Effect of Federal Government Revenue on Economic Growth in Nigeria: 1981 – 2022

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Abstract
*This study assessed the effect of government revenue on economic growth in Nigeria. **Background:** Government revenue refers to funds accruing to and received by the government. The economic growth of a nation will be driven by its ability to not only generate adequate revenue but also its effective utilization. It seems we are not seeing a growth pattern that is commensurate to the high government revenue generation in Nigeria may be due to poor management, improper use of funds. **Aims:** The specific objectives were: (1) To assess the effect of oil revenue on gross domestic product in Nigeria (2) To examine the effect of non-oil revenue on gross domestic product in Nigeria. **Methods:** The study was anchored on the endogenous growth theory of Harrod-Domar. The ex-post facto research design was employed and data from 1981 to 2022 obtained from Central Bank of Nigeria statistical bulletin. The descriptive statistics, ADF unit root test and OLS technique were used to analyze the data. **Results:** (1) Oil revenue had a positive (0.371649) and non-significant effect (0.5455) on GDP in Nigeria (2) Non-oil revenue had a positive (28.13902) and significant effect (0.0000) on GDP in Nigeria. There is no unit root, the probability (f-statistic) value was 0.000000 while adjusted R^2 value was 0.979736. **Conclusion:** The study showed that*

oil revenue and non-oil revenue positively contributed to economic growth of Nigeria for the period reviewed. Hence, these variables are determinants of economic growth in Nigeria.

Key words: *economic growth; oil revenue; non-oil revenue; government.*

Introduction

Government revenue refers to funds accruing to the federal government through various means. Public or government revenue encompasses income obtained from the administrative operations of the government such as fines, fees, direct and indirect taxes, foreign aids, and grants (Adelusi & Idowu, 2018). The revenues of the government constitute all the earnings allocated to finance its responsibilities, which can be sourced either from exports or internally generated. In Nigeria, the Central Bank of Nigeria's statistical bulletin categorizes government revenue broadly into oil revenue and non-oil revenue. Oil revenue comprises funds generated from the sale of crude oil to both domestic and foreign consumers, including joint venture cash (JVC) like royalty, petroleum profit tax (PPT), Nigerian National Petroleum Corporation's (NNPC) earnings from direct sales, oil rent, gas sales, domestic market proceeds, pipeline licenses, crude oil sales, penalties from gas flaring, value-added tax (VAT) on domestic crude oil, and excise duties. On the other hand, non-oil revenues denote income streams unrelated to oil and encompasses company income tax (CIT), customs and excise duties, VAT, sales tax, levies, personal income tax, grants, public debt, education tax, and aids (Central Bank of Nigeria, 2020 as cited in Rotimi et al., 2021).

The different economies worldwide are continuously evolving and broadening their sources of income so as to address their ongoing projects and infrastructure advancements. In order for a government to effectively carry out infrastructure development in key sectors that would propel economic growth, it is imperative to have the necessary financial resources. Ideh (2019) has highlighted that governments always focus their efforts on generating revenue to facilitate tasks such as infrastructure enhancement, provision of social services, and maintenance of law and order. Nevertheless, the recent decline in oil prices indicates that Nigeria, whose revenue has historically been oil-dependent, must now explore alternative revenue streams to support the development of infrastructure, social services, and the conducive environment needed to stimulate economic growth.

It is conspicuously apparent that the substantial proportion of revenue generated in Nigeria stems from oil revenue due to the nation's heavy reliance on this commodity. The excessive dependence on oil as a primary revenue source poses significant risks and adverse effects on Nigeria's economic growth (Oladipupo & Ibadin, 2015). The marketing of crude oil is not immune to challenges, especially as several nations are transitioning from fossil fuels to alternative energy sources. On a global scale, the plummeting oil prices in recent years have significantly impacted government revenue, placing Nigeria in a precarious economic position. Consequently, the government often grapples with inadequate funds for distribution across different levels of governance. Gbeke and Nkak (2021) highlighted how such scenario unfolded in 2020 when crude oil prices dwindled to as low as $38 per barrel accompanied with the onset of the COVID-19 pandemic.

Nigeria's fiscal foundation was primarily rooted in Agriculture during the 1970s, yet transitioned to petroleum due to the significant role of oil in the Nigerian economy from the 1980s onwards (Nurudeen & Usman, 2010 as cited in Olusegun, 2023). The generation of revenue from oil has not only reshaped Nigeria's economic narrative and developmental trajectory but has also given rise to a plethora of challenges including environmental deterioration, sabotage of oil pipelines, oil pilferage, and a substandard quality of life characterized by a substantial portion of the population residing below the poverty threshold (Odinakachi et al., 2021).

Salami et al. (2015) perceive economic growth as a continual increase in the net national product within a specific time period. The government heavily relies on its revenue to carry out numerous projects and address various challenges. Government revenue is typically allocated towards the provision of fundamental amenities and infrastructure, such as healthcare, transportation, electricity, security, and education, among others. Onoja and Ibrahim (2021) suggest that the expanding role of the government, particularly in a contemporary economy, demands a higher government revenue to fulfill its responsibilities. Hence, the necessity for more certain, consistent, reliable, and diversified sources of government revenue in Nigeria is paramount in order to facilitate the expansion of the gross domestic product and consequently achieve economic growth.

There is the problem of apparent lack of corresponding growth trajectory with the substantial government revenue generation observed in Nigeria. The phenomenon of a country's economic expansion is intricately linked to its capacity to generate sufficient revenue and ensure efficient utilization of said resources (Okwori & Sule, 2016). Rotimi et al. (2021) articulated that insufficient revenue poses a barrier for the government in meeting its economic, social, and political responsibilities, which are fundamental objectives.

Olusegun (2023) hinted that Nigeria's revenue generation has not resulted in the equivalent expenditure to support economic growth, mostly due to subpar management, improper use of funds, and a rise in corruption. Furthermore, Onoja and Ibrahim (2021) noted that the advent of oil boom in Nigeria encouraged laxity in the management of non-oil sources of government revenue, leading to a sustained reduction of non-oil revenue to the government over the years. This has culminated in persistent shortage of government revenue to fund its obligations to stimulate economic growth, thereby leading the country into economic recession in 2016 and the attendant socio-economic crisis.

The Economic Recovery and Growth Plan of 2017 stated that the majority of Nigerians are still suffering from severe poverty, inequality and unemployment. It is worrisome to note that despite the revenue reported by the government over the years, the revenue has been insufficient in meeting its social and public spending which is important to enhance economic growth. This therefore leads the government to borrowing at often high interest rates with stringent repayment terms. Since inadequate revenue generation impedes economic growth, the government need to continually review her revenue sources and make them achieve positive and significant effects on GDP for economic growth to be attained.

The oil revenue is susceptible to fluctuations of the oil price in the international market resulting in the volatility of revenue, which can have adverse effects on government expenditure with an ultimate effect on the economy (Rafiu & Raheem, 2018; Jones et al., 2015). Adelusi and Idowu (2018) also advised that looking at the volatile nature of the country's oil revenue that there

is a need to source for alternative revenue sources for the country. It is against this backdrop that this study did an up to date study by using data up to 2022 to examine the effect of federal government revenue on the economic growth of Nigeria.

Research objectives

The broad objective was to examine the effect of the federal government revenue on economic growth in Nigeria for the period 1981 to 2022.

The specific objectives were:

(i) To examine the effect of oil revenue on gross domestic product of Nigeria.

(ii) To assess the effect of non-oil revenue on gross domestic product of Nigeria.

The research hypotheses:

(i) Oil revenue had no positive effect on gross domestic product of Nigeria

(ii) Non-oil revenue had no positive effect on gross domestic product of Nigeria.

Review of related literature

Conceptual review

Alade's study (2017, as cited in Rotimi et al., 2021) stated that government revenue sources comprise privatization proceeds, taxes, interest received, sale proceeds of goods, the commission received and rent received. Furthermore, some studies have also identified oil proceeds, grants, national savings, aid and debts as essential sources of government revenue (Okwori & Sule, 2016; Onyele & Nwokoacha, 2016)

Olusegun (2023) defined economic growth as sustained increase in per capita national output over a long period of time. This implies that for a nation to experience economic growth, the rate of increase in its total output must be greater than the growth rate of population. Ayres' study (1962, as cited in Olusegun, 2023) defined economic growth as a rise in the total output (goods or services) produced by a country. It represents a rise in the ability of an economy to produce goods and services, compared from one period of time to another. Economic growth have also been described as a constant increment in the production capacity of a country as well as an increment in per capita national output, measured by shifting the country's production possibility frontier outwards (Salami et al., 2015).

Theoretical review

The tax and spend or spend-revenue hypothesis: This hypothesis was advanced by Peacock and Wiseman (1979) which states that changes in government expenditure bring about changes in government revenue. It is characterized by unidirectional causality running from government expenditure to government revenue. According to this theory, emergency circumstances lead to an uprooting impact, that is, the current expansion in government spending prompts an increment in government income. The policy implication is to reduce state consumptions which would then diminish government incomes and eventually, the spending deficiency (Odinakachi et al., 2021).

Endogenous growth theory of Harrod-Domar: The Harrod-Domar theory of economic growth assigns a key role to investment in the process of economic growth. It places emphasis on the dual character of investment to facilitate economic growth. In the first instance, it creates income, and secondly, it augments the productive capacity of the economy by increasing its capital stock. As long as net investment is taking place it is expected that real income and output will continue to expand. The theory suggests that the rate of a nation's economic growth depends on

the level of savings, productivity of investment, as well as the amount of capital employed because these will lead to a growth that will emerge from within the economy.

Empirical review

Olusegun (2023) examined the impact of government revenue and expenditure on economic growth in Nigeria utilizing time series data spanning from 2000 to 2021. The specific objective was to evaluate the impact of capital expenditure, recurrent expenditure, and non-oil revenue on Nigeria's economic growth. They sourced secondary data from Central Bank of Nigeria statistical bulletin and analyzed. The results showed that there was no unit root. Also, non-oil revenue and capital expenditure were positively influencing economic growth in both short and long-run period but was not significant. Recurrent expenditure on the other hand had an insignificant negative effect on economic growth of Nigeria.

Adefolake and Omodero (2022) assessed the effects of tax revenue on economic growth in Nigeria utilizing time series data spanning from year 2000 to 2021. The specific objective is to evaluate the influence of hydrocarbon tax, corporation income tax and value added tax on Nigeria's economic growth. The study used secondary data from CBN statistical bulletin and published Federal Inland Revenue Statement. Ex-post facto research design is used for this study. The data collected are analyzed using ADF unit root test. The study showed variables (GDP, PPT, CIT & VAT) to be stationary at first difference. The Johansen co-integration test revealed a long-run relationship among variables. The VECM analysis revealed that PPT and VAT had positive and significant effects on GDP, while CIT had a negative and significant effect on GDP.

Onoja and Ibrahim (2021) examined the relationship between tax revenue and Nigeria's economic growth. Tax revenue proxy were petroleum profit tax, value added tax and companies income tax, while gross domestic product was proxy for economic growth. Data collected were analyzed with the aid of the Stata computer software. Their findings showed that petroleum profit tax had a positive but insignificant relationship with Nigeria's economic growth, while value added tax and companies income tax had significant relationship with Nigeria's economic growth.

Rotimi et al (2021) examined the relationship between revenue generation and economic growth in Nigeria. It employed time series data sourced from the Central Bank of Nigeria and National Bureau of Statistics from 1981 to 2018. The multiple regression analytical tool was used. Findings revealed that domestic debts and non-oil revenue positively and significantly impact on economic growth, while external debts and oil revenue were otherwise.

Joseph and Omodero (2020) examined the relationship between government revenues and economic growth of Nigeria. The study employed exploratory and ex-post facto research designs while using secondary form of data spanning from 1981 to 2018. Data was obtained from the Federal Inland Revenue Services (FIRS), National Bureau of Statistics and CBN statistical bulletin. The relationship was tested using Ordinary Least Squares (OLS) regression technique. Findings showed that federally received revenue and Value Added Tax (VAT) have a moderate positive relationship with the economic growth.

Ideh (2019) assessed the relationship between tax revenue variables and economic development of Nigerian. The ex-post facto research design was adopted and secondary time series data were sourced for the period 2003 to 2017. The independent variables were value added tax, petroleum profit tax, personal income tax, company income tax and custom and excise duties, whereas, economic development was measured by real GDP and Human Development Index

(HDI). The data were analyzed using the Autoregressive Distributed Lag technique alongside other necessary statistical tools. The results showed that petroleum profit tax's relationship with measures of economic development (real GDP and HDI) were negative.

Adelusi and Idowu (2018) evaluated the effect of government revenue on the Nigeria economic growth from 2007 to 2017. The independent variables were non-oil revenue, oil revenue and the total debt whose data were gathered Central Bank of Nigeria (CBN) statistical bulletin and the National Bureau of Statistics (NBS). Descriptive analysis and pair-wise granger causality tests were done. The findings showed that non-oil revenue and debt revenue had a positive and significant effect on gross domestic product, while oil revenue had a negative and statistically insignificant effect on the gross domestic product.

Rafiu and Raheem (2018) examined the effect of government revenues (oil and non-oil revenues) on economic growth, both in the short-run and the long-run using autoregressive distributed lag method. Findings showed that government revenues are indispensable to economic growth in Nigeria. Also, economic growth is more responsive to oil revenue than non-oil revenue.

Methodology

The *ex-post facto* research design was adopted. The descriptive statistic, ADF unit root test and ordinary least square analytical technique were used on the secondary data obtained from Central Bank of Nigeria statistical bulletin for the period 1981 to 2022. The descriptive statistics was used to ascertain the mean, median, standard deviation, skewness amongst others. Also the ADF unit root test was used to test for stationarity of the data used in the study. This OLS technique helped to find out if the independent variables coefficient had a positive or negative sign and if the probability value is statistically significant or not.

The oil revenue and non-oil revenue were used to proxy federal government revenue, while gross domestic product was used to proxy economic growth. The *a-priori* expectation of this study is that the oil revenue and non-oil revenue will have positive and significant effect on gross domestic product in Nigeria. The hypotheses tested the sign of the coefficients, hence the decision rule was to accept the null hypothesis if the coefficient is negative otherwise reject.

This relationship can be expressed as:

$Y_t = b_o + b_1x_1 + b_2x_2 + b_3x_3 + \ldots\ldots B_tx_t + e_t$

Where:

Y = dependent variable

b_o = intercept

x_1 , x_2 , x_3 are the independent variables

e_t = random error term

b_o, b_1, b_2, b_3 are the parameters of the model

This study used the model:

$GDP = f(OILREV, NOILREV)$

The above is estimated as follows:

$GDP = b_o + b_1OILREV + b_2NOILREV + e_t$

GDP = Gross domestic product

OILREV = Oil revenue

NOILREV= Non-oil revenue

Presentation of findings

Table i: ***Descriptive statistics***

	GDP	OILREV	NOILREV
Mean	40981.46	2549.782	1402.635
Median	9766.840	1649.619	500.9008
Maximum	199336.0	8878.970	7944.561
Minimum	137.9300	7.253000	2.984100
Std. Dev.	55220.83	2654.332	1920.410
Skewness	1.331917	0.650431	1.585513
Kurtosis	3.682571	2.204413	5.067537
Jarque-Bera	13.23335	4.069104	25.07771
Probability	0.001338	0.130739	0.000004
Sum	1721221.	107090.8	58910.66
Sum Sq. Dev.	1.25E+11	2.89E+08	1.51E+08
Observations	42	42	42

The above table i showed the means of GDP, OILREV and NOILREV were 40981.46, 2549.78 and 1402.64 respectively, while their median were 9766.84, 1649.62 and 500.9 respectively. The Jarque-Bera statistic probability of less than or equal to 0.05 for GDP and NOILREV indicated normal distribution / trend.

Table ii: ***Unit root test extracts***

Null hypothesis: H0= Series has a unit root

Alternate hypothesis: H1= Series has no unit root

Variables	ADF STAT	5% critical	Inference	p-value	Decision
OILEREV	-6.599142	-2.936942	I(1)	0.0000	Reject null
NOILREV	-9.264854	-2.938987	I(2)	0.0000	Reject null

Source: Researcher's extract from the unit root tests results using ADF methods (Eviews10).

The above table ii showed that there is no unit root for OILEXP at 1st difference and for NOILEXP at 2nd difference. Since the probability values are less than 5% significant level, the series are stationary and suitable for estimation using regression technique of analysis.

Table iii: ***Test of hypotheses***

Hypothesis	Variable	Coefficient	Std. Error	t-statistic	Probability	Decision
One	OILREV	0.371649	0.609488	0.609792	0.5455	Reject H0
Two	NOILREV	28.13902	0.842415	33.40279	0.0000	Reject H0

Hypothesis one: H_01: OILREV had no positive effect on GDP in Nigeria.
The coefficient of OILREV is 0.371649 which is positive. The null hypothesis is therefore rejected and it is concluded that OILREV had positive effect on GDP in Nigeria.

Hypothesis two: H_02: NOILREV had no positive effect on GDP in Nigeria.
The coefficient of NOILREV is 28.13902 which is positive. The null hypothesis is therefore rejected and it is concluded that NOILREV had positive effect on GDP in Nigeria.

Discussion of findings:

The prob(F-statistic) value of 0.000000 is less than 0.05 hence signifying the model used in the study is statistically fit. The adjusted R^2 value is 0.979736 indicating that the independent variables explained 98% of changes in the dependent variable in absolute terms. Also, *a-priori* expectation is that increase in the value of the independent variables should lead to increase in the value of dependent variable. The findings showed that a positive relationship (0.371649) exists between OILREV and GDP. Hence, for every unit increase in OILREV, the GDP increases by 0.371649. Also, NOILREV had a positive relationship (28.13902) with GDP. Hence, a unit increase in NOILREV leads to 28.13902 increase in GDP. Furthermore, OILREV had a non-significant effect (0.5455) on GDP while NOILREV had significant effect (0.0000) on GDP. The increases in oil revenue has been seen to be positively but non-significantly affecting the gross domestic product, while increases in oil revenue has been seen to be positively but non-significantly affecting the gross domestic product, while increases in non-oil revenue has been seen to be positively and significantly affecting the gross domestic product. It is therefore imperative that necessary measures must be put in place to ensure that the non-oil revenue is properly utilized so as to achieve significant effect on GDP. Achieving the aforementioned will help the economy be on the right trajectory to achieving the desired significant effect on GDP and drive overall economic growth of Nigeria.

The above finding of a positive effect of oil revenue on GDP is in disagreement with Adefolake and Omodero (2022) and Adelusi and Idowu (2018) who found it to have non-significant effect on GDP. The finding by this work of a positive effect of non-oil revenue on GDP is in agreement with the findings of Adefolake and Omodero (2022) and Adelusi and Idowu (2018). Most of the studies reviewed found government revenue to jointly have a positive effect on gross domestic product in Nigeria as found by this study.

Conclusion

The oil revenue and non-oil revenue have been shown by this study to have positive effect on gross domestic product of Nigeria. The government hence need to strategize on ways to pursue and increase her revenue generation on one hand, and ensure their proper and monitored investment in the country so as to drive economic growth. The oil revenue is statistically non-significant to GDP, hence we need to monitor application of funds from this sector and also diversify more from the oil sector to other latent sectors yet to be tapped and proper harnessed by the Nigerian government.

Recommendations

1) There is the need for diversification of the oil sector through strategic programs to enhance growth rather than remaining a mono-economy. This will help achieve significant effect of oil revenue on GDP since it already has a positive effect.
2) The government should continue the review of existing revenue mobilization strategies to ensure improved non-oil revenue remittances and utilization. This will help sustain its positive and significant effect on GDP.
3) The government should continue to strive for effective and efficient use of her revenues. This will help better the Nigerian economy.
4) The government need to create and maintain good enabling business environment. This will help drive up her revenue, investments in the economy and eventual economic growth.

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