Elements of Internally Generated Revenue and Economic Growth in Lagos State

Ibukun M. Falayi, FCA, Ph.D.
Department of Accounting,
Babcock University, Ilisan-Remo, Nigeria
droshoaugustine@yahoo.com

DOI: 10.56201/jafm.v9.no2.2023.pg78.93

Abstract

State governments in Nigeria need revenue to invest in social infrastructures and creating social safety nets to stimulate economic growth. One of the sources of revenue that state governments have direct control over to maximize domestic revenue is the internally generated revenue. Empirical evaluation of the relationship between internally generated revenue and economic growth, therefore, becomes imperative. Consequently, this study examined the relationship between the components of Internally Generated Revenue (IGR) and Economic Growth (GDP) in Lagos State. The research design is ex-post facto while the period of study was from 2012 to 2020. The data obtained on the dependent and explanatory variables from National Bureau of Statistics and Lagos State Bureau of Statistics was analysed with the Autoregressive Distributed Lag technique. The results show a long-run significant relationship for other taxes, direct assessment and road taxes with gross domestic product in Lagos state, leaving out pay as you earn with insignificant impact. In the short run, however, other taxes, direct assessment, pay as you earn and road taxes have positive and significant relationship with gross domestic product. The F-statistic of 824.42 with a probability value of 0.000 at 1 percent level suggests that internally generated revenue exerts *significant influence* on gross domestic product in Lagos *State. The study concluded that internally generated revenue strengthened economic growth in the state. Lagos State government should sustain the current tempo of domestic revenue mobilization drive with special emphasis on pay as you earn as a component of internally generated revenue to spur economic growth.*

Keywords*: Internally generated revenue, Direct assessment, Road taxes, Pay as you earn, Other taxes,* Gross domestic product

1.0 Introduction

State governments in Nigeria are in economically precarious positions in this era of economic recession. Owing largely to dwindling oil prices and fiscal imbalance, many states in Nigeria are still defaulting in their financial obligations to their workers in spite of the bailout funds by the Federal Government to assist them to pay outstanding salaries and allowances. Most of the states could hardly meet their recurrent expenditure not to talk of capital expenditures. The federal government of President Muhammadu Buhari granted extra statutory allocation of N1.75 trillion as bailout to state governments in 2017, following pleas from Nigeria Governors' Forum (DMO, 2017 cited in Fasoye, 2020).This gesture was followed by another release of N760.17 billion as refund under the Paris Club loan to State governments (Fasoye, 2020).

Beyond internally generated revenue and federally allocated revenue, debt financing is another tool for handling a situation where government revenues fall short of expenditures. Debt option is analogous to salt in cooking: too little or too much of it is bad. Yusuf and Mohd (2021) posit that economic growth becomes faster when judicious borrowings are used to fund public and infrastructure development. However, excessive debt funding is not without numerous adverse consequences on the economy which include but not limited to huge debt overhang and cash strain owing to interest payments (Joy & Panda, 2020). In the same vein, high debt profile inhibits the borrower's capacity to invest in productive activities such as investment in infrastructure, education and public health (Johnny & Johnnywalker, 2018).

Consequently, various state governments have mapped out strategy for enhancing internally generated revenues beyond allocations from federation account to invest in social infrastructures and create social safety nets to stimulate economic growth.

A plethora of studies have been conducted on the effect of internally generated revenue in Lagos State on various subjects. Adesoji and Chike (2013), Olayinka and Irewole (2019) and Ajike et al., (2020) evaluated the impact of internally generated revenue on infrastructural development while Fatile and Ejalonibu (2018) and Izevbigie and Ebohon (2019) conducted comparative studies among states with respect to internally generated revenue. Ahannaya et al., (2021) examined the effect of internally generated revenue on total revenue whereas Owolabi et al., (2022) reviewed internally generated revenue in relation to human capital sustainability. Some scholars have equally focused their research interests on internally generated revenue in relation to its effect on or association with fiscal viability of states, capital projects as well as prospects and challenges (Asimiyu & Kizito, 2014; Oti & Odey, 2017); Onuigbo, 2021).

Meanwhile, none of these studies was centered on how internally generated revenue was driving economic growth in Lagos State. More so, the disaggregated impact of internally generated revenue' components, going by the calibration of the National Bureau of Statistics, on economic growth was not considered. This write up is set out to bridge the identified gaps in the studies. In the main, this study examines the impact of internally generated revenue on economic growth in Lagos State and establishes the components of internally generated revenue that are the significant drivers of economic growth.

2.0 Literature Review

2.1.1 Internally Generated Revenue (IGR)

Internally Generated Revenue refer to monies collected by a government through imposition of levies and taxes on facilities, incomes, sale of goods and services, transfers of properties, and other domestic transactions. As the name suggests, it includes all incomes sourced internally or locally by any level of government within the ambit of the law. It is however different from statutory allocation from the central government or capital receipts from borrowing (public debt) and sale of government fixed assets as obtainable in a federation.

Internally generated revenues to state governments are set out in the 1999 Constitution of the Federal Republic of Nigeria. States are legally empowered to levy taxes partly or solely on the following: Capital gains Tax, Personal Income tax, Stamp Duties, Capital Transfer Tax, Pools Betting & Other Setting Taxes, Motor Vehicle and Drivers' Licenses, Entertainment Tax, Legal Registration & Survey Fees and Gift Tax (1999 Constitution of the Federal Republic of Nigeria). The National Bureau of Statistics groups internally generated revenue into five categories: pay as you earn, direct assessment, road taxes, ministries, departments & agencies' revenue and other taxes.

2.1.2 Economic Growth

Economic growth refers to the increase in production of goods and services within an economy over a period of time. It is traditionally measured as the percent rate of increase in gross domestic product (GDP). In terms of measurement, economic growth can be measured in nominal terms, or in real terms. It is measured in nominal terms if it includes inflation while it is in real terms if there is adjustment for inflation. Measurement of economic growth in real terms (i.e. inflation adjusted terms) is preferable because the distorting effect of inflation on the price of good and services produced is eliminated.

Growth can be intensive or extensive. It is intensive growth where the increase is caused by more efficient use of inputs (such as labour, physical capital, energy or materials). On the other hand, extensive growth means that the increase is driven only by increases in the amount of inputs available for use (increased population, new territory). For comparing one country's economic growth to another, GDP or GNP per capita is used to account for population differences between countries.

Economic growth is different from economic development, although the two (2) terms are used interchangeably, most especially by non-economists. Economic development generally refers to the sustained, concerted actions of policy makers and communities that promote the standard of living and economic health of a specific area.

2.2 Theoretical framework

The theoretical framework of the research stands on a tripod of theories: Benefit Theory of Taxation, Ability-to-Pay Approach Theory and Modern Theory of Economic Growth.

2.2.1 Benefit Theory of Taxation

Johan GustafKnut Wicksell (1851 – 1926) and Erik Lindahl (1891 - 1960), two outstanding economists of the famed Stockholm School, propounded the benefit theory of taxation. The centre piece of the theory is that benefits enjoyed from the provision of public services should the foundation for taxing individuals in an economy. The tax paid by individuals should or ought to reflect the benefits derived by them. According to them, this arrangement ensures tax equity and justice. Many governments in mixed economies have funded public services like public college tuition, fuel taxes, bus fares, bridge/road tolls, etc. on the basis of the benefit principle.
Meanwhile, the theory suffers from a number of criticisms by scholars in its bid to align with fairness and equity postulations of taxation. For instance, the benefits received by individuals from services provided by government are difficult to measure thereby making the theory to be impractical (Ahuja, 2012). Again, in spite of its long-lasting backing among leading thinkers and the public, the real meaning of benefit-based taxation is still a subject of confusion and this has restricted its influence on income tax policy debates (Scherf & Weinzierl, 2019). In addition, the benefits of public goods like security and defence are generally shared by individuals not minding their economic status.

2.2.2 Ability-to-Pay Approach

The ability-to-pay theory was pioneered Pigou (1920). The theory is put up on the taxpayers' ability to pay. Itassumes that the amount of tax levied on a citizen (private or corporate) should be directly proportional to the citizen's ability to pay taxes. It implies that a person having high income and wealth should be taxed more and less tax should be levied on those having low income and wealth, all things being equal. Tax payment is a sacrifice made by taxpayers. Basically, the theory recognizes three types of sacrifice: equal sacrifice, equal proportional sacrifice and equal marginal sacrifice.

Richard Musgrave (1910 – 2007), an American economist, came up with a model which illustrates the three types of sacrifice enumerated above. In the model, total utility is C and marginal utility is O. CE is total utility, and CF is the marginal utility of income. When an income-yielding tax (MG) is levied, under equal absolute sacrifice, A will pay NG and B will pay TH (TH+NG=MG). Under equal proportional sacrifice, A pays RG and B pays SH (SH+RG=MG). The shares are arranged so EW÷EI=KU÷KJ. Under equal marginal sacrifice, A pays VG and B pays VH (VG+VH=MG). The aggregate sacrifice (EX+KY) is at minimum. The ability to pay theory provides the rational basis for the adoption of Pay As You Earn (PAYE) for workers. PAYE is a major component of Internally Generated Revenue among Nigerian states. Not minding its wide acceptance, scholars have pointed to a number of shortcomings as far as the theory is concerned. The meaning of the concept 'ability to pay' is not clinically explained or precise (Schurtz, 1986; Duff, 2008; Onakoya, Afintinni, &Ogundajo, 2017). The theory is a disincentive to those who have capacity to grow their earnings and a punishment to those who have worked hard to attain higher incomes (Njiri et al., 2020).

2.2.3 Modern Theory of Economic Growth

The modern theory of economic growth could be traced to the Ph.D. thesis of Paul Romer in 1983 but published in 1990. He worked on "Dynamic Competitive Equilibria with Externalities, Increasing Returns and Unbounded Growth."He showcased how technological change, through

mathematical representations of economies, could be built on research and development created by the intentional actions of the people. Paul Romer's submission was followed by the publication on the Mechanics of Economic Development by Robert E. Lucas in 1988 which supported his proposition. The theory, similarly named as endogenous growth theory, accords a pride of place to ideas and innovation. The theory points to the fact that sustained growth relies on a growing population inhabited by a pool of researchers whose ideas and researches are pre-requisites for further technological progress.

In Romer (1983)'s submission, "Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable." He metaphorizes economic growth as the end product of what comes out from cooking in a kitchen. He asserts that worthy final products from the kitchen are produced based on the mixture of economical ingredients strictly in line with a specific recipe. The supply of the ingredients determines the much of activities that can take place in the kitchen and is bound to generate unexpected side effects. If the activities in the kitchen follow the same pattern over time, the kitchen will soon be short of needed raw materials and may generate unacceptable levels of pollution and irritation. Thus, real growth in kitchen activities (economy) flows from improved recipes (research and development) and not necessarily from more cooking. Improved recipes normally generate less undesirable side effects and produce more economic value per unit of raw ingredient (economic resources). The theory rationalizes how governments' ability to grow internally generated revenue and invests in research & development will spur economic growth.

2.3 Empirical review

The connection between internally generated revenue and economic growth has been subjected to numerous empirical reviews with diverse outcomes. This sub-section shows some empirical studies in respect of internally generated revenue and economic growth in Nigeria.

Adinoge et al., (2022) studied how capital budget was influenced by internal revenue generated by Osun State in Nigeria. The study indicated that the explanatories variables - PAYE, withholding tax and direct assessment did not have significant impact on the dependent variable - capital budget performance. The study admonished the state to work on tax evasion and avoidance especially among the high income cadre.

In the same dimension, Onuigbo (2021) took a look at the prospects and challenges of generating internal revenue in Nigeria. Over-dependence on statutory allocations, non-review of extant laws, massive corruption and outdated collection mechanisms were enumerated as challenges in the study. The prospects of internal revenue were hinged on integrated assessment and collection system built on accurate data base, harmonized collection of taxes by State MDAs and LGAs, engagement of relevant professionals and reinvigorated tax payer education.

Nwafor and Egolum (2021), in a study on Enugu State, analyzed land based revenue and internally generated revenue in terms contribution and growth. The study revealed that land related revenue averaged 9% from 2006 to 2019 but only met the set target in 2010. Internally generated revenue and land based revenue respectively grew by -41% and 4.92%.

Ahannaya et al., (2021) examined the relationship between internally generated revenue and total revenue of Lagos State. They found that infrastructural development required for economic growth was significantly and positively influenced by internally generated revenue.

Orimoloye and Adegbie (2020) conducted a study on how capital projects developments in Lagos State was influenced by internally generated revenue based on a span of nineteen years (2000 to 2018). The study found that capital projects were significantly impacted by internally generated revenue and recommended that the state government should strive hard to maximize internally generated revenue rather than relying on debt finance.

Izevbigie and Ebohon (2019) conducted a comparative study of internally generated revenue in two states (Lagos and Edo). From the analysis, tax compliance in Lagos state was far higher than that of Edo State. Nevertheless, Edo State had been able to grow internally generated revenue considerably owing to proactive steps taken by the government during the review period.

Oladejo and Alade (2017) empirically reviewed the revenue profile of South Western Nigeria with emphasis on internally generated revenue and measured its effect on capital expenditures. Apart from a discovery of differential parts of internally generated revenue among the states, the results established significantly positive connection between the total revenue and internally generated revenue of the sampled states - Ekiti, Osun State and Ondo State. In addition, it was discovered that internally generated revenue had no significant effect on capital expenditure in Ekiti and Ondo except Osun.

Okeke et al., (2017) focused their research lens on how internally generated revenue could be enhanced and have its militating challenges addressed. The research findings showed that the contribution of internally generated revenue to the overall revenue of the states remained a little proportion and challenged by a myriad of problems. It was equally established that the revenue profile of the states was bumpy, thin and needed to be expanded.

Tyoakosu & Awuhe (2017) studied the contribution of internally generated revenue in Benue State and found that the share of pay-as-you-earn was significant within the internally generated revenuewhen compared with direct assessment which was insignificant.

Oti and Odey (2017), in a study domesticated in Cross River State, reviewed the nexus between internally generated revenue and capital projects. They observed among others that the constitutionally assigned revenues to state governments remain undeveloped and weak; and that debt option amidst decline in statutory allocation built on erratic oil revenues is not attractive due to its limitations. The study's findings suggest that the inability of states government to grow internal revenue to meet government expenditures created budget that could be bridged by diversified internal revenue earlier recommended by (Asimiyu & Kizito, 2014).

Asimiyu and Kizito (2014)'s study on internally generated revenue in relation to fiscal viability segregated states in Nigeria into rural and urban states using fiscal capacity, industrial development, agricultural development, economic backwardness, general poverty and technological backwardness as benchmark. They not only found mismatch between growth rate of internally generated revenue, on one hand, and recurrent as well as capital expenditures, on the other hand. The study showed that urban states had the potential to grow domestic revenue

and fund their recurrent and capital expenditures higher than rural states. The study suggested strengthening and diversification of internal revenue base as a panacea to fund development projects in their states.

3.0 Methodology

The study is focused on the evaluation of the impact of internally generated revenue on economic growth of Lagos State. The research design is ex-post facto which is preferred by many researchers on account of its efficient capability for measuring trends over definite time frames (Akhor & Ekundayo, 2016; Ofoegbu, Akwu& Oliver, 2016). The study covers a period of ten years (2011 – 2020) while secondary data on the variables was obtained from National Bureau of Statistics and Lagos State Bureau of Statistics. The sources of the data were credible and backed up with statutory obligations. Gross Domestic Product (GDP) stood for economic growth while Other Taxes, Direct Assessment, Pay As You Earn and Road Taxes were the predictor variables.
The functional and statistical model below is formulated to evaluate the impact of internally generated revenue on economic growth:
GDP = f (OT, DA, PAYE, RT) ---------- Functional equation

$GDP_t = \beta_0 + \beta_1 OT_t + \beta_2 DA_t + \beta_3 PAYE_t + \beta_4 RT_t + \varepsilon_t$ ---------- Model of the Study
Where

GDP = Gross Domestic Growth
OT = Other Taxes
DA = Direct Assessment
PAYE = Pay As You Earn
RT = Road Taxes
εt = Error term
$\beta 0$ = Intercept or the constant
$\beta 1$ - $\beta 4$ = Represent the coefficient of explanatory variables
The study expected a positive association between the surrogates of internally generated revenue and economic growth.

3.1 Findings and Discussions

Preliminary Findings

The results for the descriptive statistics, correlation and unit root test for Lagos State internally generated revenue are presented in Tables 1, 2 and 3. The descriptive shows that the GDP mean value is put at 4,157,763 million naira

Table 1 Descriptive Statistics of Gross Domestic Product and Internally Generated Revenue.

Variables	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob	Obs
GDP	4157763.00	6051387.00	2812607.00	1127977.00	0.39	1.68	3.54	0.17	36
DA	2585.18	4426.21	179.54	1365.01	-0.41	2.05	2.37	0.31	36
OT	20881.80	53707.10	3063.57	12314.03	0.57	1.56	2.65	0.28	36
PAYE	51841.56	69948.55	38053.39	10952.24	0.52	1.80	3.82	0.15	36
RT	1992.68	3361.85	899.03	663.15	-0.05	1.97	1.61	0.45	36

Notes: Table 1 shows the mean, median, maximum, minimum, standard deviation and the Jarque-Bera Statistic. The dependent variables are the natural logarithms of Gross National Domestic Product (GDP). The independent variables are Direct Assessment (DA), Other Taxes (OT), Pay as you Earn (PAYE) and Road Taxes. The sample period is from 2012Q1-2020Q4 for Lagos State. The estimation process was facilitated using E-Views 10.

Interpretation

The descriptive shows that the GDP mean value is put at 4,157,763 million naira and standard deviation of 1,127,977 million naira. The standard deviation of 1,127,977 connotes that there is a dispersion of the gross domestic product from the mean. Thus, the standard deviation value is far from the mean, suggesting that the gross domestic product in Nigeria is susceptible to change over time. The minimum value of 2,812,607 million naira and maximum value of 6,051,387 million naira indicate that Lagos State has different levels of gross domestic product. This further implies that while the gross domestic product of the nation is high at some periods, it is low at some other times. The same trend was observed for the direct tax assessment, road taxes, other taxes and Pay as You Earn. The Jarque-Bera statistic results shows that all the series are normally distributed

Table 2 Correlation Matrix forGross Domestic Product and Internally Generated Revenue.

Variables	GDP	DA	OT	PAYE	RT
GDP	1.000				
DA	0.779	1.000			
OT	-0.451	-0.463	1.000		
PAYE	0.955	0.580	-0.345	1.000	
RT	0.804	0.690	-0.402	0.756	1.000

Notes: Table 2 shows the Pearson pairwise correlation matrix. The dependent variables are the natural logarithms of Gross National Domestic Product (GDP). The independent variables are Direct Assessment (DA), Other Taxes (OT), Pay as you Earn (PAYE) and Road Taxes. The sample period is from 2012Q1-2020Q4 for Lagos State. The estimation process was facilitated using E-Views 10.The correlations are below the major diagonal.

Interpretation

From the results in Table 2, direct assessment, pay as you earn, and road taxes have positive association with the gross domestic product with correlation values of 0.779, 0.955, and 0.804 respectively. This implies that increases in direct assessment, pay as you earn, and road taxeswill

lead to increase in the gross domestic product. Conversely, there is evidence that other taxes have negative association with GDP with correlation coefficient of 0.451.

Stationarity test for study variables

The time series properties of the variables were examined using the Augmented Dickey Fuller (ADF) unit root test and the result is presented in Table 3. The results show that gross domestic product, other taxes, and pay as you earn were stationary in their first differences, while direct assessment and road taxes were stationary at levels. It should be noted that because of the different order of integration of the variables, the autoregressive distributed lag (ARDL) model approach to cointegration of Pesaran and Pesaran (2001) which allows for the of combination of levels and first difference stationary variables were used.

Table 3 Result of the Unit Root Test for Gross Domestic Product and Internally Generated Revenue.

Variables	ADF	Prob	Remarks
GDP	-3.042	0.136	
ΔGDP	-2.979	0.047	I(1)
DA	-4.021	0.019	I(0)
ΔDA	-3.95	0.005	
OT	-2.376	0.383	
ΔOT	-2.911	0.056	I(1)
PAYE	0.145	0.996	
ΔPAYE	-2.846	0.063	I(1)
RT	-3.451	0.066	I(0)
ΔRT	-3.009	0.044	

Source: Researcher's Computation, (2022)

Notes: Table 3 presents the unit root test. The dependent variables are the natural logarithms of Gross National Domestic Product (GDP). The independent variables are Direct Assessment (DA), Other Taxes (OT), Pay as you Earn (PAYE) and Road Taxes. The sample period is from 2012Q1-2020Q4 for Lagos State. The estimation process was facilitated using E-Views 10.

Table 4: Internally Generated Revenueand Gross Domestic Product

Dependent Variable: GDP				
Variable	**Coefficient**	**S.E**	**t-stat**	**Prob**
C	4.073	0.396	10.280	0.000
OT	0.148	0.029	5.116	0.000
DA	0.640	0.075	8.476	0.000
PAYE	0.040	0.128	0.312	0.761
RT	-0.112	0.052	-2.145	0.055

Panel B: Short -Run Estimates

Variable	Coefficient	S.E	t-stat	Prob
D(GDP(-1))	-0.385	0.064	-6.030	0.000
D(GDP(-2))	-0.441	0.050	-8.836	0.000
D(GDP(-3))	-0.246	0.040	-6.120	0.000
D(OT)	0.170	0.007	25.001	0.000
D(OT(-1))	0.053	0.012	4.603	0.001
D(OT(-2))	0.069	0.006	11.993	0.000
D(OT(-3))	0.015	0.003	6.088	0.000
D(DA)	0.199	0.008	26.282	0.000
D(DA(-1))	0.041	0.007	5.769	0.000
D(DA(-2))	-0.019	0.006	-3.425	0.006
D(PAYE(-))	0.065	0.006	10.671	0.000
D(RT)	0.007	0.005	1.270	0.230
D(RT(-1))	0.017	0.007	2.523	0.028
D(RT(-2))	0.028	0.006	4.723	0.001
D(RT(-3))	0.013	0.005	2.493	0.030
ECM(-1)	-0.299	0.016	-18.272	0.000

Panel C: Diagnostic Tests	Statistic	Prob.
Bound Test	38.254	0.000
Serial Correlation	1.774	0.224
Heteroscedasticity	0.574	0.865
Linearity Test	0.049	0.829
Adjusted R-Square	0.981	
F-Statistic	824.42	0.000
	CUSUM	CUSUMSQ
Stability Test	Stable	Stable

Notes: Table 4 reports the long-run estimates, short run estimates and the diagnostic tests for the relationship between internal generated revenue and gross domestic product. The dependent variables are the natural logarithms of Gross National Domestic Product (GDP). The independent variables are Direct Assessment (DA), Other Taxes (OT), Pay as you Earn (PAYE) and Road Taxes. The sample period is from 2012Q1-2020Q4 for Lagos State. The estimation process was facilitated using EViews 10.

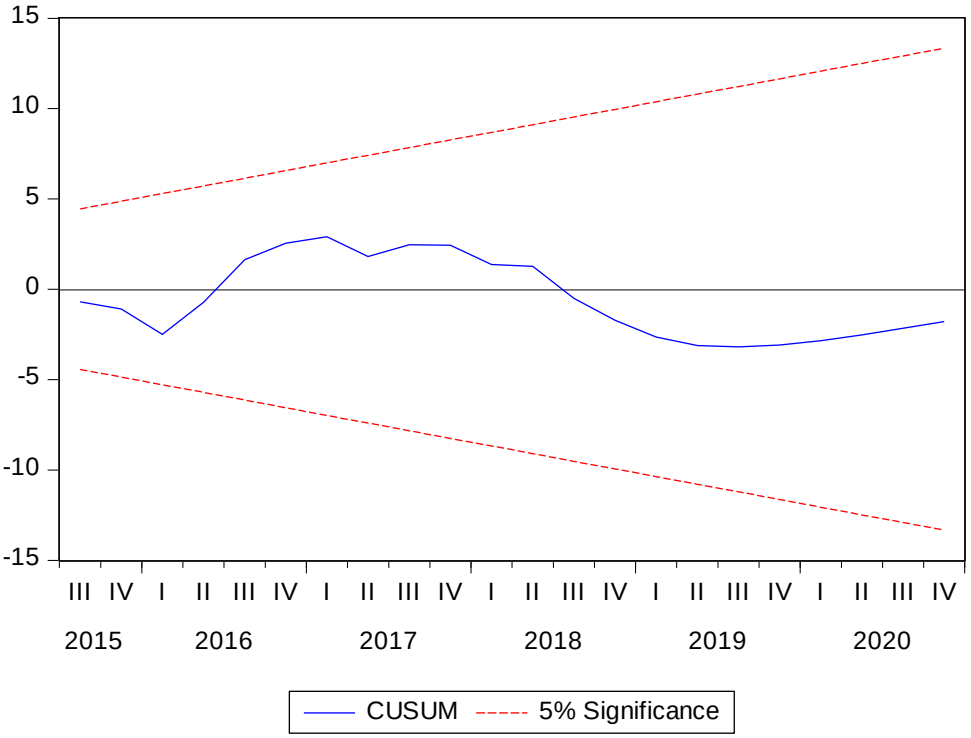

Figure 1: Stability Test - Plots of Cumulative Sum of Residual

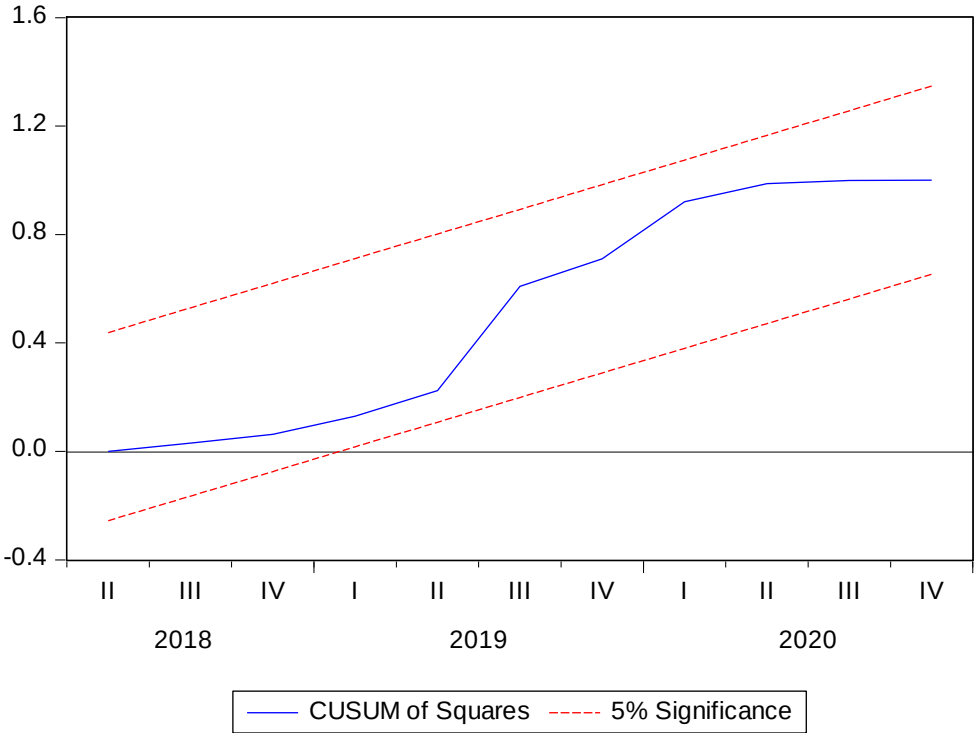

Figure 2: Stability Test - Plots of Cumulative Sum of Residual Squared

Interpretation

Bounds Test for Cointegration

The value of F-Stat is 38.254 and it is greater than the critical values bound at upper bound of 4.26 at 1 percent. This implies that the variables co-moved in the long run. Having found a long-run relationship between internal generated revenue and gross domestic product in Lagos state the study then estimates the long-run and the short-run elasticity. The empirical results for the model, obtained through normalizing internally generated revenue and gross domestic product, in the short and long run are reported in Table 4.

Long-run impact of internally generated revenue on economic growth in Lagos State

The estimated long-run coefficients (elasticities) for the UECM model are given in the tables Panel A of Tables 4. In the long run, there is evidence that other taxes, direct assessment, pay as you earn have positive relationship with gross domestic product in Lagos state. This implies that increases in other taxes, direct assessment, pay as you earnwill lead to increase in the gross domestic product in Lagos state. In sharp contrast, there is evidence that road taxes has a negative relationship with gross domestic product in Lagos state. Thus, increases in road taxes will lead to decrease in gross domestic product.

There is evidence of a long-run significant relationship for other taxes, direct assessment and road taxes with gross domestic product in Lagos state (OT = 0.148, t-test= 5.116, $\rho < 0.05$; DA = 0.640, t-test= 8.476, $\rho < 0.05$; and RT = -0.112, t-test = -2.145, $p < 0.10$). This implies that other taxes, direct assessment, and road taxes are significant factors influencing changes in with gross domestic product in Lagos state.

Conversely, there is evidence of a long-run insignificant relationship for pay as you earn with gross national income per capita in Lagos State (PAYE = 0.040, t-test= 0.312, $\rho > 0.10$). This implies that pay as you earn is not significant factor influencing changes in with gross domestic product in Lagos state.

Concerning the magnitudes of the estimated coefficients, 1 per cent increase in other taxes, direct assessment, pay as you earnwill lead to 0.148, 0.640 and 0.040 per cent increase in the gross domestic product respectively in the long run in Lagos state, while 1 per centincrease in road taxes will to 0.112 per cent decrease in gross domestic product in Lagos state.

Short-run effect of internally generated revenue on economic growth in Lagos State

The purpose of this section is for two reasons. First, is to examine if changes and the statistical significance experienced in the long run also exist in the short run model. Second, is to examine the degree of adjustment back to equilibrium using the error correction term. The short-run adjustment process is measured by the error correction term ECM_{t-1} and it shows how quickly variables adjust to a shock and return to equilibrium. For stability, the coefficient of ECM_{t-1} should carry the negative sign and be statistically significant.

The result shows that in the short-run other taxes, direct assessment, pay as you earn and road taxes have positive and significant relationship with gross domestic product in Lagos state.In addition, the estimated coefficient for the ECM_{t-1} reported in Panel B of 4 is negative and statistically significant (ECM= -0.299, t-test = -18.272, $p<0.05$). This implies that deviations from gross domestic product equilibrium path are corrected by nearly 30 per cent over the following quarter. In other words, the adjustment process is relatively okay in Lagos State. The

statistical significance of the ECM_{t-1} confirms the presence of long-run equilibrium relationship between internally generated revenue and gross domestic product in Lagos state.
The Adjusted R-square is 0.98; this implies that other taxes, direct assessment, pay as you earn And road taxes explain about 98 per cent changes in gross domestic product while the remaining 2 per cent were other factors affecting changes in gross domestic product but were not captured in the model.

Decision Rule

The *F*-statistic of 824.42 with a probability value of 0.000 is statistically significant at 1 percent level, this implies that the null hypothesis that there is no significant influence ofinternally generated revenue on gross domestic product in Lagos was rejected and that the alternative hypothesis that there is significant influence ofinternally generated revenue on gross domestic product in Lagos was accepted.

Diagnostic Test

The Breusch-Godfrey Serial Correlation LM Test

The Breusch-Godfrey Serial Correlation LM Test was carried out to determine if successive error terms are correlated. The F-statistic of 1.774 with a probability value of 0.224 is in favourof the null hypothesis that there is no serial correlation in the residuals up to the specified lag order at 5 percent significant level. Thus, the study concluded that the successive error terms were not correlated in the estimated model for internally generated revenue on gross domestic product in Lagos

The Heteroskedasticity Test

Breusch-Pagan Test for Heteroskedasticity was conducted to test if the estimated model error term is constant or not. The result suggests that a statistic of 0.574 is not statistically significant at 5 per cent level of significance, this implies that the null hypothesis of homoscedasticity could not be rejected; thus, there is evidence that the covariance of the error terms have a constant finite variance.

The Linearity Test

The linearity assumption of ARDL test was estimated using **Ramsey Reset Test**, F-statistics of 0.049 and its ρ-value is of 83 per cent is greater than 5 per cent chosen level of significance, thus the null hypothesis of linearity cannot be rejected. This implies that the model is correctly specified and that there is a linear relationship between internally generated revenue and gross domestic product in Lagos State

Stability Test (CUSUM Residual Test)

The CUSUM and the CUSUMSQ test for stability is meant to determine the appropriateness and the stability of the model. In addition, the CUSUM and CUSUMSQ test are used to show whether the model is stable and is suitable for making long run decision. The CUSUM and CUSUMSQ are also reported in Panel C and Figure 4.The result show that the CUSUM and

CUSUMSQ tests of the estimated model is stable; this is because the plot of CUSUM and CUSUMSQ statistics stays within a 5% significance level portrayed by two straight lines.

4.0 Conclusion

The central intent of the study to show how internally generated revenue affects economic growth in Lagos State for the period of 2013 – 2020. The correlation results reveal that direct assessment, pay as you earn, and road taxes have positive association with the gross domestic product leaving out other taxes with negative relationship. The long-run impact of internally generated revenue on economic growth in Lagos State shows that other taxes, direct assessment, and road taxes are significant factors influencing changes in with gross domestic product in Lagos state.

In addition, the result of the *F*-statistic suggests that the null hypothesis should be rejected. Consequently, we accepted the alternate hypothesis which states that there is significant influence ofinternally generated revenue on gross domestic product in Lagos was accepted. This result validates and is in tandem with the outcomes of earlier studies: Chigbu et al., (2012); Ihenyen and Mieseigha (2014); Samuel and Tyokoso (2014); Sackey and Ejoh (2014); Ajibola et al., (2014); and Afuberoh and Okoye (2014).

Based on the empirical results, Lagos State government should optimize her revenue generating potentials with special emphasis on other taxes and road taxes, going by the said results. Thisstudy brings forth fresh perspectives on the contribution of each component of internally generated revenue to economic growth of Lagos State.

References

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

Adinoge, M. O. & Alade, B. J. (2017). Internally generated revenue and the revenue profile of selected south western state governments in Nigeria. *International Journal of Research in Business Management, 5* (12), 13-28.

Adinoge, Z. O., David, K. O., Aderibigbe, S. O., & Njoku, F. J. (2022). Internally generated revenue and capital budget performance in public sector of Osun State, Nigeria.*International Journal of Innovative Finance and Economics Research, 10* (2), 90-98.

Afuberoh, D. & Okoye, E. (2014). The impact of taxation on revenue generation in Nigeria: A study of federal capital territory and selected states. *International Journal of Public Administration and Management Research (IJPAMR), 2*(2), 22-47.

Agu, S. U., Okwo, I. M., Ugwunta, O. D., & Idike, A. (2015). Fiscal policy and economic growth in Nigeria: Emphasis on various components of public expenditure. *SAGE Open*, 1-12.

Ahannaya, C. G., Daniel-Adebayo, O., Iwala, A. T., Sanni, A. S., & Akenronye, C. (2021). Impact of internally generated revenue on total revenue of Lagos State.*International Journal of Scientific & Engineering Research, 12* (3), 913 – 922.

Ahuja, H. L. (2012). *Modern economics analytical study of microeconomics, macroeconomics, money and banking, public finance, international economics and economics of growth and development* (17th ed.). New Delhi: S. Chand Publishing

Ajibola, O., Olowolaju, P. S., Akintoye, I. R. & Falayi, I. (2014). Effect of internally generated revenue on economic development of sub-saharan Africa: Evidence from Nigeria. Scottish Journal of Arts, Social Sciences and Scientific Studies, 21 (1), 31-49.

Ajike, E. O., Ariguzo, A. V., Akinyosoye, O., Nwankwere, I. A., & Oyedeji, F. (2020). Internally generated revenue and transport infrastructural development in Lagos State Nigeria between 1998 to 2018. *Journal of Critical Reviews, 8* (01), 987 – 995.

Akujuobi, L. E., & Akujuobi, A. B. C. (2009). Financing state governments in Nigeria, 1980-2007.*An International Multi-Disciplinary Journal, Ethiopia, 3*(3), 204-215.

Aruwa, S. A. S. (2012). Public finances and economic growth in Nigeria. *Public and Municipal Finance, 1*(2), 29-36.

Asimiyu, G. A., & Kizito, U. E. (2014).Analysis of internally generated revenue and its implications for fiscal viability of state governments in Nigeria.*Journal of Empirical Economics, 2* (4), 214 – 248.

Chigbu, E. E., Akujuobi, L. E, &Appah, E. (2012). An empirical study on the causality between economic growth and taxation in Nigeria. *Current Research Journal of Economic Theory, 4*(2), 29-38.

Coker, M. A., Eteng, F. O., Agishi, T. V., & Adie, H. I. (2015). Challenges of expanding internally generated revenue in local government council areas in Nigeria. *Journal of Sustainable Development, 8*(9), 79-88.

Duff, D. G. (2008). Tax Fairness and the Tax Mix (Oxford: The Foundation for Law, Justice and Society.

Fasoye, K. (2020). Does internally generated revenue (igr) have the potential to enhance fiscal viability of state governments in Nigeria? *Noble International Journal of Economics and Financial Research, 05*(03), 40-49.

Fatile, J. O., & Ejalonibu, G. L. (2018). Improved internally generated revenue and sustainable budget implementation: A comparative study of Lagos and Oyo States.*Governance and Management Review, 3* (1), 27-45.

Ihenyen, C. J. & Mieseigha, E. G. (2014). Taxation as an instrument of economic growth (The Nigerian perspective).*Information and Knowledge Management*, 4(12)

Izevbigie, J. N., & Ebohon, G. E. (2019). Internally generated revenue and state viability: Comparative analysis of two states in Nigeria.*International Journal of Development and Management Review, 14* (1), 96-106.

Johnny, N., & Johnnywalker, W. (2018). The Relationship between external reserves and economic growth in Nigeria (1980-2016).*International Journal of Economics, Commerce and Management, 6*(50), 213–241.

Njiri, A., Bogonko, J. B., & Akuku, C. (2020). Perception of tax principles as a predictor on tax compliance among small and medium enterprises (SMEs) in Eldoret Town.*International Journals of Academics & Research, 3* (1), 54-61.

Nwafor, I. V., &Egolum, C. C. (2021).Evaluation of landbased revenue and internally generated revenue in Enugu State Nigeria.*International Journal of Research and Innovation in Social Science (IJRISS), v* (ix), 452 – 459.

Okeke, M. I., Mba, C., & Eme, O. I. (2017). Enhancing internally generated revenue: Issues, strategies, foresight and insights.*Specialty Journal of Humanities and Cultural Science, 2* (1), 1-22.

Oladejo, M. O., & Alade, B. J. (2017). Internally generated revenue and the revenue profile of selected South Western State Governments, in Nigeria. *International Journal of Research in Business Management, 5* (12), 13-28.

Olayinka, O. M., & Irewole, P. (2019). Internally generated revenue and infrastructural development : Of what relevance to Lagos State? *IOSR Journal of Economics and Finance, 10* (4), 58-74.

Onakoya, A. B., Afintinni, O. I., & Ogundajo, G. O. (2017). Taxation revenue and economic growth in Africa.*Journal of Accounting and Taxation, 9* (2), 11-22.

Onuigbo, F. N. (2021). Internally generated revenue in Nigeria: Prospects and challenges.*Journal of Social Sciences, 6* (2), 287-296.

Orimoloye, M. J. & Adegbie, F. (2021). Revenue generation and capital projects development in Lagos State, Nigeria.*The International Journal of Business & Management, 8*(10), 104-120.

Oti, P. A., & Odey, F. I. (2017). Analysis of internally generated revenue and capital expenditure utilization in Cross River State, Nigeria.*International Journal of Development and Economic Sustainability*, *6* (1), 9 -18.

Owolabi, T., Adefisoye, A., & Busari, T. (2022). State Internally generated revenue and human capital sustainability; A case study of Lagos State. *International Journal of Economics, Management, Business and Social Science (IJEMBIS), 2*(1), 9-21.

Pigou, A. C. (1920). *The Economics of Welfare*. London: Macmillan.

Romer, P. M. (1983). *Dynamic competitive equilibria with externalities, increasing returns and unbounded growth*(PhD dissertation).University of Chicago, Chicago.

Sackey, J. A. & Ejoh, N. O. (2014). Tax revenue structure and its effect on economic growth.*Archives of Applied Science Research, 6*(1), 209-222.

Samuel, S. E. & Tyokoso, G. (2014). Taxation and revenue generation: An empirical investigation of selected states in Nigeria. *Journal of Poverty, Investment and Development - An Open Access International Journal, 4*, 102-114.

Scherf, R., & Weinzierl, M. (2019). Understanding different approaches to benefit-based taxation. *Fiscal Studies, 0* (0), 1–26.

Schurtz, N. E. (1986). A critical view of traditional tax policy theory: A pragmatic alternative, *Villanova Law Review, 31* (6), 1665-1701.

Tyoakosu, S. A., & Awuhe, P. O. (2017). Personal income tax and the performance of internally generated revenue in Benue State – Nigeria.*Nigerian Journal of Management Sciences, 6* (1), 127-138.

Yusuf, A. & Mohd, S. (2021). The impact of government debt on economic growth in Nigeria.*Cogent Economics & Finance, 9*(1), 1-19.