

# Principal Components Analysis of Local Government Revenue in Nigeria: 1993 – 2014

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## Abstract

A considerable number of empirical studies have examined the determinants of local government revenues in Nigeria using different approaches and models. Some of these are cross-sectional studies, time series studies or panel studies. However, despite the number and the variety of studies, the evidence on the determinants of local government revenues in Nigeria has not been comprehensively examined. Amazingly perhaps, few studies have been done which depicts the determinants of local government revenue in Nigeria. There is a gap in the literature because there is no study up till now to have comprehensively modeled all the determinants of local government revenue in Nigeria. This study uses a functional coefficient regression technique to estimate time-varying betas and alpha in the local government revenue model. Functional coefficient representation relaxes the strict assumptions regarding the structure of betas and alpha by combining the predictors into an index. The empirical data were collected from the Central Bank of Nigeria 2014 Statistical Bulletin covering a period of twenty-two years (1993-2014). The data were analyzed using descriptive statistics, Pearson product moment correlation, and multiple regression analysis. The findings reveal that federation account, state allocation, value added tax and internally generated revenue are positively and significantly correlated with local government revenue. Similarly, grants, sure-p, nonoil excess revenue and excess crude account are positively and significantly correlated to local government revenue. The study contributes to the determinants of local government revenue literature with a better understanding of the structure of local government revenue that will provide valuable knowledge to elected and appointed government officials, public policy makers, local, state, and federal government officials to refine current formula for sharing revenue and subsequently improve their revenue performance, which is exactly what local governments in Nigeria need now. However, the study is limited by including only twenty-two years in the selection of time series data in Nigeria, making this a possibly biased selection and it may not be adequate to generalize the results for the entire local government system.

**Keywords:** Federation account, internally generated revenue, local government revenue, Nigeria. SURE-P, VAT

## 1. Introduction

The structure of local government revenue is one of the focal points of public finance discourse in Nigeria. It deals with the generation of revenue in order to bring the impact of government closer to the people particularly at the grassroots. Local government revenue is essential in enabling local governments transform the lives of local communities through the provision of social services and rural infrastructures (construction and maintenance of roads, drainages, culverts, markets, schools, and health centres). However, despite the fact that the funding of local governments in Nigeria is addressed by the constitution, it has suffered tremendously leading to deficit financing in quite a number of the local governments in Nigeria. This scenario is explained by over reliance on statutory allocations from the Federation Account, state allocation, value added tax, grants and excess crude account, corruption, tax evasion from citizens at the grassroots, creation of non-viable local government councils in terms of the capacity to generate finance internally and effectively utilized it for development purposes, and lack of financial autonomy from the state government. It is in view of this scenario that this study

examines the factors that determine local government revenue in Nigeria.

The 1976 Local Government Reforms Act in Nigeria defines local government as government at local level, exercised through representative councils established by law to exercise specific powers within defined areas. Since then, local governments have enjoyed prominence in national discourse. As the third tier in the governance structure, local governments have shouldered enormous responsibility for the development of local areas. However, the fundamental question scholars have continued to ask is whether local governments in Nigeria have strong revenue base to meet the enormous tasks given to them by the 1999 Constitution of the Federal Republic of Nigeria as amended. Although, local governments have more revenue items listed in the Constitution than the state and federal government combined, these items offer little amount of revenue when compared to the states and federal government. In addition, the 1999 Constitution created a loophole through the establishment and operation of State-Local Government Joint Account system which ensured that local government allocations from the federation account go through joint account with the state government. And given Nigeria's developing experience, where every opportunity is corruption driven, this has created serious problems for local governments as state governments use this as a vehicle to deprive local governments of their allocations through frivolous means. The situation is made worse since most of the leaders of the local government system are handpicked by state government, it is difficult if not practically impossible for such local government officials to demand for accountability and transparency knowingly very well that they were not elected but rather selected by the state government. A case for reference is in Kano State where state government controlled political party, the All Progressive Congress wins all the 44 local government councils and 464 wards without opposition parties picking a council or ward seat. This practice, however, applies to all the leading political parties in Nigeria.

Despite the above painted scenario, local governments still play important roles in developing countries particularly in rural areas. In Nigeria, local governments are referred to as the third-tier of government. The 1999 Constitution of the Federal Republic of Nigeria as amended lists 774 local government areas. A state by state summary statistics of the number of local governments in Nigeria is shown in table I.

**Table I Summary of Local Governments in Nigeria**

State	No of LGs	State	No of LGs
Abia	17	Katsina	34
Adamawa	21	Kebbi	21
Akwa Ibom	31	Kogi	21
Anambra	21	Kwara	16
Bauchi	20	Lagos	20
Bayelsa	8	Nassarawa	13
Benue	23	Niger	25
Borno	27	Ogun	20
Cross River	18	Ondo	18
Delta	25	Osun	30
Ebonyi	13	Oyo	33
Edo	18	Plateau	17
Ekiti	16	Rivers	23
Enugu	17	Sokoto	23
Gombe	11	Taraba	16
Imo	27	Yobe	17
Jigawa	27	Zamfara	14
Kaduna	23	FCT	6
Kano	44	Total	<b>774</b>

Source: Central Bank of Nigeria Statistical Bulletin, 2014

Nigeria's federal system of government is accompanied by fiscal federalism. The federal government receives 48 per cent, the 36 states share 24 per cent and the 774 local governments share 20 per cent. The federal capital territory receives 1 per cent and ecological fund gets 1 per cent. Between 1993 and 2014, local governments in Nigeria received ₦14.06 trillion (CBN, 2014). However, within the same period according to the Central Bank of Nigeria, local governments in Nigeria expended ₦14.12 billion on both recurrent and capital expenditures. The deficit of ₦60 billion was financed by loans. It is within the context of this precarious financial situation of local governments in Nigeria that this study examines the determinants of local government revenue in Nigeria with the main objective to comprehensively establish the structure of local government revenue in Nigeria. Specific objectives of the study are: (a) to investigate the relationships between the components of local government revenue and total local government revenue; and (b) to assess the extent of association of the components with total local government revenue.

According to the 2014 Central Bank of Nigeria Statistical Bulletin, which was released on 31<sup>st</sup> July, 2015, local government revenue consists of eight items as follows:

- (i) Federation account
- (ii) State allocation
- (iii) Value added tax
- (iv) Internally generated revenue
- (v) Grants
- (vi) Excess crude oil account
- (vii) Nonoil excess revenue
- (viii) Subsidy reinvestment programme

It should be noted, however, that local governments started receiving excess crude oil money from 2007, nonoil excess revenue from 2009 and sure-p from 2013 after the removal of subsidy in premium motor spirit. As a matter of fiscal federalism, the 774 local government councils in Nigeria share 20 per cent of revenue from the federation account. The share of each of the local government council, however, varies based on population, land mass, and derivative. Also, the Constitution mandates state governments to share 10 per cent of their internally generated revenue among the local governments in their state. According to the Value Added Tax Act of 1993, local governments receive 35 per cent of total VAT revenue collected by the Federal Inland Revenue Service. The internally generated revenue of each local government depends on the volume of social-economic activities. Grants come from federal government, state government and international donor organizations. Furthermore, local governments receive revenue from excess crude oil account, which is the difference between the international market price of oil and the benchmark price on which the budget is premised. Local governments also receive money from non oil excess account and subsidy reinvestment programme. The subsidy reinvestment programme is a tax on the price of premium motor spirit, which was imposed in January 2012. Between 1993 and 2014, local governments in Nigeria have received the following revenue:

**Table II Summary Statistics of Local Government Revenue: 1993 – 2014**

S/N	Revenue Item	Amount (in trillion of ₦)	% of total
1	Federation account	8.93818	63.58
2	State allocation	0.12450	0.885
3	Value added tax	1.88274	13.39
4	Internally generated revenue	0.35114	2.497
5	Grants	0.55513	3.949
6	Excess crude oil account	1.16406	8.280
7	Sure-p	0.90135	6.412
8	Non oil excess	0.14015	0.997
	Total	14.05725	100

Source: Central Bank of Nigeria Statistical Bulletin, 2014

From the above background information and the statistics in table II, the following hypotheses are formulated and tested using Pearson product moment correlation and multiple regression technique:

- H<sub>1</sub>: Revenue from the federation account is positively correlated with local government revenue.
- H<sub>2</sub>: Revenue from the state allocation is positively correlated with local government revenue.
- H<sub>3</sub>: Revenue from the value added tax is positively correlated with local government revenue
- H<sub>4</sub>: Revenue from the internally generated revenue is positively correlated with local government revenue
- H<sub>5</sub>: Revenue from the grant is positively correlated with local government revenue
- H<sub>6</sub>: Revenue from the excess crude oil account is positively correlated with local government revenue
- H<sub>7</sub>: Revenue from the subsidy reinvestment programme is positively correlated with local government revenue
- H<sub>8</sub>: Revenue from the nonoil excess revenue is positively correlated with local government revenue

The two research questions of this study can be articulated as follows: do the identified determinants of local government revenue have relationship with local government total revenue? And if so, which component of local government revenue is more associated with the local government total revenue? The remaining part of this study consists of literature review, data and methodology, results and discussions and conclusions and recommendations.

## 2. Literature Review

### 2.1 Conceptual Framework

Park and Jang (2013), Nirajini and Priya (2013), Javed, Younas and Imran (2014) and Yahaya and Alexander (2015) use conceptual framework. The conceptual framework for this study is given below:

### Components of Local Government Revenue

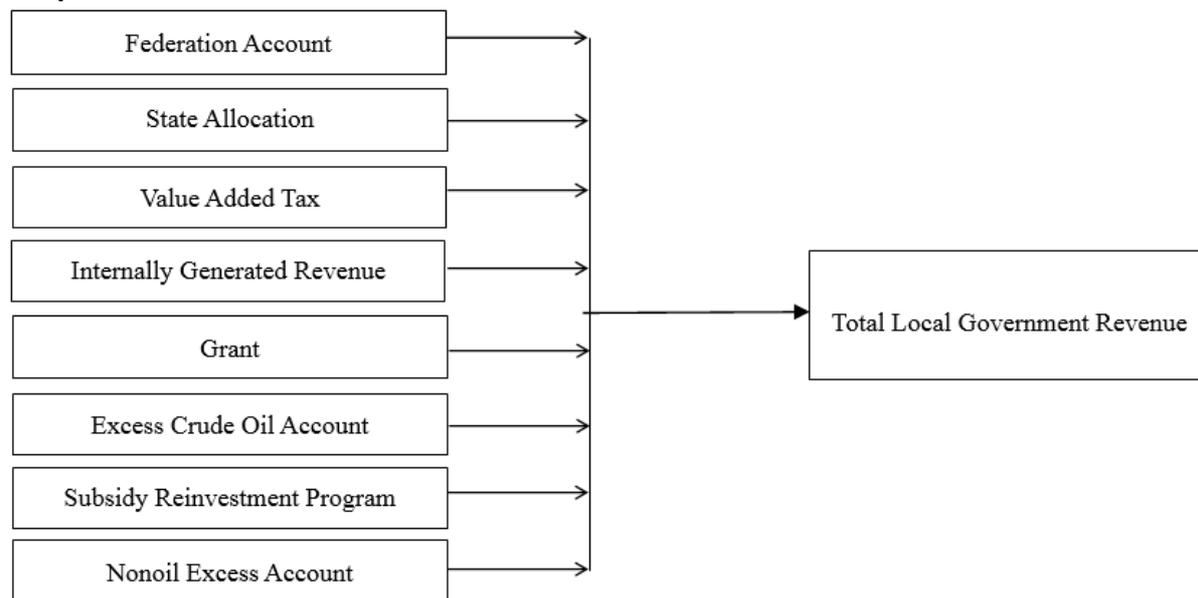


Figure I: Conceptual Framework showing independent variables affecting dependent variable

### 2.2 Empirical Review

A few literatures have examined the determinants of local government revenue in Nigeria. Maduako (2010) examines the impact of poor revenue generation on the development of Local Government Areas. The study uses both primary and secondary methods of data collection to generate the needed data. The data obtained through questionnaire was presented in tables and expressed in simple percentages. The study finds lack of basic social amenities to the rural people and lack of revenue to maintain the existing infrastructures. Also, Olusola (2011) examines the impact of internally generated revenue on the total revenue. The ordinary least square method was adopted using the multiple regression analysis and panel data regression method to test the fixed and random effects and test for level of significance at 1%. It was found out that rates, fines, fees and licenses, rent sources of revenue are significant factors influencing internally generated revenue of local governments in Ogun State. Adenugba and Chike (2013) assess the effect of internal revenue generation on infrastructural development. Questionnaires and statistical data were instruments used for the study. Descriptive and inferential statistics were the statistical tool used for the analysis. Two hypotheses were formulated and the Spearman's rank correlation analysis was used to test the relationship between internally generated revenue and infrastructural development. The result shows that there is a positive relationship between internally generated revenue and infrastructural development.

Simeon, Abidogun and Olugbenga (2013) present statistical analyses and modeling of the local governments' monthly expenditure on income in Osun State. Three different sources of local government income: Internally Generated Revenue (IGR), Statutory Allocation (SA) and Value Added Tax (VAT) were considered as predictor variables while expenditure was taken as response. Multiple Linear Regression was used as statistical tool. Data sets were sourced from Osun State Ministry of Local Government and Chieftaincy Affairs over a period of sixty months. Scatter plots were drawn to show the kind of relationships existing between expenditure and each of the three sources of income. Before conducting ANOVA, the data sets were inspected for normality assumption using normal probability plot of the standardized residual in the R statistical package. The plot revealed that normality assumption was not violated. Homoscedasticity assumption was further checked by the use of residual plot and Fligner-Killeen test, and it was revealed that error variances were homogeneous through-out. The tolerance of both autocorrelation and multicollinearity problems were further inspected using Durbin-Watson and Farrar-Glauber tests, and it was discovered that none of these problems existed in the data sets. After the application of All Possible Regression Method of Selection of the Best Regression Model, Statutory Allocation was found as the principal determinant of the local government expenditure in the South West Zone of Nigeria.

Asur and Nkereuwem (2013) investigate the challenges of taxpayers' non-compliance in Borno State and examine the factors determining tax payers' compliance. They further highlight the role of taxation in sustaining the growth and development of the state. The study shows that there is a wide gap between the revenue generated through taxation in the state and the federation account. Edogbanya and Ja'afaru (2013) analyze the extent to which revenue generation in Nigeria has affected the development of local governments.

The study finds a significant relationship between revenue generated and developmental effort of government, poor development of the areas, lack of basic social amenities to the rural people and lack of revenue to maintain the existing infrastructures. Samuel and Tyokoso (2014) conclude that taxation has a significant contribution to revenue generation and gross domestic product in Nigeria. Agba, Stephen and Nnamani (2014) examine the sources of local government finance in Nigeria and the factors affecting the financial viability of local government councils within the purview of fiscal federalism as enshrined in the 1999 Constitution of the Federal Republic of Nigeria. They conclude that financial viability backed up by effective management; public accountability, fiscal autonomy, staff motivation and servant leadership attitude among politicians are imperatives in building capacity at the grassroots for legitimacy of creation and sustainable development. Akujuru (2015) examines revenue allocation in Nigeria and the dependency on oil revenue and argues that displacement of agricultural products by oil as the focal point of national revenue, and the attendant relegation of the principle of derivation in revenue allocation, is the root cause of the revenue allocation debacle in Nigeria federalism. He further suggests that the focus on revenue sharing rather than revenue generation is the root cause of political, economic and social decay in the country and has equally led to the proliferation of unviable state and local governments.

### 3. Data and Methodology

Data on the local government revenue were collected from the 2014 Central Bank of Nigeria Statistical Bulletin which was released on 31<sup>st</sup> July, 2015 covering a period of 22 years (1993-2014). Methodology is very important as it guides scholars on what steps to take in order to accomplish the objectives of the study. The relationships among the variables were examined through descriptive statistics, bivariate correlation and multiple regression analyses in line with Raheman, Zulfiqar, and Mustafa (2007), Chowdhury and Chowdhury (2010), Muritala (2012), Park and Jang (2013), Mitan (2014), Yahaya (2014), and Yahaya, Lamidi, Kutigi and Ahmed (2015), Yahaya, Farouk, Lamidi, Yusuf, and Dania (2015), and Yahaya, Kutigi, Solanke, Onyabe and Usman (2015). Consistent with the previous literature, the study uses total revenue accrued to the local governments in Nigeria as dependent variable. Total local government revenue is calculated as the sum of values in the following time series regression model:

$$LGR_t = \alpha + \beta_1 FED_t + \beta_2 STA_t + \beta_3 VAT_t + \beta_4 IGR_t + \beta_5 GRT_t + \beta_6 EXC_t + \beta_7 SURP_t + \beta_8 NOOX_t + \varepsilon_t$$

Where:

LGR = Total local government revenue measured as sum of all revenues accrued to local governments in Nigeria at time t.

$\alpha$  = is the model specific intercept

$\beta_{1-8}$  = beta coefficients

FED = Federation allocation

STA = State allocation

VAT = Value Added Tax

IGR = Internally Generated Revenue

GRT = Grants

EXC = Excess Crude Oil Revenue

SURP = Subsidy Reinvestment Programme

NOOX = Non oil excess revenue

$t = 1, \dots, T$ , where T is the number of years in the sample (22 years)

$\varepsilon$  = is an idiosyncratic error term

In order to analyze the determinants of local government revenue, the study measures local government revenue by the degrees of component factors. However, as per the study stated hypotheses, the study predicts a positive relationship between the determinant factors and total local government revenue.

### 4. Results and Discussions

Summary of descriptive statistics results for all the variables as used in the study is presented in table III. The correlation matrix of the variables is presented in table IV. The regression matrix is reported in table V. Table III shows descriptive statistics of sample study, which includes 22 observations, mean values of variables, minimum and maximum values and standard deviation from the mean. Intercorrelations were computed to understand the variability and interdependence of the variables through variance inflation factor and tolerance level. The hypotheses were tested using multiple correlation and regression analysis through IBM SPSS Statistics 22 software.

**Table III Descriptive Statistics**

VARIABLE	N	Minimum	Maximum	Mean	Std. Deviation
LGR	22	19.23	1810.05	638.97	648.20
FED	22	17.32	1125.08	406.28	387.93
STA	22	.25	35.21	5.66	8.31
VAT	22	.00	267.32	85.58	95.10
IGR	22	1.04	36.49	15.96	11.78
GRT	22	.00	131.59	25.23	34.40
EXC	22	.00	486.15	52.91	110.33
SURP	22	.00	246.61	40.97	76.55
NOOX	22	.00	48.59	6.37	14.53
Valid N (listwise)	22				

Source: IBM SPSS Statistics 22 Output based on study data

From table III, the number of observations is 22 and the average statistic value of local government revenue is ₦638.97 billion, with a standard deviation statistic value of ₦648.2 billion. It has a minimum mean value of ₦19.23 billion and a maximum mean value of ₦1.81005 trillion. Also, the mean statistic value of federation account revenue is ₦406.28 billion, with a standard deviation statistic value of ₦387.93 billion. It has a minimum mean value of ₦17.32 billion and a maximum mean value of ₦1.125 trillion. The average statistic value of state allocation to local governments is ₦5.66 billion, with a standard deviation statistic value of ₦8.31 billion. It has a minimum mean value of ₦250 million and a maximum mean value of ₦35 billion. In addition, the mean statistic value of value added tax is ₦85.58 billion, with a standard deviation statistic value of ₦95.1 billion. It has a minimum mean value of ₦0.0 billion, which is as a result of the fact that VAT commenced in 1994 and a maximum mean value of ₦267.32 billion. Also, the average statistic value of internally generated revenue is ₦15.96 billion, with a standard deviation statistic value of ₦11.78 billion. It has a minimum mean value of ₦1.04 billion and a maximum mean value of ₦36.49 billion.

Furthermore, the mean statistic value of grants is ₦25.23 billion, with a standard deviation statistic value of ₦34.4 billion. It has a minimum mean value of ₦0.0 billion, which happened in 1996 when no grant was given to local governments and a maximum mean value of ₦131.59 billion. The average statistic value of excess crude oil account is ₦52.91 billion, with a standard deviation statistic value of ₦110.33 billion. It has a minimum mean value of ₦0.0 billion in 2005 and 2006 and a maximum mean value of ₦486.15 billion in 2008. Similarly, the mean statistic value of subsidy reinvestment programme is ₦40.97 billion, with a standard deviation statistic value of ₦76.55 billion. It has a minimum mean value of ₦0.0 billion because SURE-P was introduced in 2013 and a maximum mean value of ₦246.61 billion. Finally, the average statistic value of nonoil excess revenue is ₦6.37 billion, with a standard deviation statistic value of ₦14.53 billion. It has a minimum mean value of ₦0.0 billion because it commenced in 2009 and a maximum mean value of ₦48.59 billion.

The correlation matrix in table IV indicates correlation coefficient between the independent variables and the dependent variable.

**Table IV Correlation Matrix**

VARIABLE		LGR	FED	STA	VAT	IGR	GRT	EXC	SURP	NOOX
LGR	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	22								
FED	Pearson Correlation	.984**	1							
	Sig. (2-tailed)	.000								
	N	22	22							
STA	Pearson Correlation	.696**	.624**	1						
	Sig. (2-tailed)	.000	.002							
	N	22	22	22						
VAT	Pearson Correlation	.981**	.971**	.674**	1					
	Sig. (2-tailed)	.000	.000	.001						
	N	22	22	22	22					
IGR	Pearson Correlation	.907**	.940**	.624**	.878**	1				
	Sig. (2-tailed)	.000	.000	.002	.000					
	N	22	22	22	22	22				
GRT	Pearson Correlation	.806**	.796**	.593**	.833**	.675**	1			
	Sig. (2-tailed)	.000	.000	.004	.000	.001				
	N	22	22	22	22	22	22			
EXC	Pearson Correlation	.535*	.436*	.340	.421	.389	.121	1		
	Sig. (2-tailed)	.010	.042	.121	.051	.073	.592			
	N	22	22	22	22	22	22	22		
SURP	Pearson Correlation	.797**	.746**	.868**	.829**	.636**	.845**	.188	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.001	.000	.402		
	N	22	22	22	22	22	22	22	22	
NOOX	Pearson Correlation	.608**	.610**	.337	.686**	.559**	.620**	.075	.507*	1
	Sig. (2-tailed)	.003	.003	.125	.000	.007	.002	.740	.016	
	N	22	22	22	22	22	22	22	22	22

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Source: IBM SPSS Statistics 22 Output based on study data

As can be seen in table IV, the correlation coefficients for the variables under investigation were relatively high ranging from 0.075 to 0.984. The correlation matrix in table II further indicates that federation account is positively correlated with local government revenue (t-value = 0.984, p-value = 0.000) and H<sub>1</sub> is fully supported. Similarly, table IV indicates that state allocation is positively correlated with local government revenue (t-value = 0.696, p-value = 0.000) and H<sub>2</sub> is fully supported. Also, table II indicates that value added tax is positively correlated with local government revenue (t-value = 0.981, p-value = 0.000) and H<sub>3</sub> is fully supported. Furthermore, table IV indicates that internally generated revenue is positively correlated with local government revenue (t-value = 0.907, p-value = 0.000) and H<sub>4</sub> is fully supported. Similarly, table IV indicates that grant is positively correlated with local government revenue (t-value = 0.806, p-value = 0.000) and H<sub>5</sub> is fully supported. In addition, table II indicates that excess crude account is positively correlated with local government revenue (t-value = 0.535, p-value = 0.010) and H<sub>6</sub> is fully supported. Similarly, table IV indicates that subsidy reinvestment is positively correlated with local government revenue (t-value = 0.797, p-value = 0.000) and H<sub>7</sub> is fully supported. Finally, table IV indicates that non oil excess allocation is positively correlated with local government revenue (t-value = 0.608, p-value = 0.003) and H<sub>8</sub> is fully supported.

Multiple regression analysis is used to investigate the relationship between single dependent variable (criterion) and several independent variables (predictors or explanatory) at one time (Hair, Anderson, Tatham & Black, 1998). It is employed to test the study hypotheses. In this analysis, a set of independent variables is weighted to form the regression variant (regression equation or model) and that may be used to explain its relative contribution towards one dependent variable (Hair et al., 1998). This analysis is undertaken to better understand the relationship between the independent variables and the dependent variable. Note, however, that three of the variables (federation allocation, value added tax and sure-p) were dropped after evidence of heteroskedasticity and multicollinearity problems (Lazarides, Drimpetas & Dimitrios, 2009). This was done in order to enhance data normality. The details of the overall model summary are tabulated and reported in table V.

**Table V Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.981 <sup>a</sup>	.963	.951	0.1436	2.145

a. Predictors: (Constant), IGR, EXC, NOOX, STA, GRT

b. Dependent Variable: LGR

In order to judge the magnitude of effects in this study, Cohen's rules for effect size is used. According to Cohen (1988), R<sup>2</sup> between 1.0 and 5.9 percent is considered as small, between 5.9 and 13.8 percent is medium, and above 13.8 percent is large. From table V, it can be observed that R<sup>2</sup> is 0.963. Thus, the effect size for this study is large and the hypotheses are fully supported. Also, the adjusted R<sup>2</sup> is 0.951 meaning that about 95 per cent of the variation in total local government revenue is explained by the independent variables. Furthermore, from table V, the standard error of the estimate (0.1436) is low and the Durbin-Watson statistic (2.145) is slightly higher than 2.0, suggesting that there is no autocorrelation problem in the data (Durbin & Watson, 1951). The results of the analysis of variance are tabulated and presented in Table VI.

**Table VI Analysis of Variance<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8493318.98	5	1698663.80	82.363	.000 <sup>b</sup>
	Residual	329987.35	16	20624.21		
	Total	8823306.33	21			

a. Dependent Variable: LGR

b. Predictors: (Constant), IGR, EXC, NOOX, STA, GRT

From table VI, the model is adequate as the F-statistics (82.363) was significant (0.000) at 5 percent level (p = 0.05). This indicates that the overall model is statistically significant and positive relationship between the independent variables and total local government revenue. The results of multiple regression analysis, include the standardized  $\beta$  coefficients and t-value significant level, are tabulated and presented in Table VII.

**Table VII Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-82.726	54.252		-1.525	.147		
	STA	4.952	5.221	.063	.949	.357	.522	1.915
	GRT	7.091	1.459	.376	4.862	.000	.390	2.564
	EXC	1.657	.324	.282	5.118	.000	.769	1.300
	NOOX	3.265	2.880	.073	1.134	.274	.561	1.784
	IGR	25.451	4.323	.463	5.887	.000	.378	2.643

a. Dependent Variable: LGR

Source: IBM SPSS Statistics 22 Output based on study data

From table VII, all the beta coefficients are positive, which confirms the validity of the study hypotheses. Also, each of the variables had a tolerance value of more than 0.10 and variation inflation factor (VIF) of less than 4.0. The results indicate that the model heteroskedasticity and multicollinearity problems have been successfully removed. This is in agreement with Hair et al. (1998). It also indicates that there is a statistically significant relationship between grants, excess crude account, internally generated revenue and local government revenue. From these analyses, it can be concluded that multiple regression model of this study meets all the assumptions required to ensure validity of its significance test (Ooi et al., 2007a, b, 2012).

## 5. Conclusions and Recommendations

This study has successfully completed its set objectives having analyzed the determinants of local government revenue in Nigeria. The study finds federation allocation to have influenced local government revenue the most (t-value = 0.984). The findings indicate that value added tax has the second strongest association with local government revenue (t-value = 0.981). However, the findings also indicate the importance of internally generated revenue (t-value = 0.907), grants (t-value = 0.806), sure-p (t-value = 0.797), state allocation (t-value = 0.696), nonoil excess (t-value = 0.608) and excess crude account (t-value = 0.535) for predicting local government revenue in Nigeria. Also, the study provides a useful framework for evaluation of local government revenue in Nigeria.

With regard to the policy implications, the findings suggest that local governments need to boost their internally generated revenue so that their dependence on federation allocation and value added tax can be minimized. State governments need to increase allocation to local governments in order to boost the revenue

available to the local governments for enhanced rural development. In addition, the findings of this study serve as a valuable guide for both scholars, elected and appointed government officials in the area of policy formulation and implementation. Finally, the findings support the argument that local governments need more funding in order to enable them deliver on rural infrastructural development. A similar study may be undertaken to cover the determinants of local government revenue since 1976 when local governments were created by the Murtala Administration.

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