
ASSESSING THE RELEVANCE OF PUBLIC SPENDING ON POVERTY ALLEVIATION IN NIGERIA

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Abstract

The news of Africa's largest market and economy becoming the global capital of poverty was shocking to economist across the country, given the expenditure culture of the democratic administration in the Nation with their outstanding borrowing prowess, one had expected the continuous borrowing culture to pave way to employment generation, economic growth and development, but rather increasing government expenditure rather retard economic growth and ploughed back the populace into abject poverty. Based on these lingering issues to justify the implications of government spending on poverty alleviation across Nigeria, the study assesses the relevance of public spending on poverty alleviation in Nigeria from 1981 till 2019 with statistical data's extracted from world development indicator for Nigeria 2020. The study implored augmented dickey fuller (ADF) test statistics to assess the stability and stationarity of the series, johansen test for long run relationship to checkmate the relationships the series exhibit, while multiple regression was carried out to validate individual variable effect on poverty alleviation strive of the government in the country. The results justified the absence of a sustainable long run relationship between government spending and poverty alleviation in Nigeria. Regression outcome further proves that, government expenditure on agriculture and education reduces or alleviates poverty in the country, as against expenditures on transport which rather compound the tendencies of poverty emergence in the economy. The study recommend that the government should focus on short-term government expenditure policy actions that have the potential to reduce poverty in Nigeria, as there is no long-run relationship between public expenditure and poverty reduction, according to the cointegration test and further concluded that government expenditure on economically viable sectors has a causal linkage with poverty alleviation

Keywords: Government Expenditure, Poverty Rate, Standard of Living, Poverty Alleviation, Education, Agriculture, Transport

INTRODUCTION

Background to the Study

Over the last few decades, Nigeria's public sector spending has increased geometrically as a result of the government's many operations and interactions with its Ministries, Departments, and Agencies (MDAs). Although the general consensus is that public expenditure, whether recurring or capital, particularly on social and economic infrastructure, can be growth-enhancing, financing such expenditure to provide essential infrastructural facilities—including transportation, electricity, telecommunications, water and sanitation, waste disposal, education and health—can be growth-retarding, for example, the negative effect associated with taxation and excessive debt (Oyemomi, 2020).

The extent and structure of government expenditure will impact the pattern and form of economic growth. Nigerian governmental spending is essentially classified into capital and recurring expenditure. Recurrent expenditures are government spending on administration such as labor, salaries, interest on loans, maintenance, and so on, whereas capital expenditures are expenses on major projects such as roads, airports, education, telecommunications, and energy generation, among others (Josaphat & Oliver, 2019).

According to the World Development Report (2020), one of the primary goals of government spending is to build infrastructure, and maintaining these facilities necessitates significant expenditure. The link between government spending on public infrastructure and poverty alleviation through greater economic activity in the country's activity sector is an essential issue in emerging nations, the majority of which have seen rising amounts of public spending over time. Infrastructure investment and productive activities (particularly State-Owned Enterprises) are expected to boost growth, whilst government consumption expenditure is expected to stifle growth.

According to Oyemomi (2020), in most circumstances, a nation's economic growth is a clear indicator of an increase in the socioeconomic well-being of its people. A decline in the growth rate, as seen in most emerging nations, is therefore a representation of the people's declining level of life, which eventually leads to poverty. Nigeria's recent experience has been harrowing, with its Gross Domestic Product (GDP) falling from an annual average rate of 10.5 percent in 1985 to 3.2 percent in 2014. (ADB 2014). As a result, the country's per capita income dropped from US \$1600 in 1980 to US \$1160 in 2014. (ADB, 2010).

As a result, despite significant growth in Africa's second largest economy, poverty in Nigeria is increasing, with about 100 million people living on less than \$1 per day (Daniel, 2015). The proportion of Nigerians living in absolute poverty — those who cannot afford the fundamental necessities of food, housing, and clothes — increased to 80.9 percent in 2014, up from 54.7 percent in 2013. (National Bureau of Statistics, 2015). Although Nigeria's economy is expected to develop further, poverty is predicted to worsen, and the gap between affluent and poor has widened. Little wonder, according to Kale (2016), poverty in Nigeria is a paradox: despite the fact that the Nigerian economy has grown, the number of Nigerians living in poverty has increased year after year. According to a recent National Bureau of Statistics study (NBS, 2018).

Nigeria is regarded to have the largest economy in Africa as of 2017. It is a resource-rich country, notably in oil. Over the last decade, the country's average annual economic growth rate has been roughly 7%. Despite this, Nigeria is placed 153rd out of 187 nations in the UN's Human Development Index. This means that, despite its rapid economic expansion, the country remains impoverished, with a high unemployment rate and an expanding poor population. Nigeria's population is projected to be 163 million people, with 112.519 million living in relative poverty (NBS, 2018).

Apart from the relative poverty index, Nigeria failed all poverty tests using all poverty measuring standards: the absolute poverty measure places the country at 60.9 percent, the dollar per day measure at 61.2 percent, and the subjective measure at 93.9 percent. The latest Harmonized National Living Standard Survey (HNLSS), which puts the country's poverty rate at 69.0 percent, may be a reliable measure (NBS, 2018). What happened to the much-touted GDP growth rate of 7.4 percent during the previous decade?

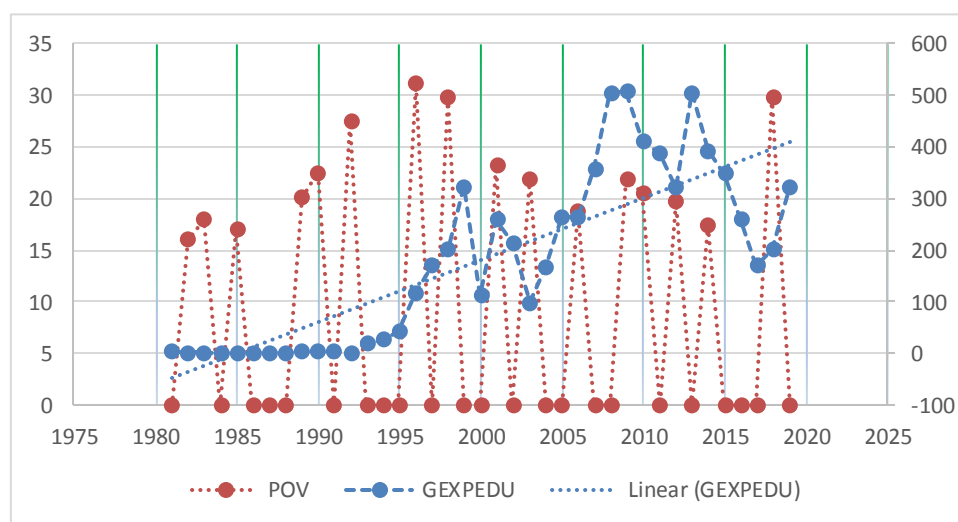
There is undoubtedly a significant gap between public expenditure increase and poverty alleviation, with the majority becoming poorer as a result of exclusion.

Statement of the Problem

Government expenditure in Nigeria has continued to climb as a result of large earnings from crude oil production and sales, as well as rising demand for public (utilities) products such as roads, communication, power, education, and health. Furthermore, there is a growing demand for both internal and external security for the people and the nation. According to available data, overall government expenditure (capital and recurrent) and its components have risen steadily over the previous three decades. For example, overall government recurrent spending grew from N3, 819.20 million in 2000 to N4, 805.20 million in 2010 and N36, 219.60 million in 2013. In 2015 and 2017, recurrent spending was N461, 600.00 million and N1, 589,270.00 million, respectively. Similarly, the mix of government recurrent expenditure reveals that spending on defense, internal security, education, health, agriculture, construction, and transportation and communication grew from 1981 to 2017.

Furthermore, government capital spending increased from N5, 004.60 million in 2009 to N10, 163.40 million in 2012 and N24, 048.60 million in 2014. In 2015 and 2017, capital expenditure totaled N239,450.90 million and N759, 323.00 million, respectively. Furthermore, between 1981 and 2017, the various components of capital spending (that is, defense, agriculture, transportation and communication, education and health) show an increasing tendency.

Figure 1: Poverty and government expenditure on education



Source: Researchers Compilation from CBN Data 2020

Consequently, increased government expenditure has not resulted in real development or poverty reduction, as Nigeria remains one of the world's poorest countries. Okafor, Ejelonu & Onyekwere (2022). Furthermore, many Nigerians have remained impoverished, with more than half living on less than US\$2 a day (NBS, 2017). Coupled with

this is deteriorating infrastructure (particularly roads and electricity supply), which has resulted in the collapse of numerous companies and a significant degree of unemployment. Furthermore, macroeconomic indices such as the balance of payments, import obligations, inflation rate, currency rate, and national savings show that Nigeria has not performed well in recent years (Gore, 2016).

Nigeria is a country with great wealth in the hands of a few and extreme/abject poverty on the doorsteps of many. The disparity between Nigeria's economic metrics and macroeconomic variables and reality is cause for worry Okafor, Ejelonu, Onyekwere & Neubacher (2022). People die because they cannot afford to eat three square meals a day or get basic public healthcare. As bizarre as it sounds, this coexists with the showy display of riches by the wealthy few. As a result, the study is constructed to assess the relevance of public spending on poverty alleviation in Nigeria.

LITERATURE REVIEW

Public Spending

Government spending is the primary tool used by governments, particularly in developing countries, to encourage economic growth, which is a necessary component of long-term development. Economic growth raises people's living standards through improving infrastructure, health, housing, and education services, as well as increasing agricultural production and food security (Loto 2012).

Cooray (2015) concluded that more government expenditure promotes economic growth. However, other experts disagree with the assumption that greater government expenditure fosters economic development, claiming that higher government spending may actually impede the economy's overall performance. For example, in order to pay increased expenditure, the government may raise taxes and/or borrow (Zeller, 2014).

Government expenditure has risen in response to tax income, foreign aid, and rising demand for public (utility) goods such as roads, communication, power, and education. The Nigerian government has expanded its spending throughout the years. For example, the government's total recurrent spending went from N3.819 billion in 1977 to N4.805 billion in 1980 and N36.2196 billion in 1990. In 2015 and 2014, recurrent spending was N461 billion and N1.5893 trillion, respectively. It rose to N3.10944 trillion in 2010 and N3.6898 trillion in 2013, but fell to N2.5303 trillion in 2014. (CBN, 2015).

Similarly, the mix of government recurrent expenditure reveals that spending on defense, internal security, education, health, agriculture, construction, and transportation and communication grew over the study period. Furthermore, government capital spending increased from N5, 004.60 million in 2010 to N10, 163.40 million in 2014 and N24, 048.60 million in 2015. Capital expenditure in 2016 and 2017 were N239,450.90 million and N759, 323.00 million, respectively. Furthermore, between 1981 and 2017, the various components of capital spending (that is, defense, agriculture, transportation and communication, education and health) show an increasing tendency (CBN, 2018). This expansion is being

nurtured with the goal of boosting infrastructure, social services, and poverty reductions, although the country's economic growth records have been very unpredictable. The rate of growth does not match increasing investment, [decayed infrastructure], and poverty remains high (Abu & Abdullahi, 2018).

Poverty Alleviation

Various schools of thought recommend a variety of strategies to alleviate poverty. For example, the Mercantilists emphasized overseas commerce, which they saw as a vital mechanism for promoting economic progress and poverty alleviation. The ideas on poverty reduction of the Classical economists (Adam Smith, David Ricardo, Thomas Malthus, Karl Marx, and others) brought to light the social changes brought about by technological advances stemming from the industrial revolution that occurred between 1750 and 1850. Early development economists in the 1940s and 1950s advocated the thesis of forced-drift industrialization through Big push, Balanced growth, and Labor transfer (Ijaiya 2016).

The World Bank (2019) highlights the importance of sound macroeconomic policy and economic growth. According to the World Bank, solid fiscal and monetary policies will foster a favorable environment for private investment, hence increasing productivity and, in the long term, reducing poverty. This is referred to as a pro-poor growth strategy to poverty alleviation.

From the 1980s through the 2015s, new tactics and approaches to poverty alleviation were introduced. The basic needs and capabilities/entitlements methods, participatory development, social capital, community self-help, good governance, and human rights approaches to poverty reduction are among the most important. Various initiatives were undertaken in Nigeria to eliminate poverty by the government, non-governmental organizations, and individuals (Woolcock and Narayan 2015; United Nations 2016).

According to Ogwumike (2020), the poverty reduction initiatives that have been adopted in Nigeria so far have focused on economic growth, basic requirements, and rural development techniques. The economic growth method emphasizes rapid economic development as measured by the rate of growth in real per capita GDP or per capita national income, price stability, and reducing unemployment, among other things, which are achieved by efficient monetary and fiscal policy coordination. The basic need approach focuses on the needs of life, such as food, health care, education, shelter, clothes, transportation, water, and sanitation, which may help the poor live a dignified life. The rural development method emphasizes comprehensive emancipation and empowerment of the rural sector (Brock & Mcgee, 2016).

THEORETICAL AND EMPIRICAL STUDIES

Based on their analysis of public expenditure in England, Peacock and Wiseman extracted a striking shaft of light concerning the nature of the increase in public expenditure in 1961. According to Peacock and Wiseman (1967), public expenditure growth does not

proceed in the manner that Wagner predicted. Peacock and Wiseman chose political ideas over organic states in which it is assumed that the government likes to spend money, citizens do not mind raising taxes, and the populace votes for ever-growing social services. There may be disagreements regarding ideal government expenditure and taxing limitations, but they can be lowered by large-scale disruptions, such as big wars (Brock and Mcgee, 2016). The function of state activities tends to get more and larger during the process of public spending centralization. This is referred to as the process of growing public sector activity concentration. As a result, multiple empirical research in Nigeria have found a positive and substantial association between government expenditure and poverty reduction. Okulegu (2017) conducted a research titled government expenditure and poverty reduction in Nigerian economic growth. The purpose of this study was to look at the relationship between government expenditure and poverty reduction in Nigeria's economic growth. As the government of Nigeria faces development challenges critical to both the welfare and improvement of its population, as well as the enhancement of the economy in particular, this study serves as a source of information on various methods of implementing effective measures of achieving economic stability through an aspect of fiscal policy known as government expenditure.

As a result, time series econometrics analysis and descriptive statistics were used in this study to estimate the influence of government expenditure on Nigerian economic growth. In order to achieve the aforementioned objectives, this research work used a multiple regression model based on the Ordinary Least Square (OLS) method. The variables used are Poverty Level (Dependent variable) and the explanatory variables, Agricultural Credit Guarantee Scheme Fund (ACGSF) and Government Expenditure on Agriculture (GEA). It spans the years 1980 to 2015, with data mostly sourced from the CBN statistics bulletin.

According to the regression results, government expenditure has a considerable influence on poverty reduction in Nigeria. According to the findings, a 1% increase in the Agricultural Credit Guarantee Scheme Fund (AGCSF) will result in a 0.06 percent drop in poverty. Based on the study's findings, the government should make an effort to ensure the rural farmers profit from the opportunities around her spending, as this would also help to poverty reduction in Nigeria. The research also suggests that government agricultural money be directed toward farm automation. This will assist to develop jobs and increase food production, eliminating poverty.

Oni & Ozemhoka (2016) investigated the influence of government spending on the growth of the Nigerian economy. This research attempts to examine the influence of government spending on the growth of the Nigerian economy and to determine whether there is a link between GDP and government spending in Nigeria. It spans the years 1981 to 2011, and the Ordinary Least Squares (OLS) econometric approach was utilized. Although there is a positive association between the dependent and independent variables, the

adjustment of economic growth or gross domestic product was fair, making it difficult to reject the null hypothesis.

The policy conclusion of the above scenario is that government looks to have been poor resource managers over the years, failing to play their part in the process of economic growth and development. The research advised that the government immediately establish far-reaching effective internal control mechanisms and more aggressive economic management coordination and implementation, as well as discourage any non-productive activities and expenditures at all levels of government. In order to accomplish her macroeconomic objectives, both the Federal Government and the Central Bank of Nigeria (CBN) need be more articulate in controlling the currency rate efficiently. This would promote investment surplus, raising output and raising Nigerians' standard of life.

ESTIMATION AND EMPIRICAL MODEL

Because of the nature of the variables, which the researcher has no control over, this study uses an ex-post facto design. This study also employs a multiple regression analysis utilizing the OLS estimation approach. The Augmented Dickey Fuller (ADF) test statistics will be compared with the crucial values at the 5% level of significance when the data is considered to be integrated of any order. The Engle and Granger two-step technique will be used to determine whether or not the variables are co-integrated. According to Engle and Granger (1987), if numerous variables are all 1 (d) series, their linear combination may be cointegrated, i.e., stationary.

$$PL_t = \beta_0 + \beta_1 ACGSF_{t-1} + \beta_2 GEA_{t-1} + \beta_3 GEE_{t-1} + \beta_4 GEH_{t-1}$$

Definition of Proxy: PL(Y) = poverty level as proxy poverty reduction, ACHSF - Agricultural Credit Guarantee Scheme Fund, GEA- government expenditure on agriculture, GEE- government expenditure on education, GEH – government expenditure on health

Test for Series Stationarity (Augmented Dickey Fuller Test Criterion)

The Augmented Dickey Fuller (ADF) Unit root test was performed to determine if the variables were stationary. The null hypothesis is that the variables under consideration have a unit root, as opposed to the alternative that they do not. The decision criterion is to reject the non-stationary null hypothesis if the ADF statistics value is larger than any of the Mackinnan critical values in absolute terms at a certain level of significance; otherwise, do not reject. The result in Appendix 1 demonstrates that the series only became stationary after the first difference in the regression line for the corresponding series was obtained.

Test for long run relationship amongst the series

Hence the series in the regression line were characterized by integration of same order I(1), a cointegration test was carried out to ascertain if there is a long-run relationship amongst the variables. In order to test for this, the Engel-Granger two step procedure was employed. This requires applying ADF test to the residuals of the regression with the same

decision rule as in unit root test. The null hypothesis is that the variables are not cointegration while the alternative accepts the presence of cointegration. The outcome indicates that the ADF statistics is less than the 5% Mackinnan critical values, we therefore are justified to accepting null hypothesis that the Variable under investigation are not cointegrated, implying there is no long- run relationship between them and we proceed to present the estimated results in their differenced forms. The result is presented in appendix 2.

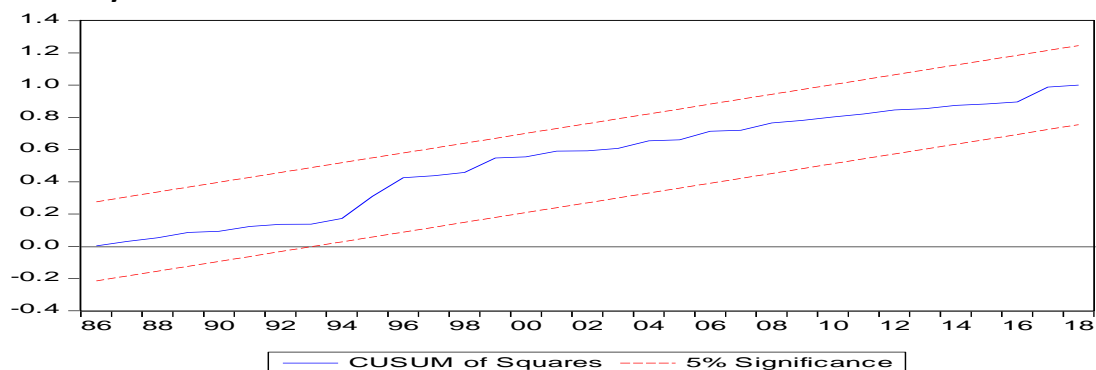
Relevance of public spending on poverty alleviation in Nigeria

According to the estimated regression results in Appendix 3, government spending on agriculture shows a negative significant connection with poverty reduction in Nigeria. It has an estimated co-efficient of -0.3814 and a t-statistic of -2.4428. The conclusion of this finding is that an increase in government spending on agriculture sector productivity or production will result in a greater-than-proportionate fall in the country's poverty levels throughout the time covered by this empirical study Ejelonu & Okafor (2022).

The findings are directly related to the empirical justifications and assertions of Okulegu (2017), who conducted a study titled government spending and poverty reduction in Nigerian economic growth and discovered that government funding of agriculture has a positive direct causal relationship with the government's poverty alleviation agenda. However, the empirical position of government public spending on education does not justify economic theories and apriori expectations of the study by indicating a negative relationship with poverty alleviation in Nigeria, but the outcome justifies the country's current economic situations, where employment is more prone to the graduate, with 33 percent of the population unemployed in the country according to National Bureau of Statistics 2022, for which a negative relationship exists. Even though this outcome is economically strange in theoretical senses, it directly justifies the current situation in the country where educational structures in the country are in a gross dilapidating state, with unabating industrial actions by the academic staff union of universities in the country that started from February of 2022 till June and still counting, with all this educational imbalance inherent in the country, the result is peculiar to Nigeria a

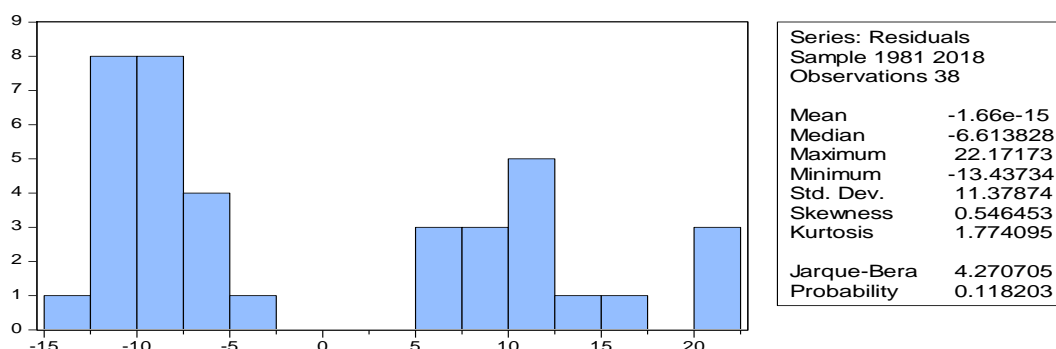
As a result, the adequacy and stability of health are expected to exert a significant contribution to employee productivity, which would translate to higher economic output and growth in the short or long run, and this resulting outcome is expected to have a positive spillover effect on the Nation's poverty alleviation rate, as grossly expected government expenditure on health infrastructure is deductively related to poverty rate, implying that increasing such expenditure Furthermore, government public expenditure on transportation infrastructure has been critical in the country's efforts to alleviate poverty.

Stability of the model



Following the indications of recursive cusum test of square presented above and the trend lines abiding within the boundary lines above, the result therefore justifies the fact that the model; $PI_t = \theta_0 + \theta_1ACGSF_{t-1} + \theta_2GEA_{t-1} + \theta_3GEE_{t-1} + \theta_4GEH_{t-1}$ is statistically viable in measuring the changes that occurs on poverty alleviation trend in Nigeria between 1981 to 2019.

Test for series normal distribution



The null hypothesis is that the residual of the OLS result is normally distributed. The result of normality test shown below reveals that Jarque-Bera value of 4.270705 with probability of 0.118203 which is greater than 0.05 critical value the result therefore implies that the error in the model are normally distributed.

CONCLUSION

Economically, it's been justified that publically spending reflects on increased economic productivity and more active activities in the productive or activity sector of any economy, thus the idea to increase government public spending has been echoed by various theorist, such as Wargner theory on public expenditure. It is therefore based on this established theoretical conclusions that the study empirical assess the relevance of public spending on poverty reduction in Nigeria, having objectively linked government spending to the activity sectors of; agriculture, education, health and transport sector, with relevant empirical justification asserting and justifying a positive economic implications of government public expenditure on poverty alleviation through increasing budgetary allocations and expenses to health, transport and agriculture, while educational expenditure reflected a negative implications, further elucidating the degree of economic

decadence on the sector, that has been characterized by massive industrial actions by the academic staff union of universities, dilapidating academic structure and unskilled professional, coupled with the vast educational malpractice inherent in the system. The study concluded therefore that, government expenditure on economically viable sectors has a causal linkage with poverty alleviation. Going further, the study recommends the following policy framework to improve poverty alleviation agenda of the government.

- The government should focus on short-term government expenditure policy actions that have the potential to reduce poverty in Nigeria, as there is no long-run relationship between public expenditure and poverty reduction, according to the cointegration test.
- The government should increase its funding of the agricultural sector to make it more productive, as our empirical findings show that it has significantly reduced poverty in Nigeria.
- The government should also eliminate the many corrupt practices that bedevil the implementation of budgets in the education sector in order to reverse the ugly trend we discovered in our study, which showed that increased expenditure on the education sector increased poverty in Nigeria. As a result, the government should guarantee that the different funds provided for the growth of Nigeria's education sector are spent on the sector and not diverted to other uses.

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TGEE UNIT ROOT

Null Hypothesis: D(TGEE) has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.235060	0.0000
Test critical values:		
1% level	-4.252879	
5% level	-3.548490	
10% level	-3.207094	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TGEE,2)

Method: Least Squares

Date: 08/06/21 Time: 07:30

Sample (adjusted): 1983 2019

Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TGEE(-1))	-1.275485	0.176292	-7.235060	0.0000
C	19.74317	29.72563	0.664180	0.5115
@TREND("1981")	-0.504694	1.417315	-0.356092	0.7242
R-squared	0.628733	Mean dependent var		-2.540588
Adjusted R-squared	0.604781	S.D. dependent var		128.9682
S.E. of regression	81.07773	Akaike info criterion		11.71279
Sum squared resid	203781.5	Schwarz criterion		11.84747
Log likelihood	-196.1174	Hannan-Quinn criter.		11.75872
F-statistic	26.24897	Durbin-Watson stat		1.991332
Prob(F-statistic)	0.000000			

TGEH UNIT ROOT

Null Hypothesis: D(TGEH) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.802814	0.0000
Test critical values:		
1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

COINTEGRATION TEST

Date: 08/06/21 Time: 07:33

Sample (adjusted): 1983 2019

Included observations: 34 after adjustments

Trend assumption: Linear deterministic trend

Series: POV TGEE TGEH GEXPTRAN

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.192041	14.17758	29.79707	0.8305
At most 1	0.166011	6.927298	15.49471	0.5861
At most 2	0.021964	0.755089	3.841466	0.3849

Trace test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.192041	7.250287	21.13162	0.9434
At most 1	0.166011	6.172209	14.26460	0.5912
At most 2	0.021964	0.755089	3.841466	0.3849

Max-eigenvalue test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

ESTIMATION RESULT

Dependent Variable: POV(1)

Method: Least Squares

Date: 06/20/22 Time: 09:35

Sample (adjusted): 1981 2018

Included observations: 38 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.72228	6.695082	1.900242	0.0662
GEXPAGR(1)	-9.05E-06	1.38E-05	-0.654437	0.5174
GEXPEDU(1)	-0.012741	0.026993	-0.472026	0.6400
GEXPHE(1)	0.070149	0.089082	0.787465	0.4366
GEXPTRAN(1)	0.061231	1.007926	0.060749	0.9519
R-squared	0.025280	Mean dependent var		9.342105
Adjusted R-squared	-0.092868	S.D. dependent var		11.52536
S.E. of regression	12.04864	Akaike info criterion		7.937861
Sum squared resid	4790.604	Schwarz criterion		8.153333
Log likelihood	-145.8194	Hannan-Quinn criter.		8.014524
F-statistic	0.213971	Durbin-Watson stat		2.786080
Prob(F-statistic)	0.928804			