

Revenue Mobilization and Economic Growth in Nigeria, 1990-2022

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ABSTRACT

This study investigates the impact of revenue mobilization on economic growth in Nigeria, focusing on both oil and non-oil revenues. Using annual time series data from 1990 to 2022, the research employs descriptive and inferential statistical methods to analyze key economic variables including GDP, gross capital formation, labor force, non-oil and oil revenues, inflation, and exchange rates. The findings of the study reveal that non-oil revenue and gross capital formation have significant positive effects on GDP both in the short and long run. Conversely, variables such as exchange rate, labor force, and oil revenue do not significantly impact GDP in the short term. The Bounds test confirms the presence of a long-term co-integrating relationship among the variables. Diagnostic tests validate the model's reliability, confirming the absence of serial correlation, heteroscedasticity, and indicating normally distributed residuals. The findings showed the importance of diversifying revenue sources beyond the oil sector and promoting investments to enhance economic growth. The study recommends; enhancing tax collection efficiency, creating an investment-friendly environment, stabilizing inflation, reducing exchange rate volatility, and improving labor market productivity through education and vocational training.

Keywords; Debt to Gross Domestic Product, Non-oil revenue and Gross capital formation, Oil revenue. , Cointegration Test, Auto-regressive Distributed Lag.

INTRODUCTION

The achievement of economic growth requires effectiveness in mobilizing all available essential economic resources, whether it is sourced domestically or from abroad. Foreign resources encompass all forms of investments, aids, revenue from outside the economy, while the domestic resources are those resources which are gotten internally such as savings tax revenues among others (Wujung & Aziseh, 2016). Economic growth and economic development financing have been a central topic of conversation on the global stage, involving the developed and developing economies. It means the using the expenditure of government and government plans for developmental goals and attaining other economic objectives which are aimed at improving the welfare of the citizens (Kidochukwu Obi, & Ifelunini, 2019).

The attainment of government's developmental goals and objectives cannot be possible without the corresponding resources needed to actualise them. According to OECD as cited by Muriith (2013) Government revenue are the various resources, income acquired by a government to fund its operations and developmental initiatives. It serves as a crucial instrument of the government's fiscal policy, which enables the government carry out its expenditures.

Illyas and Siddiqi (2010) supported this view in that the Governments must undertake diverse responsibilities in socioeconomic domains in order to improve the social and economic well-being of the people. To fulfill these responsibilities there is the need for significant resources, otherwise known as public revenues. Hence, public revenue is made up of various sources of government income such as taxes, administrative income (fees, rates, fines, grants), export revenues, foreign direct investment.

There has been drive for increase revenue generation in Nigeria. The FIRS which is in charge of revenue generation in Nigeria has been mandated to improve and increase the level of revenue to the total revenue generated into the coffers of the federal government. The expectation is that this will improve the development of the economy of Nigeria. However, despite the new drive and the increase in revenue mobilization in



Nigeria, there seems to be unstable economic growth in the country. As there have been increase in revenue in Nigeria, the implication on economic growth is yet to be felt significantly. Consequently, there are seems to be a problem between the revenue mobilization and economic growth in Nigeria.

Furthermore, the economic situation of Nigeria has been adversely affected by the decrease international oil prices. In light of these circumstances, the Nigerian government has redirected its focus, prioritizing domestic revenue mobilization through taxation and non-tax sources via various policies

However, over the years, it has been noted that tax revenue has consistently fallen short, with income tax revenue in Nigeria being significantly underestimated (Adegbie & Fakile, 2011). Additionally, there is an observable disparity between the growth rate of the Nigerian economy and its tax revenue. The expectation is that by increasing taxes on individuals, companies, and goods, more revenue will be generated by the Nigerian government, thereby fostering economic growth and enhancing the economic welfare of Nigerians. Unfortunately, this expectation does not seem to align with the reality in Nigeria (Agbo & Onuegbu, 2022).

While certain developing nations such as Rwanda, Ethiopia, and Bangladesh have experienced favorable results, marked by significant rises in domestic revenue sourced from both direct and indirect taxes, alongside revenue derived from natural resources.

There is a gap in knowledge in empirical evidence in Nigeria regarding the contribution of taxation coupled with oil revenues resource mobilization in development financing, aside from a few accounts such as (Okwori & Sule, 2016; Agbo & Onuegbu, 2022). Consequently, a crucial policy inquiry arises: in development financing does taxation indeed play a significant role in Nigeria? What is the impact of oil revenues on economic growth in Nigeria.

LITERATURE REVIEW

Agbo and Onuegbu (2022) assessed the influence of tax revenue on economic growth in Nigeria. Data was gathered for secondary sources covering the period of 1994 - 2020. While adopting least square regression to analyze the data. The result showed the existence a positive relationship between VAT, petroleum profit tax with economic growth. Also, CITA has a negative relationship with economic growth. It recommended that employ the use of a tax system that is plain and transparent as it will improve the total tax revenue collected and consequently improve the economy of Nigeria.

Rotimi, John, Rotimi and Doorasamy (2022) examined the impact of revenue generation on economic growth in Nigeria. Data was gathered from external sources, from the CBN statistical bulletin, the study covered the period of 1981-2018. The study employed the use multiple regression to assess the impact of government revenue mobilization on economic growth in Nigeria. The result of the study showed that domestic debts and non-oil revenue has a huge impact economic growth, the study reached a conclusion that economic growth is greatly influenced by government revenue. Hence, the study recommends that diversifying the economy via various strategic schemes and plans which are carefully planned to improve growth instead of relying on one major source of economic revenue. Also, there is the need for government modification of the revenue mobilization methods already in place.

Kamara (2021) assessed the effect of tax reforms on revenue mobilization and economic growth of Sierra Leone, the study used secondary time series data covering te period of thirty-eight years 1981 - 2018. The study used ARDL model for analysis of the data collected. The findings of the study showed that there is a short run positive effect of tax reforms on the classes of tax such as the income tax and goods and service tax while displaying a negative long run effect on other classes such as non-tax revenues. Therefore, the study concluded on the note that the anticipated result of the various tax reforms on tax revenue in the country was not derived in the long run, and that economic growth is influenced by tax revenue in Sierra Leone.

Zaid Abubakar (2020) examined the function of revenue mobilization in attaining Nigeria's developmental goals. The study used secondary data for the period of 2010 to 2019, a ten years frame. While employing the



use of descriptive research design. The result of the study's analysis and research revealed that the volume of the fiscal revenue generated domestically is below the stipulated minimum by the United Nations, and the summation amounted to 15% of the GDP during the study time frame. Hence, it recommended the need for the government to start implementing tax reforms measures, which will serve as alternative revenue sourced for the government to effectively run its budget and ensure the growth of the economy. The study concluded that there is an urgent need for teaching and enlightening the citizens by the government on the effect of tax payment and its relation to the growth of the economy.

Kidochukwu Obi and Ifelunini (2019) assessed the effect of domestic revenues mobilization on economic development in Nigeria. The study investigated the importance of taxation for domestic revenue mobilization in Nigeria amid challenges in external financing. It suggests that tax and total exports affect domestic resource mobilization, with some lagged taxation values indicating issues like tax evasion, weak tax administration, and corruption. Recommendations include expanding the tax base, closing loopholes for evasion and corruption, reducing reliance on crude oil revenue, and promoting transparency through the Freedom of Information Bill.

Adaletey, Raju and Phung (2018) assessed stakeholders the role in revenue mobilization on poverty alleviation in Ghana. The study's result recognized the role of stakeholders involved in the mobilization of revenue in the country while highlighting the areas where attention needed to be paid with respect to revenue mobilization.

Wujung and Aziseh, (2016) investigated the impact of domestic resource mobilization on economic growth in Cameroon. The study used secondary data which was gotten form the World bank database covering the 1980 to 2013. The data analysis method used was Instrumental Variable Generalized Method of Moments. The findings of the showed the existence of a positive link between the domestic revenues mobilized and the economic growth of the country. Thereby, concluding that apart from tax reforms there is need for alternative revenue sources for the government in order to achieve its developmental programs and plans.

Muriithi (2013) examined the nexus between mobilized government revenue and economic growth. Data was sourced from secondary sources; from the Central Bank of Kenya, the study used variables such as, import duty, excise duty, income tax and value added tax as proxies for revenue mobilization. The study used descriptive research design. The conclusion of the study was that the link between import duty and economic growth is inverse. While the correlation between excise duty and economic growth is positive. Hence, it concludes that reduction in rate of economic growth when excise duty is increase occurs during the period examined.

METHODOLOGY

An ex-post facto research design will be used. A form of research design falls where there is an investigation in events that has occurred, without any intervention from the researcher and the study will employ secondary data. The choice of the study design is also influenced by Rotimi, et al., (2021) who advocated for the use of this method for historical data.

Theoretical framework

Keynes Theory of economic

The interest in growth matters has prompted the development of various growth theories, each aiming to elucidate the mechanisms of growth. Nevertheless, within the scope of this study, Keynes' growth theory serves as the theoretical foundation because it elucidates how expansion, facilitated by an increase in government spending, can stimulate growth, with government spending being contingent on revenue.

The theory of economic growth delves into the mechanisms and drivers behind the expansion of an economy over time. It encompasses a broad array of perspectives and models developed by economists to understand and explain the processes that lead to sustained increases in a nation's production of goods and services, as well as improvements in living standards (Mariati, Yuesti & Tahu, 2022).



One of the foundational theories of economic growth is the classical growth theory, which originated with economists such as Adam Smith, David Ricardo, and Thomas Malthus. According to classical economists, economic growth is primarily driven by increases in the factors of production, namely land, labor, and capital. They emphasized the importance of investment in physical capital and technological advancements as key drivers of long-term growth (Starbatty & Stark,2017).

In contrast, the neoclassical growth theory, developed in the 20th century by economists like Robert Solow and Trevor Swan, introduced the concept of technological progress as a crucial determinant of economic growth. According to this theory, technological innovation and improvements in productivity play a central role in driving long-term economic growth. The Solow growth model, in particular, highlights the role of capital accumulation and technological change in fostering sustained economic expansion.

According to Van den Berg (2013) Keynes advocated that an increase in government expenditure leads to heightened economic growth. The theory illustrates a scenario of long-term full employment, which necessitates two fundamental conditions: firstly, the ratio of investment to income must equate the full employment savings ratio, and secondly, the economy's growth rate must align with the natural rate of growth. Keynes argued that a significant factor contributing to economic stagnation and unemployment is the deficiency of aggregate effective demand.

Keynes' perspective posited that resolving the issue of economic stagnation hinges on bolstering aggregate demand through a substantial increase in government spending (Alfred, 2005). Meanwhile, government expenditure also hinges on revenue derived from taxation, including value-added tax, corporate income tax, and petroleum profit tax.

Marglin (2018) stressed that other theories of economic growth focus on specific aspects or drivers of growth, such as human capital theory, which emphasizes the role of education and skills in driving productivity and growth, and the new growth theory, which highlights the importance of knowledge spillovers and increasing returns to scale in generating economic expansion. Overall, the theory of economic growth provides a framework for understanding the complex dynamics that underlie the process of economic development and the factors that contribute to long-term prosperity and well-being. It continues to evolve as economists develop new insights and models to address contemporary challenges and opportunities in the global economy.

Model Specification

The model specification involves identifying the independent (x) and dependent (y) variables and the economic relationship between the variables.

The model specification can be outlined as follows:

Thus, the model is:

GDP= f (Gross Capital Formation, Labour Force, Non-Oil, and Oil revenue, Inflation and Exchange rate)

Mathematically, this can be re-presented as

GDP = f(GCF, LAB, NOIL, OIL, INF, EXCH)....(2)

 $GDP = \beta 0 + \beta 1 GCFt + \beta 2 LABt + \beta 3 NOILt + \beta 4 OILt \beta 5 INFt \beta 4 EXCHt + \mu t) \dots (3)$

Where: GDP = Gross Domestic Product,GCF = Gross Capital Formation, LAB = Labour Force

NOIL = Non-Oil (NOIL) Revenue, OIL = Oil Revenue (OIL). INF = Inflation rate, EXCH= Exchange Rate (DD), Ut = Error terms, $\beta 0$ = intercept of GDPt model t = number of years.



Measurement of Variables

Oil Revenue

These revenues comprise earnings derived from the export of gas and crude oil, constituting a significant portion of a country's income (Wujung & Aziseh, 2016). In addition to revenues generated through international sales, they encompass proceeds from domestic transactions involving crude oil, as well as royalties and receipts from petroleum profits tax. These revenue streams are pivotal for countries rich in natural resources such as Nigeria, as they provide crucial funding for government expenditures, development, and carrying out socio-economic programs.

Non-oil Revenue

These revenues comprise of earnings not derived from oil-related activities. It presents a diverse array of income streams for governments (Rotimi et al., 2021). They include various sources such as VAT, WTH, CITA, PITA. Each of these sources of income plays a crucial role in financing government operations, public services, and developmental projects. For instance, income taxes levied on individuals and businesses contribute to government revenue and support social welfare programs and public infrastructure development.

Gross Capital Formation

It is to the total value of investments made in physical assets within an economy over a specified period, typically a year. These investments encompass the creation or acquisition of tangible assets such as machinery, equipment, structures, and infrastructure. Essentially, it represents the net increase in the stock of physical capital within an economy. Gross capital formation serves as a pivotal metric in economic analysis, providing insights into the level of investment activity and the extent to which a nation is dedicating resources to enhancing its productive capacity and infrastructure.

Inflation

This is the continued increase in the prices of goods and services in an economy in a period. It indicates a reduction in the purchasing power of a nation's currency, as each unit of currency buys fewer goods and services.

Exchange Rate

The exchange rate refers to the economic value of a nation's currency as expressed to a counter currency. Various factors are responsible for these continuous changes such as supply and demand forces, the state of the economy among many other factors.

Dependent Variables

Economic Growth: This is the improvement in the volume of goods and services produced in a country, often referred to as industrial output or manufacturing activity, it is a major indicator of economic growth and development (Okwori & Sule, 2016; Rotimi, et al., (2021)

Sources of Data

Annual time series data covering 1990-2023 will be used. The source is the the National Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN) Statistical Bulletin. The selection of data is influenced by existing literature and data availability. This study considers variables such as non-oil revenue, oil revenue, public debt, and GDP for the study period.

Method of data analysis

Ordinary Least Squares (OLS) regression will be used to estimate the parameters of the regression models and examine their impact on economic growth. This approach is deemed to be advantageous due to the use of



annual data. Hence, this validates the selection of this method. This robust statistical technique allows for rigorous examination of the relationships between variables and provides reliable estimates of their effects on economic growth.

RESULTS AND DISCUSSION

This section of the paper is dedicated to the detailed presentation, discussion, and analysis of the data obtained from the research. The results are portrayed in three primary phases. The initial phase comprises the preliminary estimates, the second phase involves the comprehensive presentation of the main results derived from the employed methodologies, and the subsequent phase is the diagnostic tests.

Preliminary Test

This section commences with the presentation and discussion of the descriptive statistics. Following this, the correlation test is conducted and presented, succeeded by the unit root tests.

Table 1: Descriptive Statistics	

	GDP	GCF	LAB	NOIL	OIL	INF	EXCH
Mean	9.948658	8.021068	59.96700	6.577448	7.493417	19.92864	165.0010
Median	10.45380	8.811886	60.24300	7.142511	8.118147	12.20000	140.0000
Maximum	12.21783	10.02827	60.70700	8.980243	9.091441	76.75887	460.0000
Minimum	6.380224	4.545739	58.31100	2.908277	4.414813	0.223606	9.909492
Std. Dev.	1.725347	1.795747	0.657047	1.754069	1.387364	17.93271	114.4710
Skewness	-0.468799	-0.659205	-1.096822	-0.610540	-0.822009	1.859815	0.932109
Kurtosis	2.009801	2.012575	2.971891	2.240895	2.293333	5.405532	3.134803
Jarque-Bera	2.401962	3.504565	6.216616	2.670231	4.136139	25.34539	4.512416
Probability	0.300899	0.173378	0.044676	0.263128	0.126430	0.000003	0.104747
Sum	308.4084	248.6531	1858.977	203.9009	232.2959	617.7879	5115.029
Sum Sq. Dev.	89.30469	96.74127	12.95132	92.30275	57.74335	9647.460	393108.2
Observations	31	31	31	31	31	31	31

Source: Author's Estimation

Table 1 presents the descriptive statistics with mean values indicate the central tendency of these variables over the observed period. GDP averages around 9.95, reflecting the overall economic output, while GCF averages 8.02, indicating capital investment levels. LAB, representing the labor force, has a mean of 59.97, suggesting a relatively stable labor market. NOIL and OIL, representing non-oil and oil revenues, average 6.58 and 7.49, respectively, showing the contribution of both sectors to the economy. The inflation rate (INF) has a notably high mean of 19.93, indicative of significant price level changes over time. The exchange rate (EXCH) has a mean of 165.00, reflecting substantial variability in currency value.



The median values are close to the means, except for EXCH, where the median (140.00) is significantly lower, indicating a skewed distribution with high values. Standard deviations show the dispersion around the mean, with EXCH and INF exhibiting high variability, indicating frequent fluctuations. Skewness values suggest asymmetry, with GDP, GCF, LAB, NOIL, and OIL showing negative skewness (longer left tail), whereas INF and EXCH have positive skewness, indicating longer right tails. Kurtosis values highlight the peakedness of distributions, with INF's high kurtosis (5.41) suggesting a sharp peak and heavy tails. The Jarque-Bera statistics assess normality, with significant values for INF and a high probability for other variables, indicating non-normal distributions, particularly for INF.

Table 2: Correlation Analysis

GDP	GCF	LAB	NOIL	OIL	INF	EXCH
1.000000	0.588373	-0.776733	0.493933	0.622453	-0.635958	0.708463
0.588373	1.000000	-0.725438	0.587517	0.646976	-0.671506	0.719000
-0.776733	-0.725438	1.000000	-0.756489	-0.535473	0.333423	-0.537709
0.493933	0.587517	-0.756489	1.000000	0.445503	-0.669552	0.747223
0.622453	0.646976	-0.535473	0.445503	1.000000	-0.719027	0.651483
-0.635958	-0.671506	0.333423	-0.669552	-0.719027	1.000000	-0.405466
0.708463	0.719000	-0.537709	0.747223	0.651483	-0.405466	1.000000
	1.000000 0.588373 -0.776733 0.493933 0.622453 -0.635958	1.000000 0.588373 0.588373 1.000000 -0.776733 -0.725438 0.493933 0.587517 0.622453 0.646976 -0.635958 -0.671506	1.000000 0.588373 -0.776733 0.588373 1.000000 -0.725438 -0.776733 -0.725438 1.000000 0.493933 0.587517 -0.756489 0.622453 0.646976 -0.535473 -0.635958 -0.671506 0.333423	1.000000 0.588373 -0.776733 0.493933 0.588373 1.000000 -0.725438 0.587517 -0.776733 -0.725438 1.000000 -0.756489 0.493933 0.587517 -0.756489 1.000000 0.493933 0.587517 -0.756489 1.000000 0.622453 0.646976 -0.535473 0.445503 -0.635958 -0.671506 0.333423 -0.669552	1.000000 0.588373 -0.776733 0.493933 0.622453 0.588373 1.000000 -0.725438 0.587517 0.646976 -0.776733 -0.725438 1.000000 -0.756489 -0.535473 0.493933 0.587517 -0.756489 1.000000 0.445503 0.493933 0.587517 -0.756489 1.000000 0.445503 0.622453 0.646976 -0.535473 0.445503 1.000000 -0.635958 -0.671506 0.333423 -0.669552 -0.719027	1.000000 0.588373 -0.776733 0.493933 0.622453 -0.635958 0.588373 1.000000 -0.725438 0.587517 0.646976 -0.671506 -0.776733 -0.725438 1.000000 -0.756489 -0.535473 0.333423 0.493933 0.587517 -0.756489 1.000000 0.445503 -0.669552 0.622453 0.646976 -0.535473 0.445503 1.000000 -0.719027 -0.635958 -0.671506 0.333423 -0.669552 -0.719027 1.000000

Source: Author's Estimation

The correlation analysis in Table 2 reveals relationships between various economic indicators. GDP positively correlates with GCF (0.59), NOIL (0.49), OIL (0.62), and EXCH (0.71), but negatively with LAB (-0.78) and INF (-0.64). GCF shows similar patterns, positively correlating with NOIL (0.59), OIL (0.65), and EXCH (0.72), and negatively with LAB (-0.73) and INF (-0.67). LAB has negative correlations with other variables except INF (0.33). NOIL and OIL both positively correlate with EXCH and negatively with INF. No correlations exceed 0.80, indicating multicollinearity is unlikely.

The Unit Root Tests

The study employed the Augmented Dickey-Fuller (ADF) test to check for unit roots. Table 4.3 indicates that the series included a mix of stationary I(0) and non-stationary I(1) variables. This combination suggests that while some variables are stable over time, others require differencing to achieve stationarity.

	Augmented Dickey Fuller (ADF) Unit Root Test					
Variables	Level	1 st Difference	Probability Value	Condition		
GDP	NS	S	0.0045	I(1)		
GCF	NS	S	0.0009	I(1)		
NOIL	NS	S	0.0075	I(1)		

 Table 3: Augmented Dickey Fuller (ADF)



OIL	NS	S	0.0003	I(1)
LAB	NS	S	0.0248	I(1)
INF	S	NS	0.0007	I(0)
EXCH	NS	S	0.0001	I(1)

Source: Author's Estimation

Table 4: Auto-Regressive Distribution Lag Model Dependent Variable: GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	0.441372	0.128262	3.441161	0.0044
EXCH	-0.000694	0.000410	-1.690966	0.1147
LAB	-0.038962	0.038360	-1.015693	0.3283
INF	0.002381	0.001057	2.252742	0.0422
INF(-1)	0.001541	0.001319	1.168281	0.2637
INF(-2)	0.002535	0.001204	2.105355	0.0553
NOIL	0.252573	0.072460	3.485679	0.0040
NOIL(-1)	0.189095	0.079079	2.391217	0.0326
NOIL(-2)	-0.053291	0.062670	-0.850342	0.4105
OIL	0.014710	0.042379	0.347102	0.7341
OIL(-1)	-0.144185	0.045195	-3.190272	0.0071
GCF	-0.003379	0.082487	-0.040963	0.9679
GCF(-1)	-0.005800	0.111267	-0.052129	0.9592
GCF(-2)	0.286181	0.088479	3.234450	0.0065
С	4.258824	2.506365	1.699203	0.1131
R-squared	0.999715	Mean deper	ndent var	10.03496
Adjusted R-squared	0.999407	S.D. depend	lent var	1.674303
S.E. of regression	0.040761	Akaike info criterion		-3.258004
Sum squared resid	0.021599	Schwarz criterion		-2.544323
Log likelihood	60.61205	Hannan-Quinn criter.		-3.039824
F-statistic	3253.032	Durbin-Watson stat		2.011565
Prob(F-statistic)	0.000000			

Source: Author's Estimation



The AutoRegressive Distributed Lag (ARDL) model in Table 4.4 estimates the relationship between key economic variables and Gross Domestic Product (GDP), focusing on contemporaneous effects. Among the variables examined, only inflation (INF) and non-oil revenue (NOIL) demonstrate statistically significant impacts on GDP. INF exhibits a positive coefficient, indicating that current inflation positively influences GDP, while NOIL, representing non-oil revenue, also shows a positive coefficient, suggesting its positive association with GDP. In contrast, variables such as exchange rate (EXCH), labor force (LAB), oil revenue (OIL), and gross capital formation (GCF) do not exhibit statistically significant effects on GDP in this model. The high R-squared value of 0.999715 suggests a model that explains almost all variance in GDP, potentially indicating a risk of overfitting. However, diagnostics such as the Durbin-Watson statistic suggest no significant autocorrelation in the residuals.

Table 5: ARDL Bounds Test

F-statistic	12.15973	6	
Critical Value Bounds			
Significance	I0 Bound	I1 Bound	
10%	2.12	3.23	
5%	2.45	3.61	
2.5%	2.75	3.99	
1%	3.15	4.43	

Source: Author's Estimation

The findings presented in Table 4.5 indicate that the computed F-statistic, which stands at 12.15973, exceeds the critical upper bound value of 3.61. Consequently, the null hypothesis is rejected in favor of the alternative hypothesis. This signifies the presence of a long-run relationship among the variables, indicative of co-integration in the long term. Co-integration implies that the variables move together over time, suggesting a stable and sustainable relationship among them that persists in the long run.

Auto-Regressive Distributed Lag (ARDL) Short run estimates

Table 6: ARDL Short-run

Coefficient	Std. Error	t-Statistic	Prob.*
0.394000	0.222588	1.770084	0.1044
5.44E-05	0.000538	0.101090	0.9213
0.050057	0.082013	0.610352	0.5540
0.074348	0.092549	0.803336	0.4388
0.191965	0.124360	1.543623	0.1509
-0.001202	0.001450	-0.828765	0.4249
-0.000733	0.001598	-0.458919	0.6552
	0.394000 5.44E-05 0.050057 0.074348 0.191965 -0.001202	0.394000 0.222588 5.44E-05 0.000538 0.050057 0.082013 0.074348 0.092549 0.191965 0.124360 -0.001202 0.001450	0.394000 0.222588 1.770084 5.44E-05 0.000538 0.101090 0.050057 0.082013 0.610352 0.074348 0.092549 0.803336 0.191965 0.124360 1.543623 -0.001202 0.001450 -0.828765



	0.000004	0.001202	1 (522.49	0.1065
D(INF(-2))	0.002284	0.001382	1.653348	0.1265
D(NOIL)	0.250098	0.067705	3.693938	0.1035
D(NOIL(-1))	-0.077884	0.097363	-0.799931	0.4407
D(NOIL(-2))	-0.291741	0.103697	-2.813399	0.0169
D(OIL)	-0.105900	0.059653	-1.775278	0.1225
D(GCF)	0.277701	0.120604	2.302583	0.0418
D(GCF(-1))	0.156928	0.122845	1.277449	0.2277
С	0.088076	0.036701	2.399833	0.0352
R-squared	0.879026	Mean dependent var		0.174394
Adjusted R-squared	0.725059	S.D. dependent var		0.115502
S.E. of regression	0.060563	Akaike info	Akaike info criterion	
Sum squared resid	0.040347	Schwarz criterion		-1.750785
Log likelihood	47.19593	Hannan-Quinn criter.		-2.267599
F-statistic	5.709183	Durbin-Watson stat		1.495898
Prob(F-statistic)	0.003127			

Source: Author's Estimation

The ARDL short-run estimates, presented in Table 4.6, provide insights into the immediate impacts of various economic variables on Gross Domestic Product (GDP), focusing on their contemporaneous relationships. Among the variables studied, only non-oil revenue D(NOIL) and gross capital formation D(GCF) show statistically significant coefficients. D(NOIL) has a positive coefficient of 0.250098 with a p-value of 0.0035, indicating that an increase in non-oil revenue leads to a significant immediate increase in GDP. Conversely, D(GCF) exhibits a positive coefficient of 0.277701 with a p-value of 0.0418, suggesting that an increase in gross capital formation also has a positive and statistically significant impact on GDP in the short run.

Other variables such as exchange rate (D(EXCH)), labor force (D(LAB) and its lags), inflation (D(INF) and its lags), and oil revenue (D(OIL)) do not demonstrate statistically significant effects on GDP in the short term, as their coefficients have high p-values above conventional significance levels (0.05). The R-squared value of 0.879026 indicates that the model explains a substantial portion of the variability in GDP in the short run. This suggests that the included variables collectively account for 87.9% of the variation observed in GDP changes over time within the specified short-term context.

Diagnostic Tests

Three diagnostic tests were conducted to ensure the reliability of model estimates: the stability test, Breusch-Godfrey Serial Correlation LM Test, heteroscedasticity test, and normality test—all applied to the residuals. These tests collectively validate the model's reliability in explaining the relationships among variables.



The Stability Test

PANEL A (CUSUM)

PANEL B (CUSUMQ)

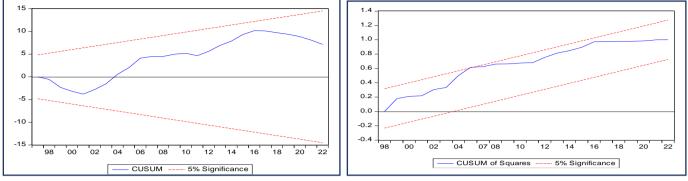


Figure 1: Stability Test (CUSUM and CUSUMQ)

Source: Author's Estimation

The study employed two different stability tests to check the stability of the residuals. They are the cumulative sum of recursive residuals (CUSUM) and the cumulative sun square (CUSUMQ). The result is presented in Figure 4.3, panels A and B. The results indicate that the model is stable because both tests reveal that the estimate and the variance were stable since the residuals and the squared residuals (the blue lines) lies within the 5% critical boundaries. Therefore the null hypothesis of stability is accepted.

Serial Correlation Test

The serial correlation test is a crucial diagnostic tool used to assess the reliability and efficiency of parameter estimates in statistical models. It investigates whether errors from previous periods are correlated with the current period's error term, indicating non-randomness in the residuals. If the probability associated with the observed R-squared exceeds 5%, the null hypothesis—that there is no serial correlation—is upheld. Conversely, a probability value below 5% would reject the null hypothesis in favor of serial correlation in the model. According to Table 4.5, the probability value for the observed R-squared is greater than 5%, suggesting no grounds to reject the null hypothesis of no serial correlation in the model.

Table 7: Diagnostic Table

Test Statistics	Name of Test	Statistics	Probability
Serial Correlation	Breusch-Godfrey	F-statistic 1.507415	0.2417
Normality	Jarque-Bera	Jarque-Bera 14.10798	0.901864
Heteroskedasticity	Breusch-Pagan	F-statistic 0.186306	0.9652

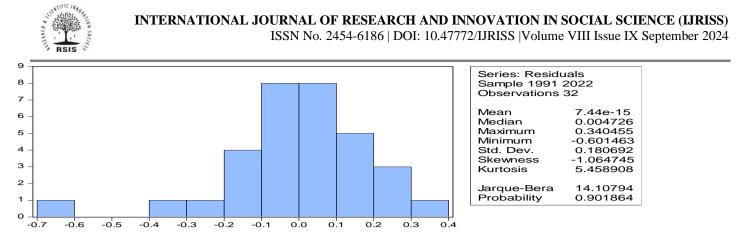
Source: Author's Estimation

The Heteroscedasticity Test

According to the findings reported in Table 4.7, the observed R-squared probability value of 95.4% indicates no evidence of heteroskedasticity in the model. This suggests that the error terms exhibit homoscedasticity, meaning they are equally dispersed across different levels of the independent variables.

Normality Test

Figure 4.3 and Table 4.7, we see that the probability value of the Jarque-Bera statistics is more than 5%. That is 90.2%, therefore, we conclude that the residuals are normally distributed.



CONCLUSIONS

Economic growth is vital to the progress of any nation as it enables and facilitates better standard of living and brings about growth to the country. However, this research work aimed at examining

to the role of revenue mobilization on economic growth in Nigeria. The outcomes of this study showed that there exists a co-integration among the selected variables employed in this study. Thus, it implies that a level of relationship exists between both the explanatory and the response variables in the short run.

Furthermore, the outcomes indicated that only non-oil revenue and gross capital formation significantly impact on GDP in the short and long-run, while import values, inflation are insignificant negative determinants of international in Nigeria in the long run. On the other hand, exchange rate, labor force, inflation and oil revenue do not have significant short-term effects on GDP. The result also revealed that when non-oil revenue, gross capital formation, changes gross domestic product adjust quickly within the period of a year.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made to enhance revenue mobilization and economic growth in Nigeria.

- i. The significant positive impact of non-oil revenue on GDP showed the importance of diversifying revenue sources beyond the oil sector. The government should promote industries such as agriculture, manufacturing, and services, while implementing tax reforms to improve collection efficiency and broaden the tax base.
- ii. Government should create and promote an investment-friendly environment for promoting gross capital formation, which has shown a significant positive effect on GDP. This can be achieved by improving infrastructure, ensuring political stability, and providing incentives for both domestic and foreign investments.
- iii. Despite positive long-term impact of Inflation on GDP, it presents risks due to its high variability. Government should implement policies to stabilise inflation through effective monetary strategies and price control measures.
- iv. Although exchange rate fluctuations, does not significantly impact GDP in the short term, this shows the need for measures to stabilize the currency. The government should reduce exchange rate volatility by maintaining adequate foreign reserves and implementing sound fiscal policies such as promoting export diversification and reducing dependency on oil exports will also contribute to a more stable exchange rate, enhancing overall economic stability.
- v. The negative correlation between the labor force and GDP suggests potential inefficiencies in the labor market. Therefore, investing in education and vocational training to enhance the skills and productivity of the labor force is important

REFERENCES

1. Adaletey, J. E., Raju, V., & Phung, S. P. (2018). Role of stakeholder in revenue mobilization to alleviate poverty in Ghana using E-governance mechanisms. Int. J. Innovvation Technology. Exploration Eng, 8(2S), 129-133.



- 2. Adegbie F.F. & Fakile, A.S. (2011). Company income tax and Nigeria economic development. European Journal of Social Science, 22(2), 309-319.
- 3. Agbo, E. I., & Onuegbu, C. E. (2022). Impact of tax revenue on Nigerian economic growth (1994–2020). European Review in Accounting and Finance, 6(1), 23-38.
- Agya, A. A., Ibrahim, Y. M., Emmanuel, E. (2015). Internal revenue generation in Taraba State, Nigeria: Problems and prospects. International Journal of Economics, Commerce and Management. 3(2).1-13.
- 5. Alfred, G. (2005). Models of economic growth. Mathematical Models in Economics.
- 6. Ahmed, Q.M. (2010). Determinants of Tax Buoyancy: Empirical Evidence from Developing Countries. European Journal of Social Sciences. 13(3), 408-414.
- 7. Chaudhry, S. I. & Munir, F. (2010). Determinants of low tax revenue in Pakistan. Pakistan, Journal of Social Sciences, 30(2), 439-452.
- 8. Cournède, B., & Denk, O. (2015). Finance and economic growth in OECD and G20 countries. Available at SSRN 2649935.
- 9. Ifurueze, I. & Ekezie, T. (2014). Personal Taxation in Nigeria. 5th Edition, Lagos. J.A.A. Nigeria Limited.
- International Monetary Fund (2019). Deflation, economic growth, bop. Celebrating the Spirit of Small Enterprise, 1–12
- 11. Jibrin, S. M., Success, E. B. & Ifurueze, M. S. K. (2012). Impact of petroleum profit tax on economic development in Nigeria. British Journal of Economic, Finance and Management, 5(2), 56-70.
- 12. Johnson, P. N., & Omodero, C. O. (2021). Governance quality and tax revenue mobilization in Nigeria. Journal of Legal Studies, 28(42), 1-41.
- Junquera-Varela, R. F., Verhoeven, M., Shukla, G. P., Haven, B., & Moreno-Dodson, B. (2017). Strengthening domestic resource mobilization: Moving from theory to practice in low-and middle-income countries. World Bank Publications.
- 14. Kamara, I. (2021). The effect of tax reforms on revenue mobilization and economic growth of Sierra Leone: Evidence from Time Series. Ethiopian Journal of Business and Economics (The), 11(1), 72-96.
- 15. Kidochukwu Obi, C., & Ifelunini, I. (2019). Mobilization of domestic resources for economic development financing in Nigeria: does tax matter. Scientific papers of the University of Pardubice. Series D, Faculty of Economics and Administration. 45(1) 113-125.
- 16. Mariati, W., Yuesti, A., & Tahu, G. P. (2022). Economic growth based on the keynes theory. International Journal of Sustainability, Education, and Global Creative Economic (ijsegce), 5(2), 61-72.
- 17. Marglin, S. A. (2018). Raising keynes: a general theory for the 21st century. EconomiA, 19(1), 1-11. Starbatty, J.,
- 18. Muriithi, C. M. (2013). The relationship between government revenue and economic growth in Kenya (Doctoral dissertation, University of Nairobi).
- 19. Obiechina M. E. (2010). Analysis of revenue generation as a tool for socio-economic and infrastructural development in Nigeria. Bullion, 34(4), 41-54.
- 20. OECD, S., & Paris, M. (2017). Measuring distance to the sdg targets: An assessment of where OECD countries stand.
- 21. Rotimi, C. O., John, N., Rotimi, M. E., & Doorasamy, M. (2022). Assessment of the Impact of Government Revenue Mobilisation on Economic Growth in Nigeria. Studia Universitatis "Vasile Goldis" Arad–Economics Series, 32(4), 81-108.
- 22. Starbatty, J., & Stark, J. (2017). Schumpeter and Keynes. The International Economy, 31(1), 52.
- 23. Wujung, V. A., & Aziseh, F. I. (2016). Assessing the effect of domestic resource mobilization on the economic growth of Cameroon. Aestimatio: The IEB International Journal of Finance, (12), 66-89.
- 24. Van den Berg, H. (2013). Growth theory after Keynes, part I: the unfortunate suppression of the Harrod-Domar model. Journal of Philosophical Economics, 7(1), 2-23.
- 25. Van den Berg, H. (2013). Growth theory after Keynes, part I: the unfortunate suppression of the Harrod-Domar model. Journal of Philosophical Economics, 7(1), 2-23.
- 26. Zaid Abubakar (2020). Role of domestic revenue mobilization in achieving sustainable development goals in Nigeria. Kebbi Journal of Accounting Research 1 (1), 104-112