



Expenditure of the Federal Government of Nigeria: Effect on the Standard of Living of her Citizens

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Abstract

Using the Autoregressive Distribute Lag (ARDL) and Granger Causality approach, we re-examined how the standard of living of the citizens are affected by the expenditure pattern of the Federal Government of Nigeria from 1981 to 2018. The outcome of the study based on data applied revealed that government expenditure has significant effect on the standard of living of her citizens. To our dismay, this is not the reality on ground as the level of poverty in country is high: the rich are getting richer, whereas the poor are getting poorer. There are deaths of basic infrastructures coupled with abandoned capital projects by past administrations. Those at the helm of affairs are interested in personal and political interest at the detriment of the welfare of the citizens. With the high volatility in inflation rate in the macro economy, we urge the government to increase salaries and wages of workers to cushion its devastating effect on purchasing power. There is overwhelming need for the government to continue channeling resources to the social sector within its life betterment programme such as pension, social securities, etc. to significantly reduce poverty to improve per capita income because reduction in poverty translate to higher per capita income thus better standard of living.

Key words

Government Expenditure, Standard of Living

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1. Introduction

Early development theories stressed the need for the state to create adequate physical infrastructure as well as institutions and social conditions for development. Some called for implementing large-scale public investment programmes, economic planning and the formulation of policies to accelerate economic growth and development. These must have given governments in Nigeria and other developing countries, where market failures and other socially unwarranted vices are rife, hence the stimulus for government to ensure macroeconomic stability to achieve a desired level of growth and development in the economy. The actualization of government set goals involves periodic planning and efficient allocation of resources to critical sectors of the economy. Thus, public spending has become necessary to ensure sustainability is growth and development of the economy. Take for consideration, spending by the government can contribute to agricultural growth and the latter can indirectly, through creating rural non – farm jobs and increased wages, generate economic growth. In contemporary literature, fiscal policy via

government expenditure has become critical to growth and development of an economy, and that notwithstanding, the sectoral allocation or distribution of these expenditure would not be left out with respect to the statement of Friday *et al.* (2016).

In transition economies, the provision of infrastructural facilities for the welfare of the citizen is the major policy trust of the government. This would help in productive economic activities which would lead to growth in all sectors of the economy and ultimately in aggregate national output. The country would benefit both socially and economically if government concentrates its spending on agriculture, health, education, road and other economically critical areas. Furthermore, by providing new opportunities and expanding the capabilities of the masses, government spending becomes a relevant tool of fiscal policy in ensuring sustainable standards of living (Josaphat and Oliver, 2000). With references to the Central Bank of Nigeria Statistical Bulletin, government expenditure in Nigeria has continuous to rise over the years: from N4,850 million and N6,570 million in 1981 to N5,675,200 million and N1,168,210 million in 2018 for recurrent and capital expenditure respectively. The rising government expenditure as translated to the high level of fiscal deficit in Nigeria. This is evidence that the government does not from internally generated revenue (both taxation and revenue from crude oil sales) generate the needed fund to finance its expenditure appropriately. The rising level of fiscal deficit has empirically proven to have negative effect on the growth and development of an economy, particularly emerging economies. Despite the relative rise in government expenditure in Nigeria over the years, there are still public outcries over its effect on economic growth and development. According to some stakeholders, this is attributed to the lack of synergy between government and private expenditures. Consequently, this study re-examines how the standard of living of the citizens are affected by expenditure pattern of the government from 1981 to 2018.

Having giving a background to the study in section one, the rest of this study is divided as follows: section two gives an insight to previous empirical literature; section explained the estimation technique applied in data analysis; section four discussed the findings, whereas section five concluded the study.

2. Literature review

2.1. Government Expenditure and Standard of Living

Government expenditure which has been on the forefront of macroeconomic policies in Nigeria owing to the increasing public needs of the increasing population, is the expenditure of the government on amenities and services for the growth and development of the economy usually on annual basis (Jeff-Anyeneh, 2018). Government expenditure is normally divided into two: recurrent and capital expenditure. Recurrent expenditures are normally on day to day running of government functionaries, while capital expenditures are productive economic activities capable of creating employment, reducing poverty level and increasing labour productivity among others (Jeff-Anyeneh, 2018). The expenditure of the government in any fiscal year is clearly stated in the budget of that year. The expenditure of the government in any fiscal year is clearly stated in the budget of that year. However, the actual expenditure may be different from the budgeted expenditure due to changes in macroeconomic environment. For instance, extra budgetary expenditure or allocation may arise in the course of budget implementation.

The standard of living of the citizen is normally measured by per capita income. Per capita income is a measure of the amount of money that is being earned per person in a certain area. Income per capita can apply to the average per-person income for a city, region or country and is used as a means of evaluating the standard of living and quality of life in different areas. It can be calculated for a country by dividing the country's national income by its total population. It is usually expressed in terms of a commonly used international currency such as the euro or united states dollar and is useful because it is widely known, it can be easily calculated from readily available gross domestic product (GDP) and be divided by the population estimates, and it will produces a useful statistic for comparison of standard of living between sovereign territories. This helps to ascertain a country's development status. It is one of the three measures for calculating the human development index of a country.

2.2. Empirical Studies

Awawoyi *et al.* (2015) conducted a hierarchical meta-regression analysis to review 87 empirical studies that report 769 estimates for the effects of government size on economic growth. They followed

best-practice recommendations for meta-analysis of economics research, and address issues of publication selection bias and heterogeneity. When size was measured as the ratio of total government expenditures to GDP, the partial correlation between government size and per-capita GDP growth was negative in developed countries, but insignificant in developing countries. When size was measured as the ratio of consumption expenditures to GDP, the partial correlation was negative in both developed and developing countries, but the effect in developing countries was less adverse.

Dogan and Tang (2006) determined the direction of causality between national income and government expenditures for Indonesia, Malaysia, Philippines, Singapore, and Thailand. Granger causality tests are used to investigate the causal links between the two variables. Times series data covering last four decades are used. Support for the hypothesis that causality runs from government expenditures to national income has been found only in the case of Philippines. There is no evidence for this hypothesis and its reverse for the other countries.

Gimba and Isah (2016) provided empirical analysis of the impact of expansionary budget on living standard in Kaduna State, Nigeria. Relevant time series data were used from 1996 to 2015 and were collected from the Kaduna State Ministry of Budget and Economic Planning. The Ordinary Least Square (OLS) method was used to analyse static and log – linearized model of the data. The result of the regression analysis showed that expansionary budget in Kaduna State exerts positive impact on standard of living.

Appiah (2017) used the General Method of Moment to estimate the effect of an increase in education expenditure on per capita GDP in Sub-Saharan African (SSA) countries. The findings indicate that expansion in education expenditure in developing countries affects per capita GDP positively, and the effect is not different from that of SSA countries.

Omodero (2019) examined the role of government sectoral expenditure on poverty alleviation using a secondary form of data covering a millennium period from 2000 to 2017. The study employed ordinary least squares technique and the regression result indicated that government expenditure on agriculture, building and construction, education and health do not have any significant impact on poverty alleviation in Nigeria. Akande (2016) employed the Johanson Co-integration Test and Vector Error Correction Model (VECM) to investigate the relationship between education and standard of living. The variables used include per capital real GDP, government expenditure on education and health. The result suggested a long-run relationship between the variables, implying a rapid adjustment towards equilibrium.

Ogbuagu and Ewubare (2019) employed ordinary least square method of estimation on a range of equation models: Vector error correction model and the impulse responses function model to ascertain the long run and short run impact of three component of government expenditure (education, health, and consumption expenditure) on standard of living in Nigeria with time series data from 1981 to 2017. The short run coefficient results revealed that education expenditure in both lag 1 and 2 have a positive and significant impact on standard of living, while health and consumption expenditure have insignificant impact on standard of living in Nigeria.

3. Methodology of research

Autoregressive Distribute Lag (ARDL) model was estimation approach adopted to re-examine how the standard of the living of Nigerian citizens are affected by variation in government expenditure. In addition, we applied the Granger Causality test in determination of the significance influence of government expenditure on living standard. To this end, we collected data on Government Recurrent Expenditure (GREXP), Government Capital Expenditure (GCEXP) and Per Capita Income (PCI) from the Central Bank of Nigeria and World Bank from 1981 to 2018. Government expenditure which is the dependent variables was decomposed into recurrent and capital expenditure, while we measured standard of living using the per capita income model. Since this involves statistical analysis, we developed a functional model as in in Equation 1 and further transformed it into econometric format as in Equation 2.

$$PCI = f(GREXP, GCEXP) \tag{1}$$

$$\text{Log}PCI_t = \beta_0 + \beta_1 \text{Log}GREXP_t + \beta_2 \text{Log}GCEXP_t + \varepsilon_t \tag{2}$$

Where:

PCI= per capita income; GREXP = government recurrent expenditure; GCEXP = government capital expenditure; β_0 = a constant term; β_1 and β_2 are the coefficients of the regression equation; ϵ = the error term; t = the time trend;

A priori expectation is that β_1 and $\beta_2 < 0$

4. Findings and discussions

4.1. Data Stationarity Properties

It is relevant to ascertain the stationarity properties of data for estimation to avoid spurious result. Subsequently, we evaluated the stationarity characteristic of the data following the Augmented Dickey-Fuller (ADF) and Philip Peron (PP) method of unit root test at first difference. The stationarity test result in Tables 1 – 2 provide evidence that the data have no stationarity defect that may hamper the result of the estimation.

Table 1. Result of ADF Test at First Difference

Variables	Intercept	Trend and Intercept	Remark
PCI	-5.035372 (0.00)*	-5.084689 (0.00)*	Stationary
GREXP	-3.424179 (0.02)**	-4.237463 (0.02)**	Stationary
GCEXP	-7.611064 (0.00)*	-7.515813 (0.00)*	Stationary

Source: E-views 10.0 Data output

Note: * and ** show a significance level of 1% and 5% respectively

Table 2. Result of PP Test at First Difference

Variables	Intercept	Trend and Intercept	Remark
PCI	-5.115114 (0.00)*	-5.118566 (0.00)*	Stationary
GREXP	-4.492780 (0.00)*	-5.799287 (0.00)*	Stationary
GCEXP	-7.669698 (0.00)*	-7.594518 (0.00)*	Stationary

Source: E-views 10.0 Data output

Note: * and ** show a significance level of 1% and 5% respectively

4.2. Residual and Stability Test

We check for residual suitability of the model by way of serial correlation and heteroscedasticity, whereas for stability diagnosis, it was the Ramsey Reset Specification. Table 3 and 4 give the residual diagnosis of the model, while Table 5 is for the stability diagnostic. From Table 9, the serial correlation LM test presents no autocorrelation in the model (p-value > 0.05). There was no heteroscedasticity problem (p-value > 0.05) as seen in Table 4, while Table 5 prove there is no model mis-specification (p-value > 0.05).

Table 3. Serial Correlation LM Test

Regression Estimates	F-statistic	Prob.
PCI →GREXP + GCEXP	1.435544	0.2449

Source: E-views 10.0 Data output

Table 4. Heteroskedasticity Test

Regression Estimates	F-statistic	Prob.
PCI →GREXP + GCEXP	1.446532	0.2246

Source: E-views 10.0 Data output

Table 5. Ramsey Reset Specification

	F-statistic	df	Prob.
PCI →GREXP + GCEXP	1.730745	(1, 20)	0.2032

Source: E-views 10.0 Data output

4.3. Long Run Relationship/Co-integration by Autoregressive Distribute Lag (ARDL)

The issue associated with different order of integration of time series data is eliminated by the use of the ARDL co-integration thus our choice this technique in determination of the long run relationship between government expenditure and standard of living. The evidence in Table 6 shows that using Nigeria data, government expenditure and standard of living are co-integrated/related in the long run. This hinged to the fact that the f-statistic of 28.04925 is higher than the upper and lower bound test of 3.1 and 3.87 respectively.

Table 6. Bound Test for PCI, GREXP and GCEXP

T-Test		5% Critical Value Bound		Remark
F-Statistic		Lower Bound	Upper Bound	
28.04925	3.1		3.87	Null Hypothesis Rejected

Source: E-views 10.0 Data output

4.4. Nature of Long Run Relationship/Co-integration by Autoregressive Distribute Lag (ARDL)

With the evidence of a co-integration relationship as in Table 6, it becomes imperative to ascertain the nature of the long run relationship between the variables. The output in Table 7 unveils in the long run; recurrent expenditure has a significant positive relationship with per capita income, whereas capital expenditure has a significant negative relationship with per capita income. Considering the short run dynamic, it was found that the ECM showed the right negative sign. This is insinuation that there is tendency for the model to move towards equilibrium following disequilibrium in previous period. About 32.89% of error in the past period was corrected in the current period.

4.5. Short Run Relationship by Autoregressive Distribute Lag (ARDL)

In Table 8, there is a positive significant relationship between government recurrent expenditure and per capita income, whereas there is a negative significant relationship between government capital expenditure and per capita income. When government recurrent and capital expenditure are held constant, per capita income would be valued at N3,545. Per capita income would be down by 10.26% when there is a percentage increase in government capital expenditure, while on the other hand, per capita income would rise by 4.6% following a unit increase in recurrent expenditure of the government. A look at the Adjusted R-squared depicts that 99.44% variation in per capita income was due to fluctuation in government recurrent and capital expenditure within the period studied. The f-statistic (526.38) and p-value (0.00) provide evidence that government recurrent and capital expenditure significantly explained the variation in per capita income. The Durbin Watson value of 1.55 is within the acceptable range of no autocorrelation in the model estimated thus devoid of spurious regression output.

Table 7. ARDL Co-integrating and Long Run Form for PCI→GREXP+GCEXP

Co-integration Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GREXP)	0.046321	0.004727	9.799533	0.0000
D(GREXP(-1))	-0.007619	0.010907	-0.698557	0.4925
D(GREXP(-2))	0.137587	0.011961	11.50265	0.0000
D(GREXP(-3))	0.165503	0.012669	13.06409	0.0000
D(GCEXP)	-0.102589	0.015484	-6.625645	0.0000
D(GCEXP(-1))	0.045892	0.015348	2.990079	0.0070
D(GCEXP(-2))	0.138553	0.015616	8.872781	0.0000
D(GCEXP(-3))	0.130618	0.018116	7.209934	0.0000
CointEq(-1)*	-0.328965	0.029051	-11.32365	0.0000
Long Run Equation				
GREXP	0.093722	0.025307	3.703415	0.0013
GCEXP	-0.264389	0.144790	-1.826025	0.0821
C	10776.62	10501.30	1.026217	0.3165

Source: E-views 10.0 Data output

Table 8. ARDL Regression: Per Capita Income and Government Expenditure

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PCI(-1)	0.671035	0.101603	6.604506	0.0000
GREXP	0.046321	0.007575	6.115005	0.0000
GREXP(-1)	-0.023109	0.019717	-1.172021	0.2543
GREXP(-2)	0.145207	0.016113	9.011861	0.0000
GREXP(-3)	0.027916	0.014770	1.890047	0.0726
GREXP(-4)	-0.165503	0.015470	-10.69846	0.0000
GCEXP	-0.102589	0.017696	-5.797181	0.0000
GCEXP(-1)	0.061506	0.020655	2.977714	0.0072
GCEXP(-2)	0.092661	0.020953	4.422370	0.0002
GCEXP(-3)	-0.007935	0.025762	-0.308011	0.7611
GCEXP(-4)	-0.130618	0.027994	-4.665982	0.0001
C	3545.133	3346.040	1.059501	0.3014
R-squared	0.996386	S.D. dependent var		153799.4
Adjusted R-squared	0.994493	Durbin-Watson stat		1.553855
F-statistic	526.3764	Prob (F-statistic)		0.996386

Source: E-views 10.0 Data output

4.6. Variance Decomposition

To ascertain the component of government expenditure that most influence standard of living of the citizen, the variance decomposition estimation was performed and presented in Table 9. The variance decomposition output reveals that changes in per capita income were most influenced by recurrent expenditure, while government capital expenditure was least in explaining the variation in per capita income.

Table 9. Variance Decomposition of PCI

Period	S.E.	PCI	GREXP	GCEXP
1	18995.61	100.0000	0.000000	0.000000
2	48018.65	24.55365	73.32503	2.121317
3	63368.61	14.97117	60.62310	24.40573
4	94676.99	6.709228	61.81856	31.47222
5	139539.2	3.131200	58.37446	38.49434
6	230455.4	1.155549	66.48155	32.36290
7	414799.1	0.561918	74.36604	25.07204
8	816273.5	0.711305	80.81814	18.47056
9	1672162.	1.027686	84.06939	14.90292
10	3496846.	1.268878	85.64220	13.08892

Source: E-views 10.0 Data output

4.7. Granger Causality Test

With reference to section three, the effect of components of government expenditure on standard of living was assessed using the granger causality approach. In Table 10, there is evidence of a bi-directional causal relationship between government recurrent expenditure and per capita income. This is an indication that government recurrent expenditure has significant effect on per capita income, and in the same manner, government recurrent expenditure is significantly affected by per capita income. Capital expenditure of the government was found to have significantly affected per capita income only in one direction which was revealed by the unidirectional causal relationship between government capital expenditure and per capita income: causality runs from government capital expenditure to per capita income.

Table 10. Granger Causality Result for Government Expenditure and Standard of Living

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
GREXP does not Granger Cause PCI	36	5.56279	0.0244	Causality
PCI does not Granger Cause GREXP		21.2554	0.0000	Causality
				Causality
GCEXP does not Granger Cause PCI	36	14.6632	0.0005	No
PCI does not Granger Cause GCEXP		1.46431	0.2348	Causality

Source: E-views 10.0 Data output

4.8. Discussion of Major Finding

The per capita income which measures the standard of living has positive relationship only with recurrent expenditure but a negative relationship with capital expenditure. These findings points to the relevance of recurrent spending on the welfare of workers. When government increases spending on workers through increase in salaries, wages, etc., the consumption pattern of the labour force would rise which result in reduction in poverty and improved standard of living. This result is in line with the studies of Alimi (2014) and Dogan (2006). This was further confirmed on the significant effect of both government recurrent and capital expenditure on per capita income. The long run relationship between government expenditure and per capita income provides evidence that in a developing economy like Nigeria, effective and effective implementation of government expenditure is needed to better the standard of living of her citizen.

5. Conclusions and recommendations

Using the Autoregressive Distribute Lag (ARDL), we estimated we re-examined how the standard of living of the citizens are affected by the expenditure pattern of the Federal Government of Nigeria from 1981 to 2018. The outcome of the study based on data applied revealed that government expenditure has significant effect on the standard of living of her citizens. To our dismay, this is not the reality on ground as the level of poverty in Nigeria is high: the rich are getting richer, whereas the poor are getting poorer. There are deaths of basic infrastructure coupled with abandoned capital projects by past administrations. Those at the helm of affairs are interested in personal and political interest at the detriment of the welfare of the citizens. With the high volatility in inflation rate in the macro economy, we urge the government to increase salaries and wages of workers to cushion it devastative effect on purchasing power. There is overwhelming need for the government to continue channelling resources to the social sector within its life betterment programme such as pension, social securities, etc. to significantly reduce poverty to improve per capita income because reduction in poverty translate to higher per capita income thus better standard of living.

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