and non-tradable. This phenomenon has been in effect. Ismail (2010) extended this to mean a situation where the "disease" impedes the growth of infant industries through learning by doing in the manufacturing sector. This could probably lead to loss of jobs if the industry shuts down, leading to unemployment. The booming sector thus becomes incapable of absorbing the unemployed , especially in a well-populated country. The theory fits rightly in the situation of Nigeria where the discovery of oil causes the extinction of other parts of the economic sector, such as the agricultural and manufacturing sectors, where the country imports almost everything and adversely affects the welfare of Nigerians.

Resource Curse Theory

The resource curse concept was introduced by Richard Auty in 1993. It is also known as the paradox of plenty and refers to the failure of many resource-rich countries to fully benefit from their natural resource wealth and the failure of goverrnments in these countries to respond effectively to public welfare needs. While one might expect to see better development outcomes after countries discover natural resources, resource-rich countries tend to have higher rates of conflict and authoritarianism and lower rates of economic stability and growth compared with their non-resource- rich neighbors. Auto (1998) was the first author to use the term "resource curse" to describe how countries rich in natural resources could not use that wealth to boost their economies; these countries had lower economic growth than countries without an abundance of natural resources. This theory describes how other African countries without crude oil are developing faster than Nigeria. For instance, South Africa and Ghana in terms of standard of living are above Nigeria.

Empirical Review

Many related studies have been conducted on crude oil in Nigeria with mixed findings. Among these are the following;

- Akpokerere and Anuya (2020) studied, Oil Revenue and Behavior of Selected Macroeconomic indicators in Nigeria from 1981 to 2019. The study adopted an ex-post facto research method, while ordinary least square (OLS) was used to analyze the data gathered using E-view software. The study discovers a positive and significant relationship between interest rates and oil revenues. Also, interest has a negative co-efficient and not significant relationship with oil revenue. The study further found that between the exchange rate and gross domestic product, there is a negative and not significant relationship.

Another study conducted by Efanga, et al. (2020), on the Analysis of the Impact of Oil Revenue on Economic Growth of Nigeria between 1981 and 2018 employed the Auto Regressive Distributed Lag (ARDL) Model to analyze data, and other diagnostic tests such as; unit root test, test of Normality, Auto correlation test, Heteroscedasticity test, and Breusch-Godfrey Serial Correlation LM test found that oil revenue has no impact on Nigerian economy; also the research further found that foreign direct investment has no impact on economic growth of Nigeria.

- Akinlola and Nejo, (2020), in their study on Oil Revenue and Nigerian Economic Growth from 1981-2018: A Resource Curse? The study used the Ordinary Least Squares regression and Granger causality to test the effect and causal relationship between the variables modeled and came out with a result that showed no directional relationship between oil revenue, agricultural sector, construction, manufacturing, and gross domestic product. In addition, there is a negative relationship between oil revenue and gross domestic product.
- Akinleye, et al. (2021) examined the impact of oil revenue on economic growth in Nigeria (1981-2018), adopting an Augmented Dickey Fuller unit root test, Autoregressive Distributive Lag (ARDL) method and ARDL bound test for co-integration and arrived at a result that petroleum profit tax (PPT), inflation rate (INF), and exchange rate (EXCR) were inversely related with economic growth (RGDP). Thus, it was indicated that an increase in PPT, INF, and EXCR led to a decline in economic growth (RGDP) in both the short and long run. The study further revealed that there was no statistical significance between oil revenue and economic growth performance during the period under investigation. However, petroleum profit tax (PPT), inflation rate (INF) and exchange rate (EXCR) were found to be statistically significant and as such influenced economic growth in Nigeria, particularly in the short run.
- Ugwo, et al. (2019), in their analysis of the impact of crude oil export and economic growth in Nigeria (1980-2017) using Augmented Dickey-Fuller Unit Root test statistic, Engel-Granger Co-integration test, multi regression, and Durbin–Watson test, came up with a result showing that the coefficient of Crude Oil by Barrels (COB) has a positive and not significant effect on Real Gross Domestic Product (RGDP) and Crude Oil Revenue (COR) has a positive significant effect on Real Gross Domestic Product (RGDP)
- Okonkwo and Madueke, (2016) examined Petroleum Revenue and Economic Development of Nigeria (1980 – 2013) with the use of single linear regression models. E views 3.1 and Stata10 statistical package and the study came out with the result that petroleum revenue has no significant effect on economic development of Nigeria in the short run. However, eventually there is no significant correlation between petroleum revenue and economic development of Nigeria, which agrees with Akinleye, et al. 2021; Akpokerere & Anuya 2020; Efanga et al. 2020.
- Nweze and Greg (2016) conducted an empirical Investigation of oil revenue and economic growth in Nigeria with the adoption of various advanced econometric techniques like Augmented Dickey Fuller Unit Root Test, Johansen Co-integration Test, and Error Correction Mechanism (ECM). The findings on oil revenue exhibited its expected sign in the short-run but exhibited a negative relationship with economic growth in the long-run. However, government expenditure has a positive relationship with economic growth both in the long-run and short-run.

In another study conducted by Odularu (2008) on crude oil and the Nigerian economic performance. The aim of this study was to ascertain the impact of crude oil on the Nigerian economy. This study analyzed the relationship between the crude oil sector and the Nigerian economic performance using the ordinary least square regression method. The study found that crude oil consumption and exports have contributed to the improvement of the Nigerian economy. The study concludes that the production of crude oil (domestic consumption and export), despite its positive effect on the growth of the Nigerian economy, has not significantly improved the growth of the economy, due to many factors like misappropriation of public funds (corruption) and poor administration.

Methodology

The study employs a longitudinal and causal research design. This is because the subject of investigation has already occurred and is not subject to manipulation by the researcher. It also entails measuring the cause-and-effect relationship between the dependent and independent variables over a long period of time. The periods

covered by the study are from 1991 to 2021. The choice of this period is because it is the period that precedes major economic reforms-Structural Adjustment Programs (SAP) of the Federal government of Nigeria and political transition from military to civilian administration in Nigeria. The data for this study were collected from the Central Bank of Nigeria (CBN) statistical bulletin for various years, statements of the financial position of deposit money banks in Nigeria, and the National Bureau of Statistics (NBS) Quarterly Reports.

Model Specification

The adopted model for this study was Akinleye, et al, (2021). Akinleye, et al. (2021), adopted the petroleum profit tax, oil revenue, and exchange rate, as well as the inflation rate as a determinant of economic growth (LOGRGDPt = β0 + β_1LOGOREVt + β_2LOGPPTt + β_3EXCRt + β_4INFt + u_t). However, for this study, the adopted model was modified and specified to capture the objective of this study. Thus, the incorporation of crude oil price, petroleum profit tax, and exchange rate were dropped (since oil revenue incorporates petroleum profit tax) as well as exchange rate as a determinant of Nigerians' welfare into the functional form of the model expressed below:

GNIPC=F (OIR, COIP, INFL)…….…….……(i)

The econometric form of the model is expressed as follows:

$GNIPC = \beta_0 + \beta_1 OIR_t + \beta_2 COIP_t + \beta_3 INFL_t + \mu$……..…….....(ii)

Where:

GNIPC= Gross National Income per capita as a measure of the welfare of Nigerians

OIR = Oil Revenue

COP = Crude Oil Price

INFL = Inflation Rate

μ = stochastic error term

t = time series property

β_0 = parameters to be estimated during the course of this study

$\beta_1, \beta_2, \beta_3$ = coefficient of the explanatory variables.

APriori expectations:

The a priori expectations are as follows: $\beta_1 > 0$, $\beta_2 > 0$, and $\beta_3 < 0$

Analytical Technique

The study used ordinary least square (OLS) with the aid of E-view 8.0 econometric software to analyze the data. The various tests carried out are descriptive statistics, unit root test and regression result. The Ordinary Least Square (OLS) was chosen because of its BLUE (Best Linear Unbiased Estimator) characteristics

Descriptive Statistics

Table 1 shows the individual descriptive statistics for Gross National Income Per Capita (GNIPC), Inflation rate (INF) oil revenue (OIR) and crude oil price (COP) per barrel from 1990 to 2021.

Table 1: Descriptive Statistics

	GNIPC	OIR	COP	INF
Mean	1354.375	3242.052	47.20938	18.19634
Median	1190.000	3273.350	43.98000	12.00000
Maximum	2940.000	8879.000	98.83000	76.80000
Minimum	310.0000	71.90000	12.14000	0.200000
Std. Dev.	893.2107	2647.244	27.61408	17.05623
Skewness	0.236914	0.332391	0.573341	2.177241
Kurtosis	1.489535	1.963731	2.089860	6.925205

Jarque-Bera	3.341358	2.021053	2.857645	45.82501
Probability	0.188119	0.364027	0.239591	0.000000
Sum	43340.00	103745.7	1510.700	582.2828
Sum Sq. Dev.	24732588	2.17E+08	23638.66	9018.366
Observations	32	32	32	32

Source: Author's computation for; 2023 using Eview 8.0

The descriptive statistics in table 1 shows that GNIPC has a mean value of 1354.735, OIR has a mean value of 3242.052, COP has a mean value of 47.20938, and INF has a mean value of 18.19634. All of these values show the average returns of the variables within the period. The median values shown in the table reveal that the variables cluster around the mean, except for COP and INF. This means that COP and INF are slightly distant from the mean value. The standard deviation also confirmed this as low values in relation to the mean suggest a low degree of variation of the data over the period, whereas high values indicate high variation of the data within the period. As for the skewness of the distribution, all variables are positively skewed, indicating that values for the respective variable lie to the left of their respective means. The kurtosis of the distribution shows that all the variables are platykurtic (flat tail) as their values are less than three (3), except for INF which is leptokurtic (fat tail) as its value is more than three (3). The J-B values for the variables are low except for INF, and they are not all significant at 5% level except for INF. This calls for a unit root test to be conducted for the variables.

Unit Root Test

The unit root test was conducted using the Augmented Dickey-Fuller (ADF) test to determine whether the variables exhibit unit roots property. The table below shows the results of the unit root test.

Table 2: Summary of Unit Root Test Results

Variables	**ADF Test Statistic**	**95% Critical ADF Value**	**Order of Integration**	**Remarks**
GNIPC*	-5.822824	-2.976263	1(0)	Stationary
OIR*	-4.966728	-2.991878	1(0)	Stationary
COP*	6.807862	-2.971853	1(0)	Stationary
INF*	-3.171069	-2.976263	1(0)	Stationary

Source: Author's computation for; 2023 using Eview 8.0

From the table above, it is observed that all variables are stationary at levels. This is confirmed from the ADF statistic, which is greater than the 95% critical ADF values for all the variables. This shows that the time series properties of the data were relatively stable as there was no bias in information; as such, the result is reliable.

Table 3: Model Estimation and Interpretation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	375.3582	251.1127	1.494780	0.1462
OIR	0.226471	0.062571	3.619443	0.0012
COP	5.929039	5.955596	0.995541	0.3280
INF	-1.930079	5.895237	-0.327396	0.7458

R-squared	0.719020	Mean dependent var	1354.375
Adjusted R-squared	0.688915	S.D. dependent var	893.2107
S.E. of regression	498.1884	Akaike information criterion	15.37630
Sum squared resid	6949366.	Schwarz criterion	15.55952
Log likelihood	-242.0208	Hannan-Quinn writer.	15.43703
F-statistic	23.88372	Durbin-Watson stat	1.511291
Prob(F-statistic)	0.000000		

Source: Author's computation for; 2023 using Eview 8.0

Interpretation

From the estimation result in table 4, it can be seen that the R-squared of 0.71 is very high, explaining 71% of the systematic variation of the impact of oil revenue on the welfare of Nigerian citizens. The model could not explain the other 29% as forces outside the model specification could be responsible for the unexplained percentage. The adjusted R-squared of 0.68 is also very high, implying that the model has 68% predictive ability. The Durbin-Watson (DW) statistic of 1.51 is within the acceptable range. The F-statistic is very significant and shows the overall performance of the model.

On the significance of the individual variables, OIR was found to have a significant and positive impact on GNIPC, which measures the welfare of Nigerian citizens (OIR Prob. 0.0012< 0.05), COP had no significant but positive impact on GNIPC (COP Prob. 0.3280 > 0.05), and INF had no significant but negative effect on GNIPC (INF Prob. 0.7458> 0.05).

Regarding the direction of the effect of the independent variables on the dependent variable, OIR has a positive and significant effect on GNIPC. A unit increase in oil revenue will result in a in 22.% increase in the welfare of Nigerian citizens as measured by GNIPC. COP has a positive but not significant impact on GNIPC. A unit increase in crude oil price has a positive impact of 5.9290% on the welfare of Nigerian citizens. A unit increase in INF will result in 1.930079% direct and consequential reduction in the standard of living (welfare) of Nigerian citizens. The model is mathematically expressed as

GNIPC = 375.3582C + 0.226471*OIR + 5.929039*COP - 1.930079*INF

From the empirical analysis, the study therefore states that oil revenue has a significant positive effect on the standard of living (welfare) of Nigerian citizens (OIR Prob. 0.0012< 0.05). Crude oil price (COP) does not significantly affect but has a positive effect on the standard of living (welfare) of Nigerian citizens as measured by Gross National Income Per Capita (GNIPC Prob. = 0.3280 > 0.05). In addition, inflation rate does not significantly affect but has a negative effect on the welfare of Nigerian citizens (INF Prob. 0.7458> 0.05).

Hypothesis Testing

Ho1: Oil revenue has no impact on gross national income (GNI) per capita of Nigerian citizens.

The estimated regression results in table 3 reveals that the calculated t-statistic is 3.619443, which is greater than the critical t-tabulated value of 2. The t-statistic decision rule on the test of hypothesis is to reject the null hypothesis and accept the alternate hypothesis when the computed t-value is greater than the tabulated t-value or decide otherwise when the computed t-value is less than the tabulated t-value. Hence, the study rejects the null hypothesis and concludes that oil revenue has a significant positive impact on the standard of living (welfare) of Nigerian citizens.

Discussion of the Findings

From the estimation result of the study, it is seen that oil revenue has significant impact on the standard of living of the citizenry in Nigeria. Oil revenue in the estimated result is positively significant in the model estimation. This implies that as oil revenue increases, the standard of living of Nigerian citizens also increases. This is consistent with reality, as the Nigerian government depends heavily on revenue from oil to sustain its policies and programs. This is because oil is a major revenue earner to the government of Nigeria as over 80% of its revenue is derived from the sales of crude oil in the international market. This finding is consistent with Akpokere and Anuya (2020), who examined oil revenue and the behavior of selected macroeconomic indicators in Nigeria from 1981 to 2019.

Also, as can be observed from the estimation result in table 3, crude oil price was not significant in the model. The relationship between crude oil prices and the welfare of Nigerian citizens is positive but not significant. This implies that crude oil prices have no significant influence on the welfare of the Nigerians. This may be due to the volatility associated with crude oil prices in the international market, which the Nigerian government has no control over. This finding is consistent with that of Ugwo et.al. (2019), who reported a positive but not significant effect of crude oil by barrels on real gross domestic product.

It is also observed from the estimation result that the inflation rate has a negative and not significant relationship with the welfare of Nigerian citizens. This finding is quite realistic as inflation all over the world is not a friend of the masses. The higher the rate of inflation in any economy, the lower the standard of living (welfare) of the people. Therefore, it can be inferred that the relationship between inflation rate and standard of living (welfare) of the people is inversed. This is consistent with economic theory as it relates to inflation and welfare.

Conclusion and Recommendations

As the study observes, the oil sector in Nigeria can be referred to as the goose that laid the golden eggs in the sense that it is a major revenue earner for the government and thus significantly impacts the welfare of Nigerian citizens. As such, special attention needs to be paid to this sector by the government in view of the benefits that the country stands to gain from it.

Based on the findings of the study, the following recommendations are therefore made;

i. The Federal Government of Nigeria through the Ministry of Petroleum Resources and the Nigerian National Petroleum Company Limited (NNPCL) should further develop policies that would help to liberalize the industry such that it would attract many foreign investors in order to maximize the gain of revenue earning from the industry such that it would impact the welfare of Nigerian citizens.

ii. There should be more concerted effort by the Federal Government of Nigeria to diversify the economy from a monoproduct economy heavily dependent on crude oil. This is because the Nigerian economy cannot continue to depend on crude oil prices in the international market, which is subject to a high level of volatility that the government has no control.

iii. The Central Bank of Nigeria (CBN), as the monetary authority, should further develop policies aimed at reducing the inflation rate to a single digit in order to positively impact the welfare of Nigerian citizens.

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