Internally sourced revenue optimality and national economy development of Nigeria

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Abstract

This study investigated the impact of internally sourced revenue optimality on Nigeria's national economic development. Internally generated income had traditionally been the mainstay revenue source for the economic development of countries, but it has long been a subject of worry for Nigeria's national economic development, considering how effectively internally generated income is being used for the progress of the country. We adopted an ex-post facto research design, using annual time series data covering a period of 31 years (1992Q1-2022Q4), sourced from the Central Bank of Nigeria Statistical Bulletin and the National Bureau of Statistics. Two variables were considered, the dependent variable of the study (National economic development) proxied with Real Gross Domestic Product (RGPD) and the independent variable (internally sourced revenue) using the total internally sourced revenue that accrued to the federal (FIGR), States and Federal capital territory (SFCTIGR), and Local government (LIGR) as the explanatory variables for the study. The study found that internally sourced revenue positively affects Nigeria's national economic development and that the period experienced unstable internally generated revenue and weak optimal use of the revenue. The study concluded that internally sourced revenue and optimal utilization of internally sourced revenue affect national economic development. Based on the findings, the study recommended that the Nigerian government should optimally utilize internally sourced revenue to enhance the national economic development of Nigeria.

1. Introduction

The standard of living in developing countries has been a major concern globally and it requires absolute and pragmatic efforts from the concerned nations because of its improvement and stimulating economic activities that affect the citizens' income per capita. As macroeconomic economic activities also take into account the underlying strategic policies but raising the standard of living in a country's population with continued growth from a simple, low-income economy to a modern, high-income economy, the standard of living has a significant impact on the level of national economic development of nations. (Adegbie, Ajayi, Aguguom, & Otitolaiye, 2023; Uzoka & Chiedu, 2018). The stability of a nation's politics and economy plays a crucial role in determining its economic development rate. because emphasis attached to human development and economic diversification within an economy play trajectory roles in national economic development

(Otekunrin, Matowanyika, & Tafadzwa, 2020). Africa is battling with an insecurity crisis, inadequate skills, and infrastructural deficit, which had deepened the dearth of development and economic imbalance in the continent. Nigeria has been tagged the giant of Africa, Nigeria is a lower-income emerging economy unfortunately, suffer from a mixed rapidly slow-growing capital market resulting from poor economic policies, weak institutions and insufficient internally generated revenue.

Despite efforts to grow the manufacturing, financial services, technology, communication, and small and medium-sized business sectors of the economy, the reality is that Nigeria is one of the world's poorest nations. (Mpofu, 2021). Apparently, it is believed Nigeria is one of the largest economies in Africa and ranked the 27th largest economy in the world, Nigeria's nominal Gross Domestic Product ranks 22nd out of all countries in terms of the purchasing power of its people. (Okwu & Ofoegbu, 2016). The amount of income creation in Nigeria is proportionally higher than the revenue from crude oil, but it has been significantly impacted by low revenue due to a decline in oil output, a collapse in the price of oil globally, and the weak value of the Nigerian Naira on the world economic market. Nigeria must think about additional forms of cash generation as the lack of oil revenue in recent years had a severe impact on the country's economic progress. Internally generated revenue is one option that can be considered. Nigeria has lost more than $400 billion to corruption since independence, according to Transparency International (2022), corruption is a continuous issue in the country. For instance, in the Transparency International Corruption Index for 2021, the Nigeria ranked 154th out of 180, with South Sudan at 180th and Denmark at the bottom as it the least corrupt country in the world.

The internally generated revenue (IGR) report at State Level for Half Year (HY) 2021 was released by the National Bureau of Statistics. The report on domestically generated revenue has five subheadings: The main internal revenue sources in Nigeria are Pay as you Earn (PAYE) from employee deductions, direct assessment, road taxes, other taxes, and revenue from ministries, departments, and agencies. The internally generated revenue for the 36 States and the (Federal Capital Territory) FCT in HY 2021 was N849 billion. The domestically produced revenue for the first quarter of 2021 was N398 billion and for the second quarter, it was N450 billion (National Bureau of Statistics, 2022). This showed a 13.21% increase in positive growth. With N267 billion in HY 2021, Lagos State had the largest internal revenue, followed by FCT with N69 billion and River's state with N57 billion; Yobe State recorded the least at N4 billion. In the first half of 2021, internal revenue by zone showed that the South-West zone had the largest amount, coming in at N385 billion, followed by the South-South zone with N156 billion, and the North-East zone had the lowest amount, coming in at N42 billion Nigeria's (National Bureau of Statistics, 2022).

In 2019, the 36 states of the federation's IGR were N1.3 trillion, an increase of about N200 billion over 2018. According to economic confidential research, Lagos State's IGR of N398 billion is greater than the combined IGR of 20 other states, despite the fact that their internally generated revenues are significantly lower and inferior to their allocations from the Federation Account (Olabisi, Afolabi, Olagunju, & Madariola, 2020). The nation's capital, Abuja, which is not a state, produced N74 billion in IGR over the same period, compared to N30 billion from the Federation Account. Lagos State retained its top rank in IGR in the first twelve months of 2019, with a total revenue creation of N398 billion compared to Federal Allocation Accounts (FAA) of N270 billion, or 147%. Ogun State comes in second with an amazing IGR of N70.92 billion and a low FAA receipt of N92 billion (representing 77%). Rivers have an amazing IGR of N140 billion and a low FAA receipt of N219 billion representing 64% (Adegbie et al., 2023).

Unfortunately, despite the huge internally generated revenue over the years by successive governments at all levels, there is no significant evidence of optimal utilization of these revenues. For Adegbie et al. (2023) reported that there is evidence of high infrastructural deficits over the years, all-time high double-digit inflation, high unemployment rate, low income per capita and unprecedented high infant mortality and poor living standards in Nigeria. There had been unparalleled looting of the national treasury and fraud cases. According to the reported corruption perception index, Nigeria has consistently been listed among the most corrupt countries in the world. According to Transparent International's Corruption Perceptions Index (CPI), countries and territories are ranked according to their corrupt public sectors. A nation or territory's score, which ranges from 0 (very corrupt) to 100, indicates the perceived amount of public sector corruption. Surprisingly, Nigeria scored 24% out of 100 on Transparency International's 2022 Corruption Perceptions Index (Transparency International, 2022).

Nigeria has an abundance of internally generated money from both tax and non-tax sources. According to the highlights of the 2022 Multidimensional Poverty Index (MPI) research, 133 million Nigerians, or 63% of the population, live in multidimensional poverty. The National MPI for Nigeria is 0.257, indicating that the poor endure slightly more than one-quarter of all possible deprivation. The prevalence of monetary poverty is typically lower in most states than the incidence of multidimensional poverty. According to the national monetary poverty line for 2018-19 and the National MPI 2022, 40.1% and 63% of Nigerians are poor, respectively. In contrast to urban areas, where 42% of the population lives in multidimensional poverty, 72% of people reside in rural areas. The Child Poverty Index (Child MPI), alongside with the National MPI provides additional information on the poverty level of nations. (National Bureau of Statistics, 2022).

Although the informal sector of the economy has been completely ignored and no effort has been made to ensure that its members are officially registered and monitored by government regulations for the purpose of yielding tax revenue, low and unstable internally generated have been attributed to weak economic activities

and this fact. (Aguguom, 2020; Udoh, 2015). In addition, Abiola and Ehigiamusoe (2014) and Udoh (2015) posited that internally sourced revenue consists of revenue generation by the federal, state and local governments within their respective areas of tax jurisdiction. The ability of the federal, state, and local governments to create adequate domestic revenue to balance out the other sources of the government is crucial to the national economic development of Nigeria. The states and local governments cannot contribute significantly to the national economic development if their only source of revenue is federal allocations (Asimiyu & Kizito, 2014).

According to Izevbigie and Ebohon (2019), internally sourced revenue (IGR) is defined as revenue sources generated primarily by the state and local government, whereas Udoh (2015) defined internally sourced revenue as revenue generated solely by the states and local governments. Unfortunately, internally sourced revenue accounts for less than 10% of total revenue in all Nigerian states, with the exception of Lagos State, where the percentage was around 60% in 2017. This financial structure is what one would expect in a country with a unitary government, not one with a federal system, as Nigeria claims; the situation is inconsistent with federalism and should be reversed immediately.

According to Okafor (2012), states and local governments should encourage activities that might expedite national economic growth, including education and skill acquisition available to the teeming adolescents. Furthermore, the internally sourced revenue derived from the States from various sources such as (PAYE), direct assessment by the States, capital gain taxes, and motor vehicle licences, among others. Adenugba and Chike (2013); Mpofu (2021) and Omodero, Ekwe, and Ihendinihu (2018) posited that the survival, economic development, and sustainability of all the states in Nigeria are dependent on the capacity to enhance the revenue allocation derived from the federation account with their own internal revenue generation .

The recent study of Izevbigie and Ebohon (2019) was specific on internally sourced revenue and state viability: A comparative analysis of two states in Nigeria (Edo and Lagos) and a comparative analysis only. This is a gap in scope, empirical analysis could be explored for a more robust study as being considered in this study. This current study extends the frontiers and fills the identified gaps in the literature by empirically investigating the internal sources of revenue in all the 36 states in Nigeria and the federal capital territory, at a time and period when the country and states are in dare need to expand and increase their internally generated revenue to make the desired impact on the national economic development of Nigeria.

The rest of the study is structured in this manner: The existing literature was considered in section 2, specifically on conceptual review, theoretical underpinning theory and the review of prior empirical work. Section 3 considered the methodology and the measurement of variables used for the study. The empirical analysis of this study, its results and discussion were covered in section 5, and the study came to a conclusion and offered some recommendations.

2. Review of Literature

Economic Development: The concept of economic development from the standard of living perspective, entails the expansion and growth of economic wealth of countries, regions and communities for the well-being of the citizens (Omodero et al., 2018). Economic development is also defined by Ndubuisi (2017) as the increase in the standard of living in a country's inhabitants with sustainable growth from a simple low-income economy to a modern and high-income economy. A remarkable improvement in the economic and political environment is to ensure labour force enhancement, technological acquisition, human and physical capital growth, natural resources optimal management, availability of good and affordable education for the citizens as all of these factors can increase economic development.

The Real Gross Domestic Product: The real gross domestic product is a reflection of the macroeconomic measure of the totality of goods and services produced by a nation for a specific period after adjusting the activities of inflation or deflation within the negotiated period. (Omodero et al., 2018).

Internally Sourced Revenue: Deloitte (2016) stated that internally sourced revenue is funds generated by the states and local governments within their areas of jurisdiction, independent of their normal share from the federation account. Idowu, Oni and Olu-Owolabi posited that internally generated revenue for the Nigerian government as of the first half of 2021 was over 398 billion Nigerian naira (NGN), or about 958 million USD. 3.1 billion U.S. dollars' worth of internally generated revenue (IGR) more than 1.3 trillion NGN was recorded in 2020. IGR is produced by a state government in the areas under its control. The 36 states and the FCT generated N1.56 trillion in IGR in 2020, the research said. As nations recovered from the coronavirus epidemic, the 2021 number (N1.89 trillion) shows a positive gain of 22 per cent year over year (Aguguom, 2019; Oladipo, Nwanji, Eluyela, Godo, & Adegboyegun, 2022).

Oladipo et al. (2022) posited that Lagos state has the largest internally sourced income (IGR) in 2021, accounting for N753.3 billion, or 40% of all IGR, according to an analysis by the internal sourced revenue Index. With N131.9 billion, FCT is in second place, followed by Rivers with N123.3 billion, Ogun with N100.7 billion, and Lagos with N80.2 billion. The least IGR was produced by Yobe state (N8.5 billion) in 2021, followed by Taraba (N9.6 billion), Gombe (N10.6 billion), and Katsina (N12 billion). Unfortunately, despite this huge revenue, Nigeria is one of the poor nations in the world.

2.1. Theoretical Underpinning

This study is underpinned by the endogenous growth theory as propounded by Romer (1994). The endogenous growth theory postulates that economic growth and sustainability depend on systematic investment in human capital, improvement and proper knowledge management. According to the notion, economic development is powered by intellectual and human capital, and in order to realize the intended outcome, the necessary skills must be developed and managed. The endogenous theory also supported the government's policies and programs that could boost economic development and growth in the nation (Simon, 1996). These policies and programs include but are not limited to all measures governments employed to encourage harness possibilities and avenues to enhance internally sourced revenue within the areas of jurisdiction of that government. The endogenous theory is therefore deemed fit and suitable for this study since there is a chance that Nigeria's internally generated revenue may significantly increase if the government there adopts its guiding principles at all levels.

2.2. Empirical Review

Idowu, Oni, and Olu-Owolabi (2022) examined the effect of internally generated revenue on infrastructural development in Oyo state of Nigeria. The study employed a survey research design, using structured questionnaires administered to a total of 3 senatorial districts in 3 local government councils in Oyo State Nigeria out of a population of 33 local government councils in the state. Using regression analysis, the study found that internally generated revenue had a positive effect on infrastructural development in the 3 senatorial districts based on the responses from the selected respondents. The result is consistent with the result obtained in the study of Otekunrin et al. (2020) and Adegbie et al. (2023).

Adefolake and Omodero (2022) studied the impact of tax income on Nigeria's economic expansion using time series data from 2000 to 2021. The study used secondary data that it obtained from public Federal Inland Revenue Statements and the CBN statistics bulletin. The research design for this study is ex-post-facto. Using the Augmented Dickey-Fuller approach, the data is examined and evaluated for unit root. The study's variables, Gross Domestic Product (GDP), Petroleum profit tax (PPT), Company income tax (CIT), and Value-added-tax (VAT), are discovered stationary at the initial difference. A Johansen co-integration test is thus carried out, and it identifies a long-term link. To assess the impact of PPT, CIT, and VAT on GDP, the study used the Vector Error Correction Model. The results show that PPT and VAT significantly and favourably affect GDP. Moreover, it demonstrates that CIT negatively and significantly affects GDP. This result is consistent with the studies carried out by Ahannaya, Olugbenga, Taiwo, Sheriff, and Akenronye (2021) and Olabisi et al. (2020) who reported similar results.

In addition, Ikechi, Ugwueze, and Segun (2022) examined the fiscal policy and economic growth in Nigeria from an internally generated revenue perspective. A time series of data covering the years 1999 to 2020 was used to analyse the Nigerian economy. The Ordinary Least Square technique and a Vector Auto regression Analysis were used to evaluate the data. Real GDP was regressed on tax receipts, capital, and ongoing expenditures in the model. Debts both domestically and abroad are additional independent factors. The study's conclusions show that in the short term, deficit financing, domestic debt, and recurrent spending all have a substantial positive link with economic development in Nigeria, whereas there is a strong negative relationship between external debt and real GDP. Short-term economic growth in Nigeria was not significantly correlated with capital spending or tax receipts.

Ahannaya et al. (2021) studied the effect of internally generated revenue on total revenue and used Lagos as a case study to analyse the scope of IGR's contribution and its effects on the funding of infrastructure development as assessed by capital spending on road infrastructure, environmental protection, health, housing, and education incurred by States in Nigeria. The figures were derived from the audited financial records of the Lagos State Government for the fifteen-year period between 2000 and 2014. Techniques for linear regression were applied to the data. The study comes to the conclusion that IGR significantly enhances the construction of infrastructure required to provide a foundation for economic growth. The report advises State governments to implement measures for sustainable IGR growth and that IGR should spent on funding capital expenditures necessary for economic infrastructure development.

Olabisi et al. (2020) considered the influence of federally collected taxes revenue on the capital development of Lagos. An expo facto research design was adopted and the secondary data was sourced using time-series data from the Lagos State Inland Revenue Services. According to the combined regression analysis descriptive and inferential analysis, federally collected taxes had a favorable impact on capital development in Lagos State. The result from Olabisi et al. (2020) is not different from the result obtained by Otekunrin et al. (2020) whose result exhibited that federally collected taxes had a positive effect on revenue collection and tax administration in the area tested. On the contrary, Olabisi et al. (2020) result is different from the result obtained by Etim and Daramola (2020) which revealed that some extraneous factors of poor corruption control, inflation challenges and lack of social protection have negative effects on impressive responses from informal taxpayers' compliance.

Omodero et al. (2018) conducted an investigation of the impact of internally sourced revenue on the economic development of Nigeria. The study employed real gross domestic product as a proxy to measure economic development, while the time series data of the internally sourced revenue of the federal, State and

local governments were the predictor variables of the study for a period of 25 years (1981-2016). The time series data were obtained from the Central Bank of Nigeria Statistical Bulletin. Multiple regression and t-tests for the hypotheses were used for the analysis of the data obtained. The study found that the total internally sourced revenue (TIGR), State internally sourced revenue (SIGR) and local government internally sourced revenue (LIGR) had a positive significant influence on the real gross domestic product (RGDP). The study also found that though the IGR had a positive correlation with RGDP, however, the physical evidence in the Nigeria was apparently lacking. On the contrary, other studies found inverse results (Ironkwe & Ndah, 2016; Owusu, 2015).

Izevbigie and Ebohon (2019) studied a comparative analysis to ascertain the different internally sourced revenue of Edo State and Lagos State and the efforts by the two States in the revenue generation. The study obtained time series data from the National Bureau of Statistics and from the Central Bank of Nigeria for a period of 13 years (2005-2017). A descriptive analysis was employed by the researcher in analyzing the data. The study found that tax compliance in Lagos was higher than that of Edo State since the internally sourced of Lagos State was far greater than that of Edo State. The survey also discovered that Edo's internally generated revenue increased significantly during the past four years compared to the years before that. The study then recommended that the states could engage the services of tax consultants and employ other potent practices peculiar to their states to enhance internally sourced revenue, especially in Edo.

The prior studies had shown that there is evidence of unresolved discussion concerning the effect of internally sourced revenue (IGR) on economic development. For example, the studies of Yulindra (2012) and Nnanseh and Akpan (2013) in each of the studies, found that IGR had a positive significant effect on economic development. This is inconsistent with the study of Omodero et al. (2018) who found a positive significant effect of IGR on the economic development of Nigeria. However, on the contrary, the studies of Owusu (2015) and Ironkwe and Ndah (2016) found a negative significant effect of IGR on the economic development of the sample unit. Consequent to the above indecisive debate and mixed results, this study proposed this hypothesis:

H_{01}: *Internally sourced revenue has no significant effect on the real gross domestic product (RGDP) of Nigeria.*

3. Methodology

This study investigated the impact of internally sourced revenue on Nigeria's national economic development. It adopted an *ex-post facto* research design, using annual time series data covering a period of 31 years (1992 to 2022), sourced from the Central Bank of Nigeria and the National Bureau of Statistics. Two variables were considered, the dependent variable of the study (national economic development) surrogated using Real Gross Domestic Product (RGPD) while the independent variable (internally sourced revenue) was proxied using the total internally sourced revenue, that accrued to the federal (IGRF), internally sourced revenue of States (IGRS), and internally sourced revenue of Local government (IGRL) as the explanatory variables for the study. The study explored descriptive and inferential statistics of time series, using Autoregressive Distributed Lag (ARDL) model. The variables were also subjected to the Augmented Dickey-Fuller unit root test to identify the order of integration of the series.

3.1. Measurement of Variables

The independent variable of this study (internally sourced revenue) is taken to mean all internally sourced revenue (IGR) that the federal, state and local government areas generated within their respective jurisdiction, while the dependent variable the (national economic development) is proxied with the real gross domestic product as it measures the goods and services produced by a nation for a specific year period after adjusting for activities inflation or deflation within the period under consideration (Omodero et al., 2018).

Measurement of Variable: The formula for the computation of the variables and the justification as obtained in the literature are presented in Table 1.

Table 1. Variables' code and measurement methods.

Variable name	Code	Measurement method	Source
Total internal generated revenue	TIGR	This is the total revenues generated by the three levels of government (Federal, State and Local government) A time series of total internally sourced revenue	Omodero et al. (2018) and Owusu (2015)
Federal internally sourced revenue	FIGR	This consists of the internally sourced revenue by the federal government. A time series of internal revenue of the Federal government	Otekunrin et al. (2020) and Olabisi et al. (2020)
States and FCT internally sourced revenue	SIGR	This comprises the internally sourced revenue by the State governments, a time series of State and Federal Capital Territory (FCT) accrued internally sourced revenue for the period under consideration	Ironkwe and Ndah (2016) and Owusu (2015)

Variable name	Code	Measurement method	Source
Local government internally sourced revenue	LIGR	This also consists of all the internally generated revenue accruing to the local government of the countries. A time series of Local governments internally sourced revenue	Omodero, Okafor, and Nmesirionye (2021) and Olabisi et al. (2020)
Real gross domestic product	RGDP	Real gross domestic product considers the level of Gross Domestic Product after considering the effects of inflation within the period under consideration. That is after the changes in inflation have been taken into account.	Adegbie et al. (2023) and Ironkwe and Ndah (2016)

3.1.1. Model Specifications

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \mu_{it} \qquad (1)$$

Where
Y = Dependent Variable: National Economic Development.
X = Independent Variable: Internally Sourced Revenue.
Y= y_1; X= x_1, x_2, x_3, x_4.

The study specified the following regression model to investigate the impact of internally sourced revenue optimality on national economic development:

$$RGDP_{it} = \beta_0 + \beta_1 TIGR_{it} + \beta_2 FIGR_{it} + \beta_3 SFCIGR + \beta_4 LIGR_{it} + \mu_{it} \qquad (2)$$

Where:
TIGR= Total internally sourced revenue; FIGR = Federal internally sourced revenue; SFCIGR = States and FCT internally sourced revenue and LIGR = Local governments Areas internally sourced revenue. RGDP = Real Gross Domestic Product; ε is the error term of the model; β_0 = regression intercept which is constant; β_1-β_4 = the coefficient of the explanatory variables, μ = error terms, i = cross-sectional variable; t = time series variable.

3.1.2. A Priori Expectation

The study expected that internally sourced revenue would have a positive impact on the national economic development of Nigeria. Hence the a priori expectation was represented in this way: $\beta_1 > 0$, while H_{02}-H_{04}: $\beta > 0$. = positive.

Table 2. Descriptive statistics of the variables.

Variables	RGDP	SFCTIGR	LIGR	TIGR
Mean	48.8	41.3	23.5	65.58
Median	48.3	45.2	24.0	62.3
Maximum	69.0	80.3	38.2	12.8
Minimum	22.4	34.1	4.69	98.9
Std. dev.	17.2	29.9	9.92	34.4
Skewness	-0.11	0.01	-0.53	-0.08
Kurtosis	1.57	1.34	2.48	1.81
Jarque-Bera	1.74	2.29	1.16	1.21
Probability	0.42	0.32	0.56	0.55
Sum	96.3	82.3	47.9	13.5

4. Analysis, Results and Discussion

4.1. The Descriptive Statistics of the Time Series

Aside graphical illustrations shown above, the descriptive statistics of the variables of the study would be able to reveal the summary properties of the series in terms of the average distribution of the series and their normality. Table 2 shows the summary statistics of the series and real GDP has the highest average mean distribution of 48.1 billion Naira. The least is LGIGR with an average distribution of 23.5 billion. In terms of skewness, all the variables exhibit negative skew except SFCIGR which shows positive skew. From the Jarque bera statistics, the null hypothesis of normal distribution of the series is accepted as the p-value were not significant at 1, 5, and 10 per cent. For kurtosis, all the variables with values less than 3 are leptokurtic.

4.2. The Inferential Analysis of the Time Series

The series must be pre-tested to determine their intrinsic nature of stationarity in order to conduct proper inferential analysis. This is required because if the unit root test identifies the order of integration of the series is not performed, the regression output may be misleading. To determine the order of integration of the series, the variables are subjected to the Augmented Dickey-Fuller (ADF) unit root test. Table 2 displays the outcomes of these testing. The results demonstrate that virtually all of the series are stationary at levels-I(0), with the exception of SFCIG TR, which is stationary at first difference-I(1).

The unit root test for the models given confirmed that the series for those models show a combination of level stationary and first difference stationary series. As a result, the Autoregressive Distributed lag (ARDL) model is the most appropriate estimate approach for this investigation. The theoretical rationale for the ARDL model comes from the pioneering work of Pesaran and Shin (2001), and it has been used in various investigations (Nusair, 2016).

Table 3. Summary of unit root results.

Augmented dickey-fuller (ADF)			
S/N	**Level**	**First difference**	**Remark**
Variables	**T-stat.**	**T-stat.**	**I(d)**
LnRGDP	-3.12**	-1.59	I(0)
LnFIGR	-2.67***	-4.47*	I(0)
LnSFCIGR	-1.97	-3.83**	I(1)
LnLIGR	-2.82***	-3.32 **	I(0)
LnTIGR	-2.70***	-4.55 *	I(0)

Note: Ln implies the logarithmic value of the series. Also, *, **, and *** imply that a given variable is significant at 1%, 5% and 10% respectively. Any variable that is significant at both levels and the first difference is taken to be stationary at level.

4.3. Empirical Results for the Model

Having established from Table 3 that the series is stationary or integrated in a different order, it is expected to determine the optimal lag length in the ARDL model using appropriate criteria. Thus, at appropriate lag order, cointegration is established. After the cointegration test, the long run and short run form of the ARDL result is presented and discussed before other post-estimation tests for robustness check.

4.3.1. Optimal Lag order and the Bounds Test Cointegration Result for the Model
(i) Optimal Lag Length Criterion

From the result in Table 4, the optimal lag order for the variables of the model is 2 as indicated by each of the basic information criteria such as the Akaike Information Criterion (AIC).

Table 4. Optimal lag length for variables in model.

VAR lag order selection criteria						
Endogenous variables: LNCPI_ALL LMS FDEF LNR LNOEEXR LNOIL LNRGDP						
Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	193.2	NA	7.23	-19.6	-19.3	-19.5
1	32.2	15.6*	1.92*	-28.2*	-25.4*	-27.8*

Note: * Indicates the optimal lag length selected by each information criterion. LR, FPE, AIC, SC, and HQ denote sequential modified LR test statistic, Final prediction error, Akaike information criterion, Schwarz information criterion, and Hannan-Quinn information criterion respectively.

Table 5. Bounds test results for cointegration for the model.

Null hypothesis: No long-run relationships exist		
Test statistic	Value	K
F-statistic	6.09	4
Critical value bounds		
Significance	I(0) Bound	I (1) Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

(ii) Bounds Testing for Cointegration for the Model

The Bounds testing cointegration technique assists in determining the amount of long-run cointegration of a series of various integration orders. The joint F-statistic distribution is used in this test, with a null hypothesis of no cointegration and an alternative hypothesis of cointegration among the series. The null hypothesis is rejected based on the results in Table 5 since the F-statistics is bigger than the lower and upper

bound limits for the I (0) and I (1) series. IGR at all levels of government has a long-run association with Nigeria's economic growth and development.

4.3.2. The Long and the Short Run Dynamics Result for the Model
(i) The Long run ARDL Results for the model

The long run coefficients in Table 6 show that the State Governments and Federal Capita Territory Internally sourced Revenue (LnSFCIGR) and Local Governments Internally sourced Revenue (LnLIGR) are statistically significant at 10 per cent as determinants of the dependent variable - Real output (RGDP), in Nigeria, but the Federal Government Internally sourced Revenue (LnFIGR) and Total IGR (LnTIGR) are not; in fact, total IGR has a negative impact on Nigeria's long-term growth path.

The results denote that a 1 per cent increase in the IGR of the States and FCT would cause a 0.35 per cent increase in the economic growth path of Nigeria. Similarly, a 1 per cent increase in the IGR of Local Governments would cause an upward change in economic growth by 0.15 per cent. The positive effects of SFCIGR and LIGR could be that these two tiers of the government are close to the citizens than the Federal Government. These findings deviate from the earlier findings of Omodero et al. (2018) that support the positive impacts of TIGR, FIGR, SFCIGR, and LIGR on economic growth in Nigeria.

Table 6. ARDL Long run estimated results for the model.

Long run coefficients				
Variable	Coefficient	Std. error	t-statistic	Prob.
LOGTIGR	-3.16	3.27	-0.96	0.35
LOGFIGR	3.04	3.07	0.99	0.34
LOGSFCIGR	0.35	0.16	2.15	0.05**
LOGLIGR	0.15	0.07	1.98	0.07**
C	4.22	0.48	8.77	0.00*
Observations	31	31	31	31
R-squared	0.99			
Adjusted R-squared	0.99			
F-statistic	14.2			
Prob(F-statistic)	0.00			
Durbin-Watson stat	2.21			

Note: * and ** indicate that a variable is significant at 1% and 10 percent level of statistical significance. LOGTIGR= Log of Total internally sourced revenue, LOGFIGR = Log of Federal internally sourced revenue; LOGSFCIGR = Log of States and FCT internally sourced revenue and LOGLIGR = Log of Local governments Areas internally sourced revenue. LOGRGDP = Log of real gross domestic product.

4.3.2.1. Empirical Analysis

The overall diagnostics based on the coefficient of the determination (R-square) and its adjusted value (Adjusted R-square), as shown in the lower part of Table 6 indicate that the combined independent variables and explanatory variables determined 99.8% of the overall variation in Real GDP. F-statistics supports that with a significant P-value at 1%. Durbin-Watson statistics also show that there is no autocorrelation problem in the model. Hence $AdjR^2$=0.998; F-$Stat.$ =144; P-$value$ = 0.00 indicates that internally sourced revenue (TIGR, FIGR, SFCTIGR and LIGR) had a long-run significant shocks effect on RGDP.

In addition to the empirical analysis, using the ARDL modelling approach, the results showed that IGR across the three tiers of government (Federal, State and Local governments) were jointly significant in determining changes in the economic growth and development of Nigeria. However, in relation to the stated hypothesis, the study found that at a 10 % level of statistical significance, a 1% increase in IGR of States/FCT and LGs would propel an overall increase in economic development by 0.35% and 0.15% respectively in the long-run. Thus, the null hypothesis of no significant impact of states/FCT and LGs IGR on Nigeria's national growth and development is rejected as they did not confirm to the theoretical expectation of positive impacts.

On the contrary, however, Federal Government IGR and Total IGR were not significant in determining the increase in economic development. Thus, the hypothesis is accepted. In the short run however, the impact of States/FCT and LGs IGR on Real GDP decreased to 0.08% and 0.03% respectively for a 1% rise in these IGRs, and Federal government IGR and total IGR showed no impact. The results were in tandem with prior studies that reported in similar significant results, the studies of Olabisi et al. (2020); Otekunrin et al. (2020) and Omodero et al. (2018). On the contrary, some other studies reported an inverse result revealing negative effects (Etim & Daramola, 2020; Ironkwe & Ndah, 2016).

Due to growing corruption and theft of the national treasury by Nigeria's successive governments over the years, these studies showed that large amounts of internally generated revenue had little impact on the country's progress.

(i) The Model's Short-Run ARDL Results

These studies documented that huge internally generated revenue had not impacted the Nigerian national development due to deepening corruption and misappropriation of the national treasury by the successive governments in Nigeria over the years.

(ii) The Short-Run ARDL Results for the Model

From the short-run coefficients of the ARDL model for economic development in Table 6, the study found that a 1 per cent immediate or instantaneous rise in States and FCT IGR and Local Governments IGR will cause real GDP to increase by 0.08 and 0.03 per cent respectively, while such short-run rise in FIGR and TIGR would not. It means that IGR at the State and Local Government have more potential of increasing economic development in Nigeria in both short and long-term perspectives than IGR at the Federal level.

Table 7. ARDL short run estimated results for the model.

Short run coefficients				
Variable	**Coefficient**	**Std. error**	**T-statistic**	**Prob.**
D(LOGTIGR)	-0.77	0.66	-1.18	0.26
D(LOGFIGR)	0.72	0.62	1.17	0.27
D(LOGSFCIGR)	0.08	0.03	2.82	0.02**
D(LOGLIGR)	0.03	0.02	2.11	0.06***
CointEq(-1)-ECT	-0.24	0.05	-4.53	0.00*

Note: *, **, and *** indicate that a variable is significant at 1%, 5%, and 10 levels of statistical significance. LOGTIGR= Log of Total internally sourced revenue, LOGFIGR = Log of Federal internally sourced revenue; LOGSFCIGR = Log of States and FCT internally sourced revenue and LOGLIGR = Log of Local governments Areas internally sourced revenue. LOGRGDP = Log of Real Gross Domestic Product

The error correction term (ECT) with a coefficient of -0.24 reflects the rate at which short-run shocks are adjusted to long-run equilibrium. In this example, at a 1% level of statistical significance, the system will be restored to the long-run equilibrium route from shock in the short run at an estimated pace of 23.7 percent. This suggests that, regardless of what happens to the amount of IGR in the short term, IGR, particularly from S, has the potential to rise.

4.3.3. Post Estimation Tests for the Model
(i) Model Stability Test

Three stages of post-estimation diagnostic tests are performed to confirm the validity of the ARDL model. Figure 1 depicts the Model stability test utilising the cumulative sum plot of the series' variances. The model is stable and adequate for policy inference because the graph is within the 5% upper and lower boundaries of the plot.
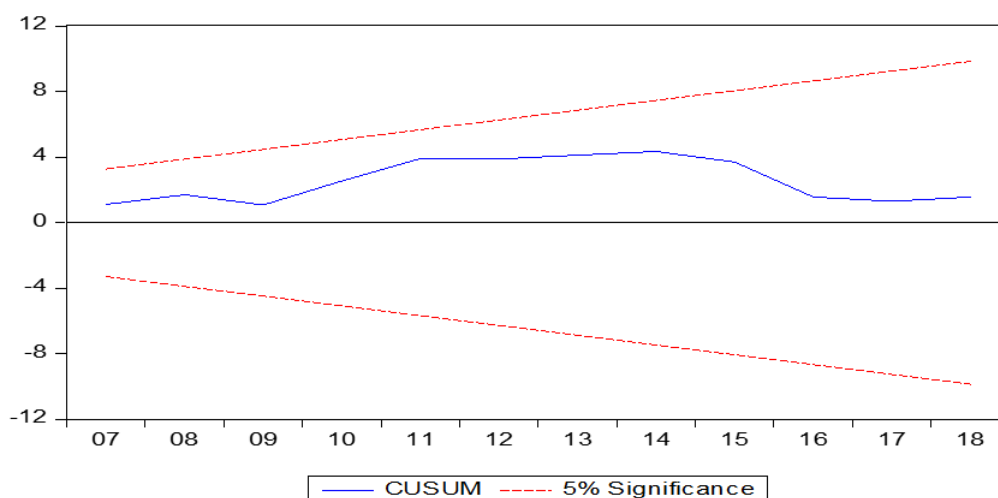

Figure 1. Model stability test for effects of IGR on Nigeria's economic development (1999-2018).

4.3.3.1. The Serial Correlation LM Test

The Breusch-Godfrey LM test is used to determine the validity or estimates if the given model estimation suffers from autocorrelation difficulties. The null hypothesis is that no serial correlation exists in the residuals up to the chosen lag order. The null hypothesis is not rejected since the probability value of the F-statistics is not significant at any of the 1, 5, or 10% statistical significance thresholds. As a result, the estimates are correct and do not suffer from autocorrelation (see Table 8).

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Table 8. Breusch-Godfrey serial correlation LM test.

Breusch-Godfrey serial correlation LM test:			
F-statistic	0.49	Prob. F(2,10)	0.63
R-squared	1.68	Prob. Chi-square (2)	0.43

4.3.3.2. Heteroscedasticity Test

The result of the Breusch-Pagan-Godfrey test for heteroscedasticity is shown in Table 9. The null hypothesis of this test is that there is no heteroscedasticity, and since the probability value of the F-test is not significant at 1, 5, and 10 per cent levels of statistical significance, there is no heteroscedasticity problem in the estimated model of IGR effects on Nigeria's economic development.

Table 9. Breusch-Pagan-Godfrey heteroskedasticity test.

Heteroskedasticity test: Breusch-Pagan-Godfrey			
F-statistic	2.09	Prob. F(6,12)	0.13
R-squared	9.69	Prob. Chi-square (6)	0.14
Scaled explained SS	2.23	Prob. Chi-square (6)	0.89

(i) Normality Test

Apart from the Jarque–Bera normal distribution results, the post-estimation normality test in Figure 2 shows that the series in the estimated model are jointly distributed. The overall Jarque-Bera statistic of 0.57 with a p-value of 0.75 confirms that.
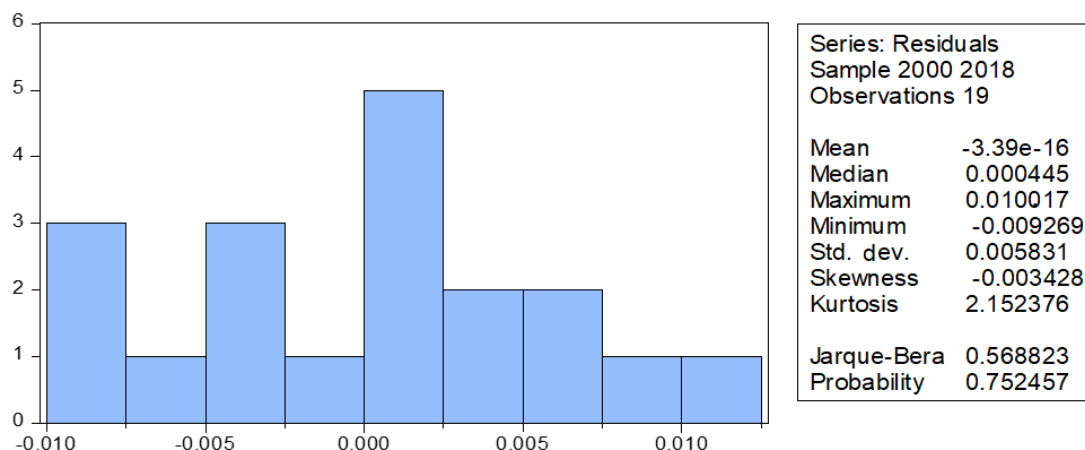

Figure 2. Model normality test for IGR effects on Nigeria's economic development (1999-2018).

5. Conclusion and Recommendation

The main objective of this study was to empirically examine the effects of internally sourced Revenue (IGR) on Nigeria's national economic growth and development by utilizing annual time series from 1992-2022. The data for IGR from the federal government, States, FCT and Local governments were sourced from the Central Bank Statistical Bulletin. According to preliminary analysis, it was discovered that LGs got less and unstable IGR than States and Federal governments. Overall, the accumulated or total IGR experienced shocks and volatility between 2008 and 2016. The results indicated that all the variables were level for stationery, states, and FCT IGR based on the ADF test, which was based on the unit root test that determines the proper model estimation technique. The results had been mixed for empirical findings based on the model empirically estimated, as insignificant impacts were reported. In effect, the results revealed that each of the individual variable exerts an insignificant effect, but the joint results combined explanatory variable revealed a weak but significant positive effect.

As a result, the study put forwards the following policy recommendations, the government at these levels (Federal government, the State and Federal Capital Territory) should intensify more efforts to increase their internally sourced revenue as this could enable a gradual reduction of external borrowing. The government and its revenue collection agencies should intensify efforts to harness all sources available. Policymakers should revisit the existing control measures to close revenue leakages. More so, the government should improve productive investments capable of impacting national economic development. The government should strengthen weak institutions and control measures to prevent further fraud and looting of internally generated revenue by privileged civil servants. Instead, the government should channel the production revenue to improve economic activities in the economy. Infrastructure deficits and a lack of proper business environment are matter of concern.

The study suggests that each of the 36 states and the Federal Capital Territory should fully realize their potential, they have the ability to become self-sufficient. Diversification of the Nigerian economy from its excessive reliance on oil has now become a necessary policy concern due to the decline in global oil prices and volume needs. Because of their reliance on oil money, the federal and state governments are essentially looking for new reliable sources of funding. The only solution for infrastructure development and supporting public services is still internally produced money. When oil income declines, states can increase their IGR by employing efficient and creative revenue management strategies, to an extent where they can fund both capital and recurring spending from taxes, levies, and fines generated regionally within the economy. . The state should establish an integrated database of its residents' income and outlays to make it more difficult to engage in tax evasion.

The legislative framework for taxes and levies should be used wisely to address the problem of tax multiplicities. Investors may find encouragement in the state's population index, which will favorably increase the likelihood that IGR will be realized. Concerns with state IGR are related to political resiliency, commitment, and will to increase income. Governments at all levels and policymakers should provide an enabling environment, strong institutions and quality governance that guarantee the safety and protection of investors' contractual rights and quality economic policies that stimulate the economic activities that will enhance internally generated revenue.

5.1. The Implication of Results

Based on the results, the F-statistics had revealed a positive effect, the insignificant results of the individual parameters have implications for the national economic development in Nigeria. The results are consistent with the underlying realities and evidential economic uncertainties in Nigeria as the level of internally generated revenue had not been optimally put to productive use to impact the national economic development of the country. It is worrisome that the prevailing unprecedented infrastructural deficits, lack of transparency and accountability among government officials seem endless, suggesting unethical sharp practices has become the hallmark of governance in Nigeria. The internally generated revenue had not been optimally deployed for national economic development, rather had been misused and diverted to private accounts through budget padding and misappropriations of funds absence of quality governance (Aguguom & Ehiogu, 2016). Adegbie et al. (2023) made the argument that while income per capita and living standards are gravely declining, poverty and infant mortality in the nation remain high. Every aspect of the Nigerian administration is corrupt. Olabisi et al. (2020) noted that corruption inside governmental machinery costs the nation billions of dollars annually. This corruption ranges from significant contract fraud at the top to small-scale bribes, money laundering schemes, embezzlement, and taking paychecks from false employees (Ijewereme, 2015). Transparency International (2022) showed that evidence of widespread fraud and plundering by the ruling elite had disregarded profitable investments that would have had an impact on Nigeria's economic development.

5.2. Limitations and Areas of Further Studies

There are still some limitations that need to be acknowledged because they open up possibilities for future research even though the study helped to clarify the significance of internally sourced revenue. . First, the study considered only 31 years as a result of the paucity of data on the internally sourced revenue in Nigeria. Secondly, because the study concentrated on the three tiers of governments, it was unable to offer the annual revenue earned by each of the 36 States on a year-to-year (YTY) basis. Despite these constraints, the research results showed that sufficient attempts were taken to choose trustworthy and reliable data from the three tiers of government in Nigeria that were under investigation. Future studies can consider all of these limitations in expanding the frontiers.

References

Abiola, G. A., & Ehigiamusoe, U. K. (2014). Analysis of internally sourced revenue and its implications on fiscal viability of state governments in Nigeria. *Journal of Empirical Economics, 2*(3), 216-228.

Adefolake, A. O., & Omodero, C. O. (2022). Tax revenue and economic growth in Nigeria. *Cogent Business & Management, 9*(1), 2115282.

Adegbie, F. F., Ajayi, A., Aguguom, T. A., & Otitolaiye, E. D. (2023). Diversification of the economy, tax revenue and sustainable growth in Nigeria *International Journal of Innovative Research and Scientific Studies, 6*(1), 115-127. https://doi.org/10.53894/ijirss.v6i1.1114

Adenugba, A. A., & Chike, F. O. (2013). The effect of internal revenue generation on infrastructural development. *A study of Lagos State Internal Revenue Services. Journal of Education and Social Research, 3*(2), 419 − 436.

Aguguom, T. A. (2019). Strategic financial intervention of donor agencies to poverty eradication postulates in Africa. *European Journal of Accounting, Finance, and Investment, 5*(6), 36-47.

Aguguom, T. A. (2020). Operational risks and equity returns: Dynamic and static panel data analyses. *Asian Journal of Finance & Accounting, 12*(2), 1-21. https://doi.org/10.5296/ajfa.v12i2.17362

Aguguom, T. A., & Ehiogu, C. P. (2016). Budget padding: The Nigerian perspective. *International Journal of Advanced Academic Research| Social & Management Sciences, 2*(12), 41-56.

Ahannaya, C. G., Olugbenga, D. A., Taiwo, I. A., Sheriff, S. A., & Akenronye, C. (2021). Impact of internally generated revenue on total revenue of Lagos State. *International Journal of Scientific & Engineering Research*(3), 913- 922.

Asimiyu, A. G., & Kizito, E. U. (2014). Analysis of internally sourced revenue and its implications on fiscal viability of State Governments in Nigeria. *Journal of Empirical Economics, 2*(4), 216-228.

Deloitte, A. (2016). Internally generated revenue: What are the short term options at state level? *Blog. deloitte. com. ng.*

Etim, E., & Daramola, O. (2020). The federally collected taxes and economic growth of South Africa and Nigeria: A comparative systematic review. *Journal of Open Innovation Technology, Marketing and Complexity, 6*(2), 1-26.

Idowu, O. A., Oni, S., & Olu-Owolabi, F. (2022). Internally generated revenue and infrastructural development in selected local government areas in Oyo State Nigeria. *African Renaissance, 2*(1), 23-45.

Ijewereme, O. B. (2015). Anatomy of corruption in the Nigerian public sector: Theoretical perspectives and some empirical explanations. *SAGE Open, 5*(2), 215824401558118. https://doi.org/10.1177/2158244015581188

Ikechi, K. S., Ugwueze, A. C., & Segun, M. A. (2022). Fiscal policy tools and economic growth in Nigeria. *International Journal of Innovation and Economic Development, 8*(5), 25-43. https://doi.org/10.18775/ijied.1849-7551-7020.2015.85.2003

Ironkwe, U. I., & Ndah, E. N. (2016). Impact of internally sourced revenue on performance of local government in Rivers State, Nigeria. *International Journal of Business and Law Research, 4*(4), 42-58.

Izevbigie, J. N., & Ebohon, G. E. (2019). Internally sourced revenue and state viability: Comparative analysis if two states in Nigeria. *International Journal of Development, 5*(31), 164-172.

Mpofu, F. Y. S. (2021). Informal sector taxation and enforcement in Africa countries: How plausible and achievable are the motives behind, A critical literature review. *Open Economics, 4*(1), 72-97. https://doi.org/10.1515/openec-2020-0114

National Bureau of Statistics. (2022). *National bureau of statistics.* Retrieved from https://www.nigerianstat.gov.ng/

Ndubuisi, P. (2017). Analysis of the impact of external debt on economic growth in an emerging economy: Evidence from Nigeria. *African Research Review, 11*(4), 156-173. https://doi.org/10.4314/afrrev.v11i4.13

Nnanseh, M., & Akpan, S. (2013). Internally sourced revenue (igr) and infrastructural development in Akwa Ibom State. *European Journal of Business and Management, Management Review, 14*(1), 96-106.

Nusair, S. A. (2016). The effects of oil price shocks on the economies of the gulf co-operation council countries: Nonlinear analysis. *Energy Policy, 91*, 256-267. https://doi.org/10.1016/j.enpol.2016.01.013

Okafor, R. G. (2012). Tax revenue generation and Nigerian economic development. *European Journal of Business and Management, 4*(19), 49-56.

Okwu, D. O., & Ofoegbu, G. N. (2016). Empirical analysis of effect of tax revenue on economic development of Nigeria. *International Journal of Asian Social Science, 6*(10), 604-613. https://doi.org/10.18488/journal.1/2016.6.10/1.10.604.613

Olabisi, J., Afolabi, A., Olagunju, A., & Madariola, F. A. (2020). Effect of federally collected taxes tax revenue on capital development in Lagos metropolis. *Economics and Business, 23*(2), 1-14.

Oladipo, O., Nwanji, T., Eluyela, F., Godo, B., & Adegboyegun, A. (2022). Impact of tax fairness and tax knowledge on tax compliance behavior of listed manufacturing companies in Nigeria. *Problems and Perspectives in Management, 20*(1), 41-48. https://doi.org/10.21511/ppm.20(1).2022.04

Omodero, C. O., Ekwe, M. C., & Ihendinihu, J. U. (2018). The impact of internally sourced revenue on economic development. *Accounting and Finance Research, 7*(2), 166-173. https://doi.org/10.5430/afr.v7n2p166

Omodero, C. O., Okafor, M. C., & Nmesirionye, J. A. (2021). Personal income tax revenue and Nigeria's aggregate earnings. *Universal Journal of Accounting and Finance, 9*(4), 783–789. https://doi.org/10.13189/ujaf.2021.090424

Otekunrin, A. O., Matowanyika, K., & Tafadzwa, C. (2020). An analysis of the aspect hampering federally collected taxes tax administration: Case of the Zimbabwe revenue authority. *International Journal of Finance Research, 12*(5), 10-23. https://doi.org/10.5430/ijfr.v12n5p10

Owusu, V. A. (2015). *Assessing the contributions of internally sourced funds in the development of metropolitan assemblies in Ghana: A case study of the Kumasi metropolitan assembly.* MBA Thesis Submitted to the Department of Accounting and Finance, Kwame Nkrumah University of Science and Technology, Kumasi.

Pesaran, M., & Shin, Y. (2001). *An autoregressive distributed lag modelling approach to cointegration analysis in econometrics and economic theory in the 20th century.* Cambridge: Cambridge University Press.

Romer, P. M. (1994). The origins of endogenous growth. *The Journal of Economic Perspectives, 8*(1), 3-22. https://doi.org/10.1257/jep.8.1.3

Simon, K. (1996). *Modern economic growth: Rate, structure and spread.* New Haven, Connecticut.: Yale University Press.

Transparency International. (2022). *Corruptions perceptions index 2021 for Nigeria. Transparency.org.* Retrieved from https://www.transparency.org/en/countries/nigeria

Udoh, J. E. (2015). Taxing the informal economy in Nigeria: Issues, challenges and opportunities. *International Journal of Business and Social Science, 6*(10), 160-175.

Uzoka, P. U., & Chiedu, C. O. (2018). Effects of tax planning on economic growth in Nigeria. *International Journal of Social Sciences and Management Research, 4*(7), 17-24.

Yulindra, S. (2012). *The effect of fiscal decentralization on local economic growth in Sumatera Barat Province.* M.A. Degree Research Paper Submitted to the Graduate School of Development Studies. Institute of Social Studies, Netherlands.