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STATE GOVERNMENT REVENUE AND INFRASTRUCTURE DEVELOPMENT IN LAGOS STATE

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ABSTRACT

This study examined the impact of state government revenue on infrastructure development in Lagos State from 2010 to 2018. Revenue from value added tax (VAT), road tax, pay as you earn (PAYE) were used as proxies for state government revenue while capital spending was used as the measure for infrastructure development in Lagos State. An ex-post facto research design was adopted as secondary data were sourced from BudgiT statistical bulletin and Lagos State data book. Autoregressive Distributed Lag (ARDL) was used to analyze the behavior of the variables. Our findings suggest that PAYE has a positive and significant contribution to infrastructure development, however, VAT and road tax have a positive and insignificant and a negative and insignificant impact respectively on infrastructure development. The study therefore recommends among others that the Lagos State government should harness its potentials in terms of procedure for collection of Value Added Tax (VAT) in the state; the sources of revenue that are significant should be reconstructed and re-engineered through public awareness, keeping of accurate data and methodical manner of collection, as this will help Lagos state government improve and be more efficient in collection and generation.

Keywords: Government revenue, infrastructure development, road tax, value-added tax, pat-as-you earn

INTRODUCTION

Taxation is a compulsory levy imposed on citizens by the government on incomes, gains, properties, and even consumption, which in turn is used to develop infrastructure and sustain the government. From the submission of NuruAlabi (2018), taxation is a means by which governments finance their expenditure by improving charges on its citizens and corporate entities. With the payment of tax, the tax payer is handed an instrument to query the government and demand accountability and transparency if it is perceived that the fund was not judiciously utilized (Cambridge, 2019). For state government to maintain an existing and build new infrastructure, it requires revenue. The needed revenue is generated

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from fines, royalties, taxes, grants, allocation from the federal government, revenue gotten from these sources are used to develop projects like road construction, building hospitals, schools, construction of bridges etc. Nuru Alabi (2018) posits that the Lagos state government, according to available records, depends on three major sources of revenue namely internally generated revenue (IGR), federal transfers; capital receipts (borrowings etc.). A closer look shows that IGR, which is about 90% of tax revenue, is the main income earner for the state, contributing an average of 66% between 2012 and 2016. In 2016, this revenue source yielded N291 billion, translating to about N25 billion per month.

Despite unwavering efforts of the state government in mobilizing resources, huge gaps still exist in the provision of pivotal infrastructure to drive economic growth and development. Ranging from electricity, water, transportation, hospitals, schools, housing, roads, including courts and recreational centers, there are so many things needing attention. In the words of the past governor of Lagos state, Governor Akinwumi Ambode, "even with the kind of resources we have in Lagos State, it is very clear that there is a huge infrastructural deficit in the state. In addition, the resources are not so huge as to make Lagos globally competitive and deliver the social infrastructure we all crave. So where will the money to drive the Lagos State of our dreams come from. The economy is not doing well as we want it to. We cannot tax people any more than we are doing presently, but we have to become more efficient in tax collection because that is the major source of revenue with which we can predict the future, as well as improve the welfare and well-being of our people" (Ajiteru, Adaranijo & Bakare, 2018).

Despite the importance of evaluating the impact of tax revenue on infrastructure development, there seems to be inadequate availability of empirical evidence that assess the impact of state government tax revenue on infrastructure development in Nigeria. It is against this backdrop that this study is consummated to examine the impact of government tax revenue on infrastructural development in Lagos state. Specifically, the study is aimed at: determining the impact of road tax, value added tax (VAT); and of Pay as You Earn (PAYE) on infrastructure development in Lagos State.

In view of the above, the following null hypotheses were raised:

- Ho₁: Road tax has no significant effect on infrastructure development in Lagos State.
- Ho₂: Value-added tax (VAT) has no significant impact on infrastructure development in Lagos State.
- **Ho₃:** Pay as You Earn (PAYE) has no significant implication on infrastructure development in Lagos State.

LITERATURE REVIEW

Public revenue could be defined as the funds generated by the government to finance its activities. In other words revenue is the total fund generated by government (federal, state, local government) to meet their expenditure fir a fiscal year. This refers also to the grand total of money or income received from the source of which expenses are incurred. Revenue could be internal or external. Internally generated revenue are those revenues that are derived within the state from various sources such as taxes (pay as you earn, direct assessment, capital gain taxes, etc), and motor vehicle license, among others. While the statutory allocation from federation account, value added tax constitute the external source. State governments as the second tier of government in Nigeria derive its revenue

from various sources. However, it should be noted that sources of revenue are by no means uniform among the states. States derive their revenue depending on the resources available to them (Adenugba & Ogechi, 2013). Pearce (1986) defines government revenue as all the money received other than from issue of debt instruments and liquidation of investments. Government revenue includes tax collections, charges and miscellaneous revenues, utility and insurance trust revenue for all funds and agencies of a government. Government revenue according to Stephen and Osagie (1985) is concerned with various ways in which the government raises revenue. From the above definitions, it can be said that state government revenue is the total amount of income accruing to a state from various sources within a specified period of time.

Osisami (1994) states that there are basically two types of revenue that accrues to state governments. These are internally generated revenue and revenue allocated from the federation account. Adenugba and Ogechi (2013) posit that internally generated revenue are those revenues that are derived within the state from various sources such as taxes (pay as you earn, direct assessments, capital gain taxes, etc.), motor vehicle license, among others. While the statutory allocation from federation account, value added tax constitute the external source. Most states of the federation get the bulk of their revenue form of statutory allocation from the federation account to finance their expenditure programmes.

Pearce (1986) posits that the sources of state government revenue can be classified into two, namely recurrent revenue and capital receipts:

- (a) **Recurrent Revenue:** This is the portion of government's revenue that is highly likely to continue in the future. It is also called recurring revenue, it is predictable, stable and can be counted on in the future with a high degree of certainty (Enahoro & Olabisi, 2012). They are:
 - i. Taxes: The taxes the states government collect are personal income tax; (excluding those of the Armed Forces, external affairs officers, foreign nationals, residents of the FCT, Abuja and the Nigerian Police Force) football pools and other betting taxes, capital gains tax, entertainment tax, stamp duties, capital transfer tax (CIT).
 - ii. Licenses, Fees and Fines: These embrace motor vehicles and drivers' licenses. Land registration and survey fees and fines imposed on offenders.
 - iii. Earnings from economic activities: State governments do engage in some activities with a view to making profits. These include: establishments of banks, and investment ventures (For example; Oodua Investments) which involves sales of goods and services. Others are lotteries, rent on government properties and dividends.
 - iv. Allocation from the Federation Account: State governments are entitled to monthly allocation from the Federation Account which they share horizontally among themselves. It is, at present twenty-four percent of the total amount that accrues to the Federation Account.
 - v. Value-added Tax (VAT) allocation: It should be noted that VAT replaced sales tax which used to be exclusive preserve of the state governments. Therefore, at the inception of the VAT in 1994, the state government was given 80% of the

proceeds from VAT. Even though the percentage has now been reduced to 50%, but the state government will still receive the largest share of the VAT proceeds.

- (b) **Capital Receipts:** Capital receipts refer to those receipts which either create a liability or cause a reduction in the assets of the government. Williams (2005) posits that capital receipts are non-recurring and non-routine in nature. They are:
 - i. Grants: These usually come from the Federal Government. The purpose could be to enable a new state take off, or to carry out specific projects or to finance Federal Government programs in the state. A good example is the projects under the Directorates of Food, Roads and Rural Infrastructures (DIFRRI).
 - ii. Loans: These can be internal or external loans. The internal loans represent borrowings by state governments from sources within the country. The sources include: individuals, organizations such as commercial banks, the Federal Government or other states. On the other hand, the external loans are often taken from the World Bank, International Monetary Fund (IMF), as well as foreign countries or organizations. However, approval must be received from the Federal Government before the loans can be obtained. Besides there is a limit to the amount of loan a state government can borrow or have outstanding at a time.
 - iii. Financial aids: These are funds from foreign countries or charitable international organizations such as UNICEF to execute in the states some humanitarian programs like children immunization, control of epidemic diseases. The aids could also be meant to assist states that suffer some disasters. A good example is the case of Jesse fire disaster in Delta State towards the end of 1998 in which about one thousand persons were roasted to death. In the wake of the problem, the United States of America (USA) gave about N200m to the state to help assist the victims of the fire incident. The aids can also be in kind in form of relief materials or technical services.

From the submission of Adesola (2004), in Keynesian economics, the word infrastructure was exclusively used to describe public assets that facilitate production, but not private assets of the same purpose. In post-Keynesian times, however, the word has grown in popularity. It has been applied with increasing generality to suggest the internal framework discernible in any technology system or business organization. The term "infrastructure" could be defined as the basic structures and facilities necessary for a country to function efficiently, e.g. buildings, transport, water and energy resources, and administrative systems.

There are two types of infrastructure. Adenugba and Ogechi (2013) classified infrastructure into hard and soft. Hard infrastructure refers to the large physical networks necessary for the functioning of a modern industrial nation, whereas soft infrastructure refers to all the institutions which are required to maintain the economic, health, cultural and social standards of a country, such as the financial system, the education system, the health care system, the system of government, and law enforcement, as well as emergency services (Adenugba & Ogechi, 2013).

Theoretical Framework

This study adopted the optimal taxation theory. There are three main advocates of this theory, and they are: Ramsey (1927) who advocates linear commodity taxation to raise

revenues and redistribute; Pigou (1920) who advocates the linear commodity taxation to correct for externalities; and Mirrlees (1971) who advocates the nonlinear income taxation. The theory employs a normative approach to tax analysis that is based on the commonly used tools of welfare economics. Optimal taxation theory is all about maximizing the social welfare of the individuals in the society. The theory typically treats the social planner as a utilitarian who has a social welfare function that is based on the utilities of individuals in the society. Inferring from the theory, the government is the social planner and responsible for creating a good tax system for the purpose of revenue generation and also for welfare of the taxpayer. The basic goal is to choose a tax system that maximizes the welfare of the citizens in the society.

In a nutshell, the theory expects that a tax system should be able to raise taxes in such a way that treats the people fairly, reduces the obstruction and interference in economic decisions and does not inflict undue costs on taxpayers or tax administrators.

REVIEW OF EMPIRICAL LITERATURE

Umar, Abubakar and Yakubu (2018), carried out a study on the effect of revenue generation on infrastructural development of Gombe State. The study examines the effect of internally generated revenue on infrastructural development of Gombe State. To achieve the objectives of the study, a documentary research method was designed relying on secondary data. The study found that the revenue generation by the state revenue agency was very low as to register any tangible effect on the state budget that rely heavily on allocation from the federation account and other sources. Internally generated revenue has minimal on the infrastructural development of the state, but it has significant impact on the annual expenditure on water, electricity and roads network. The study also revealed that internally generated revenue was economical and tax avoidance and evasion were also insignificant. The study therefore recommended that there should be equality in its allocation toward infrastructural development in the state.

Nkechi and Onuora (2018) carried out a study on the effect of internally generated revenue on infrastructural development in south eastern states of Nigeria. Ex – post facto design was used in the study. Data for the study were extracted from budget estimates of each of the five South Eastern States. The study employed descriptive statistics, correlation and linear multiple regression for data analysis and data interpretation. Findings from the study revealed that there is a significant relationship between internal generated revenue and the cost of infrastructure in the South East States during the period covered by the study. Based on the findings, the researchers recommend that government should increase IGR in other to meet up the cost of infrastructures.

Ajiteru, Adaranijo and Bakare (2018), conducted an empirical investigation on tax revenue and infrastructural development in Osun State of Nigeria. The study adopted the survey research design with the population involving the government officials at the ministry of finance of Osun state as well as the people of the state. A purposive sampling technique was used to select a total of 102 respondents for questionnaire administration. The questionnaire was analyzed using descriptive statistics. It was found that tax revenue is a very strong tool for infrastructural development in the State.

Inyiama, Chinedu and Nnenna (2017), carried out a study on the relevance of tax revenue resources to infrastructural development of Nigeria. The research adopted ex-post facto research design as secondary data were used for the analysis. Data were sourced from

the Central Bank of Nigeria Statistical Bulletin and the Federal Statistical Bureau. The study covered ten year period (2006-2015). Data were analyzed using the multiple linear regression technique. The results reveal that tax revenue resources (PPT, CIT AND VAT) had positive and insignificant effect on infrastructural development in Nigeria. The study recommends that government should provide the necessary human and material infrastructure that are needed to support seamless tax collection so they can earn more income that will boost taxation to enhance infrastructural development in Nigeria.

Oladipupo and Ibadin (2016), carried out a study on indirect taxes and infrastructural development in Nigeria. The Ordinary Least Squares (OLS) multiple regression analysis was used to examine the relationships between the major components of tax revenue in Nigeria and Nigeria's infrastructural development. The results show a positive and significant relationship between infrastructural development and some tax revenue components indicating the need for policy measures to expand tax revenue through more effective tax administration will impact positively the infrastructural development in Nigeria.

Nkanor and Udu (2016), examined the effects of electronic internally generated revenue on infrastructural development of Ebonyi State for the period of 2011 – 2014. The main objective of the study was to determine the impact of manual and electronic internally generated revenue's on infrastructure development using capital expenditure as proxy. To achieve the main objective of this study, three hypotheses were formulated. The ex-post facto research design was used in the work which involves the use of existing data. Data components of manual and electronic revenue and capital expenditure (infrastructure) of Ebonyi State government were collected and analyzed using regression and Pearson correlation method with the aid of SPSS version 17.0. Results show that the extent of relationship between each independent variable (IGR and e-IGR) were very low on the dependent variable which is Infrastructure development using capital expenditure, but cannot ignore the rate at which their degree changed, signifying an increase in associations. In general, it was discovered that there exist no significant degree of relationship of the variables studied. This implies that capital expenditure on infrastructure did not largely depend on electronic internally generated revenue in Ebonyi State within the years studied. The study therefore recommends that the electronic approach to internally generated revenue be reviewed as a matter of urgency because of the dwindling oil revenue to the State.

Anyaduba and Aronwan (2015), conducted a study on taxes and infrastructural development in Nigeria. The objective of this study was geared towards investigating the impact of tax revenues collected by the government on infrastructural development of Nigeria. This study restricts itself to taxes collected by the federal government of Nigeria. The longitudinal research design was used. The choice of this design is based on the observation of variables over a period of time 1980 to 2014. The hypotheses raised were evaluated using the Error Correction Model. The findings show that CIT and TET have significant impact on the level of infrastructural development while PPT and VAT have non-significant impact. Based on these, the study recommends amidst others that the administration of taxes especially VAT should be done in a way that collection and remittance cannot be evaded so that its effect may be properly seen in the extent of infrastructural facilities.

Nnanseh and Akpan (2013) carried out a study on internally generated revenue (IGR) and infrastructural development in Akwa Ibom State, Nigeria. The study specifically sought to ascertain the extent to which IGR has contributed to the provision of such infrastructure as water, electricity, and road. An ex-post facto research design was adopted and the data used were obtained from secondary sources. The data were analyzed with simple percentages while simple regression statistics was used in testing the hypotheses. It was found that IGR contributed significantly and positively to the provision of water, electricity and roads. However, these contributions were skewed more to roads than electricity and water. It was concluded that IGR has made positive, but uneven contribution to the development of infrastructures in the State as some aspect of infrastructure like road was found to receive more boost from IGR than other infrastructures. Consequently, a balanced approach to IGR appropriation for infrastructural renaissance in the state was recommended.

Adenugba and Ogechi (2013) did a study on the effect of internal revenue generation on infrastructural development in Lagos State. This study assessed the effect of internal revenue generation on infrastructural development. The methodology entails the use of survey research design and purposive sampling method to select respondents from the Lagos State Inland Revenue Office to whom a set of questionnaire was administered. The data were analysed using both descriptive and inferential statistics involving the use of simple percentage and Spearman's rank correlation co-efficient. The result showed that there is a positive relationship between internally generated revenue and infrastructural development.

METHODOLOGY

For this study, the ex post facto research design was adopted. As cited in Nnanseh and Akpan (2013), ex post facto (i.e after the fact) research is a research that is undertaken after the event has taken place and the data are already in existence. This study focused on Lagos State, and the revenue items considered for the study are road tax, value-added tax, and pay as you earn whereas, infrastructure development was measured capital spending of the Lagos state government for the period of 2010 to 2018. The choice of this period is justified on the ground that no data on the selected variables were available before 2010. The data were collected through secondary source from relevant documentation of the Lagos State annual revenue and expenditure documented by BudgiT annual statistical bulletin.

In this study, both descriptive and inferential statistics were used. The descriptive statistics that was employed is the simple mean, while the Autoregressive Distributed Lag (ARDL) was used as the inferential statistics in testing the impact of state government revenue on infrastructure development.

Model Specification and Estimation

The model specified for the study is stated as follows:

INDEV= f(RT)(i)

INDEV= f(VAT) (ii)

INDEV= f(PAYE)(iii)

In its statistical form, the equation becomes:

INDEVt= $f(\beta 0 + \beta 1RTt + \beta 2VATt + \beta 3PAYEt + \mu it)$ (iv)

To ensure that the data are normally distributed, the model was transform into logarithm as shown below:

logINDEV_t= $f(\beta_0 + \beta_{1\log}RT_t + \beta_{2\log}VAT_t + \beta_{3\log}PAYE_t + \mu i_t)$ (iv) Where:

INDEV _t	=	Infrastructure Development in current period
F	=	Function of the model in current period
β ₀	=	Interception of the model in current period
β _{1,} β ₂ , β ₃	=	Coefficient of the model in current period
VATt	=	Value Added Tax in current period
RT _t	=	Road Tax in current period
PAYEt	=	Pay As You Earn in current period
μi _t	=	Error term of the model in current period
Log	=	Logarithm sign

DATA PRESENTATION AND ANALYSIS

This section of the study covers data presentation, analysis and interpretations of the results based on the analysis of data collected. The first section covers the presentation of data on the impact of state government revenue (Road Tax, Value Added Tax, and Pay-As-You-Earn) on infrastructural development in Lagos state. Table 1 shows the data that are collected from BudgiT, Lagos State Data book.

YEAR	INDEV	RT	VAT	PAYE
	₩'billions	₩'billions	₩'billions	₩'billions
2010	245.2	7.51	47.29	104.68
2011	230.8	7.97	51.02	120.25
2012	195.2	8.46	58.48	135.44
2013	274.6	7.92	68.84	142.46
2014	180.4	8.92	76.3	153.61
2015	354.2	8.52	79.53	175.43
2016	436.9	9.54	75.44	190.66
2017	587.8	7.88	80.23	173.23
2018	699.1	8.98	103.2	179.77

Table 1: Values of INDEV, PAYE RTAX and VAT in Lagos

Source: BudgiT, Lagos State Data book of Various Years

Unit Root Test

In determining the characteristics of time series variables, a preliminary analysis is to test whether the series are stationary or not. This preliminary analysis is conducted to test for the presence of a unit root in the series. The Augmented Dickey Fuller (ADF) unit root test was applied and the results are shown in table 2 below.

VARIABLE	ADF TEST STAT.	5% CRITICAL VALUE	REMARKS
logINDEV	-2.081111	-4.246503	Non Stationary
logPAYE	-1.025549	-4.246503	Non Stationary
logRTAX	-4.147781	-4.246503	Non Stationary
logVAT	-6.913828	-4.450425	Stationary
ΔlogINDEV	-4.960282	-4.450425	Stationary
ΔlogPAYE	-7.314208	-4.773194	Stationary
$\Delta \log RTAX$	-8.114186	-4.450425	Stationary

Table 2: Summary of the Augmented Dickey Fuller Unit Root Test of the Variables

The empirical results of the Augmented Dickey Fuller (ADF) unit root test at 5 percent critical levels in Table 2 indicates that VAT was stationary at levels while INDEV, PAYE and RT were stationary only after first differencing. Hence, the variables have a mixed order of integration of zero and one. Since the variables have different orders of integration, this permits us to conduct the Auto-regressive Distributed Lag (ARDL) model to know if the variables have a long run relationship.

Test Statistic	Value	К		
F-statistic	1.815419	3		
Critical Value Bounds				
Significance	I(0) Bound	I(1) Bound		
10%	2.37	3.2		
5%	2.79	3.67		
2.5%	3.15	4.08		
1%	3.65	4.66		

Table 3: ARDL Bounds Test Result

Since the F-statistic of

1.815419 is lower than the critical value of the lower bound of *l(0)* series in Table 3, we conclude that there is no co-integration among the variables, i.e., there is no long run relationship among the variables. Since there is no co-integration among the variables, we will consider only the short run models since the variables show no evidence of a long run relationship.

Descriptive Analysis

The descriptive analysis shows the description of the data in the study. It describes the mean, median, mode, standard deviation among others. Table 4 below shows the descriptive statistics of the variables for the time period.

	INDEV	RT	VAT	PAYE
Mean	356.0222	8.411111	71.14778	152.8367
Median	274.6000	8.460000	75.44000	153.6100
Maximum	699.1000	9.540000	103.2000	190.6600
Minimum	180.4000	7.510000	47.29000	104.6800
Std. Dev.	183.4620	0.652025	17.19441	29.31345
Skewness	0.857130	0.320528	0.279159	-0.310563
Kurtosis	2.339046	2.047020	2.545369	1.831278
Jarque-Bera	1.265830	0.494671	0.194403	0.656890
Probability	0.531042	0.780879	0.907373	0.720042
Sum	3204.200	75.70000	640.3300	1375.530
Sum Sq. Dev.	269266.5	3.401089	2365.181	6874.228
Observations	9	9	9	9

Table 4: Descriptive	Statistics
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The descriptive statistics of the dependent and independent variables in the model are displayed in Table 4 above. From 2010 to 2018, the average value of INDEV, PAYE, RT and VAT are N356.0222 billion, N152.8367 billion, N8.411111 billion and N71.14778 billion respectively. These figures may be compared with the maximum values of INDEV, PAYE, RT and VAT which are N699.1000 billion, N190.6600 billion, N 9.540000 billion and N103.2000 billion respectively. It can be concluded that the means of all the variables are lower than its maximum values. Skewness is a measure of asymmetry of the distribution of series around its mean. The skewness of Infrastructure development (INDEV), Road tax (RT) and Value Added Tax (VAT) is above zero. It indicates a positive skewness. Thus, there is a right longtailed distribution for the observation of each of the variables. The skewness of Pay as You Earn (PAYE) is below zero thus showing a negative skewness and the variable is skewed to the left. The Kurtosis of a normal distribution is 3. Table 4 further shows that INDEV, PAYE, RT and VAT each have a Kurtosis of less than three, indicating that each of the distributions is platykurtic. The standard deviation values of INDEV(183.4620), PAYE (0.652025), RT (17.19441), and VAT (29.31345) show that the mean serves as a good representation of the population parameters.

Test of Hypotheses

In an attempt to test the three hypotheses stated earlier in this study, the variables were tested using Autoregressive Distributed Lag (ARDL) model through the use of E-views

version 11.0 to determine the extent to which the independent variables (RT, VAT, and PAYE) influence the dependent variable (INDEV) in this study, that is, to determine the predictive power of the impact of state government revenue on infrastructural development in Lagos state. The Autoregressive Distributed Lag (ARDL) model was used to examine the short run impact of state government revenue on infrastructural development since there is no long run relationship among the variables as indicated by the Bounds test. The data in Table 1 on Pay-As-You-Earn (PAYE) and Road Tax (RTAX) are regressed against Infrastructure development in Lagos state, and the results obtained are presented in Table 5 below.

Table 5: Impact of State Government Revenue on Infrastructure development in LagosState

Dependent Variable: LOG(INDEV)

Method: ARDL

Date: 09/25/19 Time: 04:25

Sample (adjusted): 2011 2018

Included observations: 8 after adjustments

Maximum dependent lags: 1 (Automatic selection)

Model selection method: Schwarz criterion (SIC)

Dynamic regressors (0 lag, automatic): LOG(PAYE) LOG(RT) LOG(VAT)

Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOG(INDEV(-1))	0.640678	0.331259	1.934072	0.1486
LOG(PAYE)	1.660761	0.416338	2.800792	0.0195
LOG(RT)	-3.404761	1.927202	-1.766686	0.1755
LOG(VAT)	0.160042	1.045177	0.153124	0.8880
С	-2.755174	3.864237	-0.712993	0.5273
R-squared	0.868725	Mean depende	nt var	5.800227
Adjusted R-squared	0.693691	S.D. dependent var		0.504633
S.E. of regression	0.279290	Akaike info criterion		0.556039
Sum squared resid	0.234009	Schwarz criterion		0.605690
Log likelihood	2.775845	5 Hannan-Quinn criter.		0.221163
F-statistic	49.63191	Durbin-Watson stat		2.196947
Prob(F-statistic)	0.000000			

*Note: p-values and any subsequent tests do not account for model selection.

Ho1: Road Tax has no significant effect on infrastructure development in Lagos State

Table 5 shows the short run regression of the Autoregressive Distributed Lag (ARDL) result for the study. From the results, Road Tax (RT) has a negative coefficient of -3.404761

which is insignificant with a p-value of 0.1755. The interpretation of the negative coefficients of RT indicates that an increase in RT by 1 unit will lead to a decrease in Infrastructure Development by 3.404761 holding other variables constant.

The F-statistic shows a significant probability value since 0.000000 is less than 0.05). This means that the effect of the independent variables (PAYE, RT and VAT) on the dependent variable (INDEV) did not happen by chance. Since the probability value of Road Tax (RT) of 0.1755 is greater than the 5% level of significance, the null hypothesis is hereby accepted.

Ho₂: VAT has no significant impact on infrastructural development in Lagos State

According to the Autoregressive Distributed Lag (ARDL) results in table 5, Value Added Tax (VAT) has a positive coefficient of 0.1600 which is insignificant with a p-value of 0.8880. The interpretation of the positive coefficients of VAT indicates that an increase in VAT by 1 unit will lead to a 16% unit increase in infrastructure development (INDEV). Since the probability value of Value Added Tax (VAT) of 0.880 is greater than the 5% level of significance, the null hypothesis is hereby accepted.

HO₃: There is no significant relationship between PAYE and infrastructure development in Lagos State.

According to the Autoregressive Distributed Lag (ARDL) results in table 4.5, Pay-As-You-Earn has a positive coefficient of 1.660761 which is significant with a p-value of 0.0195. The interpretation of the positive coefficients of PAYE indicates that an increase in PAYE by 1.660761 units will lead to a unit increase in Infrastructure Development. Since the probability value of PAYE of 0.0195 is less than the 5% level of significance, the null hypothesis is hereby rejected.

The values of the Adjusted R-Squared of 0.6937 implies that RT, PAYE and VAT explained about 69.37% systematic variations in the dependent variable (INDEV) over the observed years while the remaining 30.63% variations are explained by other determining variables outside the model.

DISCUSSION OF FINDINGS

In assessing the impact of state government revenue on infrastructural development in Lagos state, three explanatory variables were taken into account: road tax (RT), value added tax (VAT) and pay-as-you-earn (PAYE). The results of our study showed that Road Tax (RT) has a negative but insignificant effect on Infrastructure Development of Lagos State Government.

The results of our study also show that value added tax has a positive but insignificant relationship with the infrastructure development of Lagos State Government. The findings from our study is consistent with the results of Inyiama, Chinedu and Nnenna (2017) and Anyaduba and Aronwan (2015) which reported that value added tax has a positive but insignificant effect on infrastructural development in Nigeria.

However, pay-as-you-earn (PAYE) was found to also have a positive and significant impact on infrastructure development of Lagos State Government. The findings of our study however corroborate the results of Oladipupo and Ibadin (2016) and Nnanseh and Akpan (2013) which states that IGR contributed significantly and positively to the provisions of water, electricity and road in Nigeria.

CONCLUSION AND RECOMMENDATIONS

This study assessed the impact of state government revenue on infrastructure development in Lagos State, Nigeria, using data from 2010-2018. Generally, it can be seen from this study that the variables representing state government revenue has significantly and insignificantly impacted on infrastructure development of Lagos State represented by capital spending. The study reveals a significant relationship between PAYE and infrastructure development in Lagos state. The study further indicates that road tax and VAT are not prevalent variables influencing infrastructure development in Lagos state.

In conclusion, the study that internally generated revenue (IGR) plays important and significant role in developing the infrastructure of Lagos state, if the Lagos state government can be both effective and efficient in the collection and keeping of accurate data in the state, thereby, increasing the states revenue. This ultimately will lead to more revenue in which the Lagos state authorities can use to finance their capital projects with little or no borrowings.

In view of the above, the following recommendations were made:

- i. The Lagos State government should harness its potentials in terms of procedure for collection of Value Added Tax (VAT) in the state.
- ii. Those sources of revenue that are significant such as PAYE should be reconstructed and re-engineered through public awareness, keeping of accurate data and methodical manner of collection. Lagos state government has great potential to become one of the most efficient and highest revenue generating government if efforts are made to improve assessments and collections.

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