GLOBAL RESEARCH NETWORK
ONLINE RESEARCH HUB

AMERICAN JOURNAL OF ECONOMICS AND BUSINESS MANAGEMENT

ISSN: 2576-5973
Vol. 7, No.2, February 2024

Government Provision of Economic, Social and Community Services and Rural Poverty in Nigeria

Prof. Good Wilson, Clement Korgbeelo (Ph.D.), Onyinyechi Nweke (Ph.D.)
Department of Economics, Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt, Rivers State, Nigeria

Abstract: Although poverty is a general phenomenon in Nigeria, it is more severe in the rural areas where the people lack access to adequate economic, social and community services. It is therefore asserted that an increased provision of economic and social infrastructural services to rural dwellers will reduce rural poverty to a large extent in Nigerian. This study therefore examined the impact of government provision of economic, social and community services on rural poverty in Nigeria. Specifically, the study investigated the impact of government spending on agriculture, road and construction, transportation and communication, education, and healthcare services on rural poverty in Nigeria. The Johansen cointegration test, error correction mechanism (ECM), and Granger causality test were used to estimate annual time-series data for the period 1981 to 2021. The estimated regression result showed that government expenditure on agriculture, government expenditure on road and construction, and government expenditure on health all have significant negative impact on rural poverty; government expenditure on transportation and communication has insignificant negative impact on rural poverty; while government expenditure on education has significant positive impact on rural poverty in Nigeria. Among other things, it is recommended that government should increase its expenditure on the provision of economic, social and community services directly to the rural areas so as to reduce rural poverty in the country.

Keywords: Government, Services, Rural Poverty.

1. Introduction

Poverty is a debilitating condition that reduces the socio-economic wellbeing of the people. The poor do not have adequate access to the basic essentials of life such as decent housing, food, and clothing. They lack adequate access to good education, healthcare facilities, basic infrastructure, and gainful employment. Poverty is the inability of a household to attain a level of income which is necessary to purchase the range of goods and services considered as standard for those in a particular reference group to be sufficient for living (World Bank, 2000).

Although poverty has a global dimension, it is more prevalent and severe in less developed countries. For instance, with international poverty line at USD 1.90 per day, Sub-Saharan Africa accommodates the largest number of poor people in the world, having taken over from Asia in 2019 (Nwani & Osuji, 2020). In Nigeria, despite its enormous natural resource endowment, there is chronic and widespread

poverty in the country. This explains why the country is considered to be a country of poverty in the midst of plenty (World Bank, 1996; Collier, 2009). Poverty is especially more severe in the rural areas in Nigeria where up to 80 per cent of the population lives below the poverty line. Thus, an individual is 65% more likely to be poor, if he/she resides in the rural area. In addition, rural dwellers are farther below the poverty line relative to the urban dwellers. This implies that the average urban poor person requires a smaller improvement in his welfare to cross the poverty line relative to his rural counterpart (Elijah et al., 2011).

Several forces are responsible for the severity of poverty among rural dwellers in Nigeria. These include government corruption, inadequate economic infrastructure, poor access to education and healthcare facilities, etc. (Apata et al., 2010). Furthermore, successive governments have embarked upon several programmes and projects with the intention of alleviating poverty in Nigeria. These include Agricultural Development Programmes (ADP), National Directorate of Employment (NDE), Community Banks and Small-Scale Industrial Scheme, Directorate of Food, Road and Rural Infrastructure (DFRRI), the Family Support Programme (FSP), National Poverty Eradication Proggramme (NAPEP), National Economic Empowerment and Development Strategies (NEEDS), Better Life for Rural Women (BLRW), etc. In addition, government has, over the years, spent huge financial resources in providing economic, social and community services in the areas of education, healthcare, road and construction, agriculture, transportation and communication in Nigeria (Oriavwate & Ukawe, 2018; Chude et al., 2019; Kolawole, 2021; CBN, 2021). However, in spite of the enormous resources spent on implementing these programmes and providing the services mentioned above, rural poverty still remains chronic and widespread in Nigeria (Anyanwu, 2006; Kolawole, 2021).

The foregoing discussion showed that government has a significant role to play in the alleviation of rural poverty in Nigeria. Infact, if the government provides adequate economic, social and community services to rural dwellers in Nigeria, rural poverty will be reduced to a large extent. This study therefore investigated the impact of government provision of economic, social and community services on rural poverty in Nigeria. Specifically, the study examined the impact of government spending on education, health, agriculture, road and construction, and transportation and communication on rural poverty in Nigeria.

2. Conceptual Clarifications and Literature Review

2.1. Conceptual Clarifications

2.1.1. Economic Services

Economic services refer to government-provided services and resources meant to help individuals connect with supports that can help them meet their needs. For the purpose of this study, economic services refer to the amount of money that the Federal Government of Nigeria spends annually on agriculture, road and construction, and transportation and communication.

2.1.2. Social and Community Services

These are education and healthcare services provided by the government. For this study, social and community services refer to the amount of money that the Federal Government of Nigeria spends annually to provide education and healthcare services.

2.1.3. Rural Poverty

Poverty generally refers to a state or situation in which a person or a group of persons do not have enough money or the basic resources with which they need to live. Rural poverty therefore refers to poverty among residents of non-urbanized areas or non-urban clusters.

Rural poverty rate is the percentage of the rural population living below the national poverty line. For the purpose of this study, the rural poverty rate is the percentage of rural population in Nigeria living below US$ 1.90 per day.

2.2. Theoretical Literature Review

Our concern in this section is to review economic theories of poverty. Economic theories of poverty are theories that explain the causes of poverty from the economic point of view. They are theories that largely attribute the causes of poverty to economic variables. These theories include the classical and neoclassical theories of poverty (both of which are referred to as mainstream or orthodox theories), other theories such as the Keynesian/liberal theories, the Marxist/radical theories, and the social exclusion, social capital, and eclectic theories (which are theories that emerged partially as reactions to the assumptions, hypotheses and conclusions from the classical economists). However, in this review, we present the main propositions of the classical, neoclassical, Keynesian, and Marxist theories of poverty.

The classical theory is based on the prominent works of Adam Smith and David Ricardo. Broadly speaking, classical theory assumes that the market place is efficient and hence wages faithfully reflect individual productivity. Accordingly, poverty is largely seen as a result of poor individual decisions (for example, the poor lack "self control") that negatively affect productivity, although it is also believed that pure disparities in underlying genetic attributes are also potential causes of poverty (Davis & Sanchez-Martinez, 2014). However, within the classical orientation, two distinct approaches can be identified. These are the behavioural/decision-based approach and the "sub-culture" approach. The behavioural approach corresponds to the laissez-faire principle that attributes responsibility for the outcome of individuals, such as their wellbeing, to their own economic decisions. Hence, in this classical view, poor people make choices that limit their access to economic resources, thereby increasing their risk of ending up in poverty (Esping-Anderson, 1990; Blank, 2010; Davis & Sanchiez-Martinez, 2014). The sub-culture approach to the classical theory of poverty, on the other hand, is based on the theories of intergenerational poverty. According to this approach, behavioural preferences stipulated in the classical theories are passed across generations within dynastic families due either to a genetic component or upbringing. Hence, according to this approach, "poverty begets poverty" as children growing up in dysfunctional families inherit the deviant behaviour of their forebears, who act as role models (Lewis, 1965; Townsend, 1979; Jung & Smith, 2007).

Building on the classical tradition, the neoclassical theory emphasized the role of unequal initial endowment of capital, skills, and talents which influence the productivity of an individual in generating poverty, within a market based competitive economic system. The neoclassical theory also view market failures such as imperfect information, externalities, moral harzards and adverse selection as the main causes of poverty. For example, uncertainty as a result of market failure may play an important role in aggravating poverty due to the fact that the poor are susceptible to shocks to their well-being such as recessions, sickness, family breakdown, etc (Davis, 2007). Similar to the classical tradition, the neoclassical economists are sceptical about the role of government in poverty alleviation, although they believe that policies directed towards reducing market failures may be useful in some cases (Banerjee & Duflo, 2012; Davis & Sanchez-Martinez, 2014).

The Keynesian/liberal theory of poverty revolves around the thinking that not only market distortions, but also broad underdevelopment in its multifaceted dimensions can cause poverty. John Maynard Keynes who is believed to be the most prominent pioneer of liberal economics argued that market forces can promote economic development, which was in turn perceived to be the single most important tool against poverty. Thus, in the Keynesian/liberal perspective, poverty is mainly explained by the "misfortune of certain minorities who fall out of work, cannot work or are not expected to", even though they wish to work. The theory therefore argues that poverty can be an outcome of market failures, that

under certain circumstances, justify redistributive taxation in cash and kinds. It therefore follows that the state needs to act to "regulate, supplement and exhort, but not impose" (Townsend, 1979). The role of government in the economy therefore takes centre stage in the Keynesian theory. It is believed that government intervention against poverty is needed in a wide variety of issues, such as tackling involuntary unemployment, promoting human capital development, and investment in public education. All these have the capacity to encourage economic growth through the multipliers and tackle poverty through the development of abilities. This is especially so if disproportionately, more educational facilities are given to the most vulnerable members of the society (for example, education grants). This view differs significantly from the classical and neoclassical views which prescribe very limited government interference in all spheres of the economy (Besley & Burges, 2003).

The Marxists argue that capitalism and related social and political factors based on class division cause poverty. According to the Marxist/radical theory of poverty, capitalist societies keep the wages unnaturally lower than its value-added through the threat of unemployment, and therefore, poverty in a capitalist economy can only be alleviated through strict regulation of the market (for example, in the form of minimum wage legislation). The Marxists therefore prescribe the suppression of free markets, nationalization of all means of production, collectivization of agriculture, etc (Davis & Sanchez-Martinez, 2014).

From the review of theoretical literature undertaken above, four economic theories of poverty have been reviewed. However, this study is theoretically underpinned by the Keynesian theory of poverty.

2.3. Empirical Literature Review

Nzeribe et al (2022) examined the impact of government spending on health and out-of-pocket health expenditure on poverty in Nigeria. The findings showed that government health expenditure and out-of-pocket expenditure have significant effects on poverty. Jideofor et al. (2021) studied the impact of public sector capital expenditure on poverty in Nigeria. The outcome of the study showed that public sector capital expenditure has significant positive impact on poverty. Tubotamuno et al (2021) investigated the impact of government spending on education on poverty in Nigeria. The study established that government capital expenditure on education has significant negative impact on poverty while government recurrent expenditure on education has insignificant positive impact on poverty. Okoye et al (2021) investigated the impact of government expenditure on construction on poverty and unemployment in Nigeria. The findings revealed that government capital expenditure on construction has significant positive impact on poverty; government recurrent expenditure on construction has significant negative impact on poverty; while construction sector output has insignificant negative impact on poverty. On the other hand, government capital and recurrent expenditure on construction and construction section output have insignificant positive impact on unemployment rate.

Amire (2020) studied the impact of government expenditure on education and health on poverty in Nigeria. The study established that government expenditure on education and health have significant negative impact on poverty while total recurrent expenditure has significant positive impact on poverty. Ewubare (2020) examined the impact of government spending on rural household poverty in Nigeria. The findings showed that government spending on economic services has insignificant positive impact on rural poverty; public spending on social and community services has insignificant negative impact on rural poverty; while rural access to electricity has significant negative impact on rural poverty. Dankumo et al (2019) established empirically that government expenditure on economic services has significant negative impact on poverty; government expenditure on social and community services has insignificant negative impact on poverty; while corruption has significant positive effect on poverty. Chude et al (2019) examined the impact of total government expenditure on economic growth and poverty in Nigeria. The result revealed that secondary school enrolment and total government

expenditure have significant positive impact on real GDP. Also, total government expenditure has negative impact on poverty. Ndanusa (2019) established that government expenditure on education and youth entrepreneurship training scheme have significant negative impact on poverty while government spending on micro credit loans has insignificant negative impact on poverty.

Edeh et al (2018) analysed the impact of education expenditure on poverty in Nigeria and found that government spending on education and primary school enrolment have insignificant negative impact on poverty. Iorember & Jelilov (2018) established from their study that both rich and poor household's welfare improves with increasing government spending on agriculture in Nigeria. Yahaya (2016) established that total government expenditure, government expenditure on education, and government expenditure on health have significant negative effect on poverty while government expenditure on agriculture has insignificant negative impact on poverty in Nigeria. Osundina et al (2014) observed that government expenditure on road transport has significant positive impact on poverty; government expenditure on building and construction has significant negative impact on poverty; government spending on education has insignificant negative impact on poverty; while government expenditure on health has insignificant positive impact on poverty in Nigeria.

From the empirical literature reviewed, it is observed that, except Ewubare (2020) that studied the impact of government spending on rural poverty, every other studies conducted on the topic in Nigeria made use of national poverty rate. However, Ewubare (2020) did not disaggregate government spending on economic, social and community services, into government expenditure on education, health, agriculture, road and construction, and transportation and communication. Hence, to fill this gap, the present study disaggregated government expenditure on economic services into government spending on agriculture, road and construction, and transportation and communication while government expenditure on social and community services is disaggregated into government spending on education and health. The study therefore examined the effect of these disaggregated components of government expenditure on rural poverty in Nigeria.

3. Method of Study

3.1. Description of Variables

The variables used for this study are described in this section.

Dependent Variable

The dependent variable for this study is rural poverty rate. It is defined as the percentage of the rural population in Nigeria living below USD 1.90 per day.

Independent Variables

The independent variables include the following:

1. Government Expenditure on Agriculture: This refers to the total amount of money that the Federal Government of Nigeria spends annually on the agricultural sector.
2. Government Expenditure on Road and Construction: This is the total amount of money spent by the Federal Government of Nigeria on road and construction infrastructure annually.
3. Government Expenditure on Transportation and Communication: This is the total amount of money that the Federal Government of Nigeria spends annually to provide transportation and communication services.
4. Government Expenditure on Education: This refers to the total amount of money spent by the Federal Government of Nigeria on education infrastructure and services in a year.

5. Government Expenditure on Health: This is the total amount of money that the Federal Government of Nigeria spends on healthcare infrastructure and services in a year.

Note: All the components of government expenditure are measured in billions of naira.

3.2. Model Specification

To specify the model used for the study, we followed the Keynesian theory of poverty and the analytical model used by Ewubare (2020) which is expressed as follows:

RPH = f(EC, S, EL) ……. 1

where RPH = Rural Poverty Headcount;

EC = Public Spending on Economic Services;

S = Public Spending on Social and Community Services;

EL = Rural Access to Electricity; and

f = Functionality Notation.

To allow for the inclusion of the variables of the present study, the adopted model was modified. Hence, the functional form of the model on which our econometric model is built is specified as follows:

RPOV = f(TGEA, TGERC, TGETC, TGEE, TGEH) ……. 2

where RPOV = Rural Poverty Rate;

TGEA = Total Government Expenditure on Agriculture;

TGERC = Total Government Expenditure on Road and Construction;

TGETC = Total Government Expenditure on Transportation and Communication;

TGEE = Total Government Expenditure on Education;

TGEH = Total Government Expenditure on Health; and

f = Symbol of Functionality.

RPOV is the dependent variable while TGEA, TGERC, TGETC, TGEE and TGEH are the explanatory variables.

The ordinary least squares (OLS) regression equation based on the above functional relation is expressed as follows:

$RPOV = \beta_0 + \beta_1 TGEA + \beta_2 TGERC + \beta_3 TGETC + \beta_4 TGEE + \beta_5 TGEH + U$ …… 3

where β_0 is the regression constant or intercept, β_1 - β_5 are the parameter estimates of the explanatory variables while U is the random variable. All other variables are as earlier defined.

A logarithmic transformation of equation 3 can be expressed as follows:

$RPOV = \beta_0 + \beta_1 LTGEA + \beta_2 LTGERC + \beta_3 LTGETC + \beta_4 LTGEE + \beta_5 LTGEH$ …….. 4

where L is the natural logarithm of the variables where applicable. All other variables are as earlier defined.

A Priori Theoretical Expectations

Based on a priori reasoning, the following signs of the parameter estimates are expected.

β_1<O, β_2<O, β_3<O, β_4<O, β_5<O

The implication of the above signs of the parameter estimates is that we expect a negative (less than zero) relationship between each of the explanatory variables and the dependent variable. In other words, an increase in each of the components of government expenditure is expected to bring about a reduction in the level of rural poverty in Nigeria.

3.3. Nature and Sources of Data

The data used for this study are annual time-series data covering the period 1981 to 2021. They were obtained from secondary sources including the Central Bank of Nigeria 2021 annual statistical bulletin, the Central Bank of Nigeria annual reports and statements of accounts (various years), and the World Bank Development Indicators (various years).

3.4. Techniques of Data Estimation

To take care of the problems of unit root and spurious regression, which are associated with time-series variables, the analytical procedure was started with stationarity (unit root) test which was conducted using Augmented Dickey-Fuller (ADF) unit root test. Based on the result of the unit root test, the Johansen cointegration test was used to test for long-run (equilibrium) relationship among the variables while the error correction model (ECM) was used to estimate the short-run (dynamic) behaviour of the variables. Also, the Granger causality test was used to test for the nature of causal relationship between each of the explanatory variables and the dependent variable.

4. Presentation of Results and Discussion of Findings

4.1. Descriptive Statistics

The descriptive statistics results are presented in table 1.

Table 1: Descriptive Statistics Result

Variable	D(RPOV)	D(TGEA)	D(TGERC)	D(TGETC)	D(TGEE)	D(TGEH
Mean	0.950000	6.475750	10.62525	7.401000	17.18800	12.95075
Median	0.975000	0.240000	0.165000	0.020000	2.550000	1.060000
Maximum	32.80000	63.82000	124.8200	132.2800	212.5000	137.2000
Minimum	30.90000	63.02000	170.3800	84.92000	38.25000	64.08000
Std. Dev.	12.19411	29.68911	53.17097	33.4408	46.42672	38.50462
Skewness	-0.741577	0.039217	-0.532617	1.204334	2.573838	1.253714
Kurtosis	6.393767	3.067848	5.752669	7.711131	10.44148	5.402174
Jarque-Bera	22.86233	0.017926	14.51985	46.66073	136.4570	20.09606
Probability	0.000011	0.991077	0.000703	0.000000	0.000000	0.000043
Sum	38.00000	259.0300	425.0100	296.0400	687.5200	518.0300
Sum Sq. Dev.	5799.159	34376.28	110258.9	43621.74	84062.17	57821.64
Observation	41	41	41	41	41	41

Source: Computed from E-view

From the descriptive statistics results, the mean values of the variables are 0.950000, 6.475750, 10.62525, 7.401000, 17.18800 and 12.95075 for RPOV, TGEA, TGERC, TGETC, TGEE and TGEH respectively. The standard deviation statistic shows that RPOV with standard deviation value of 12.19411 is the most stable variable while TGERC with standard deviation value of 53.17097 is the least stable variable. The skewness statistic indicates that RPOV and TGERC are negatively skewed while TGEA, TGETC, TGEE and TGEH are positively skewed. The kurtosis statistic shows that all the

variables are leptokurtic because their values are greater than 3. This means that they have heavier tails relative to normal distribution.

4.2. Unit Root Test Result

The result of Augmented Dickey-Fuller (ADF) unit root test is presented in table 2.

Table 2: ADF Unit Root Test Result

Variable	At Levels			At First Difference			Order of Integration
	ADF Test Statistic	1% Critical Value	5% Critical Value	ADF Test Statistic	1% Critical Value	5% Critical Value	
RPOV	-1.330697	-3.605593	-2.936942	-6.706453*	-3.615588	-2.941145	I(1)
LTGEA	-0.858780	-3.610453	-2.938987	-8.876143*	-3.610453	-2.938987	I(1)
LTGERC	-0.776320	-3605593	-2.936942	-6.655024*	-3.615588	-2941145	I(1)
LTGETC	-0.576525	-3.605593	-2.936942	-7.159215*	-3.610453	-2.938987	I(1)
LTGEE	-1.928111	-3.626784	-2.945842	-7.569386*	-3.610453	-2.938987	I(1)
LTGEH	-1.676152	-3.626784	-2.945842	-9.054314*	-3.610453	-2.938987	I(1)

Source: Computed from E-view

Note: *denotes rejection of the null hypothesis of unit root at the 1% level of significance.

From the ADF unit root test result in table 2, none of the variables is stationary at levels. However, all the variables become stationary at first difference. Hence, they are all integrated of order one (i.e., I(1)).

4.3. Cointegration Test Result

The result of the Johansen cointegration test is presented in table 3. The standard test statistics used in evaluating the result are the trace statistic and the Max-Eigen statistic.

Table 3: Johansen Cointegration Test Result

Unrestricted cointegration Rank Test (Trace)				
Hypothesized No of CE(s)	Eigenvalue	Trace Statistic	0.05 critical Value	Prob**
None*	0.877497	235.5431	95.75366	0.0000
At most 1*	0.763833	155.7576	69.81889	0.0000
At most 2*	0.656564	100.9153	47.85613	0.0000
At most 3*	0.496725	60.30261	29.79707	0.0000
At most 4*	0.404397	34.21113	17.49471	0.0000
At most 5	0.317582	14.52027	14.84146	0.0602
Unrestricted cointegration Rank Test (Maximum Eigen. Value)				
Hypothesized No of CE(s)	Eigenvalue	Max-Eigne Statistic	0.05 critical Value	Prob**
None*	0.877497	79.78554	40.07757	0.0000
At most 1*	0.763833	54.84225	33.87687	0.0001
At most 2*	0.656564	40.61269	27.58434	0.0006
At most 3*	0.496725	26.09147	21.13162	0.0092
At most 4*	0.404397	19.69086	20.26460	0.0063
At most 5	0.317582	14.52027	14.84146	0.0602

Source: Computed from E-view

Both Trace test and Max-eigen value test indicate 5 cointegrating equations each at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

**Mackinnon-Haug-Michelis (1999) p-values.

From the Johansen cointegration test result in table 3, both the Trace test and the Max-eigen value test indicate 4 cointegrating equation each. The result therefore confirms the presence of long-run (equilibrium) relationships between the explanatory variables and the dependent variable.

4.4. Long-Run Regression Result

The long-run regression result obtained from the normalized cointegrating coefficients are reported in table 4.

Table 4: Long-Run Coefficients

D(RPOV)	DL(TGEA)	DL(TGERC)	DL(TGETC)	DL(TGEE)	DL(TGEH)
1.000000	-18.25022	-15.44534	-3.049408	31.60879	-22.37934
	(3.35955)	(3.73524)	(2.47280)	(6.17753)	(7.12431)
	(-5.432341)	(-4.135032)	(-1.233180)	(5.116736)	(-3.141798)

Source: Computed from E-view

Note: The figures in the first and second parentheses are the standard errors and the t-values respectively.

4.5. Error Correction Model (ECM) Result

The result of the parsimonious error correction model (short-run) regression is presented in table 5.

Table 5: Error Correction Model Result

Dependent Variable: DRPOV

Variable	Coefficient	Std. Error	t-statistic	Prob.
C	-1.755127	2.738922	-0.640809	0.5273
DL(TGEA)	-9.742140	4.596666	-2.119393	0.0438
DL(TGEA(-2))	6.946888	4.923500	1.410965	0.1701
DL(TGERC)	10.58039	6.878457	1.538192	0.1361
DL(TGERC(-1))	8.827295	7.201314	1.225789	0.2313
DL(TGETC)	2.393515	4.471506	0.535822	0.5970
DL(TGETC(-1)	-0.036065	3.794983	-0.009503	0.9925
DL(TGEE)	-0.993005	13.09374	-0.075838	0.9401
DL(TGEE(-1))	9.490026	9.849374	0.963516	0.3442
DL(TGEH)	-1.763832	13.85893	-0.127270	0.8997
DL(TGEH(-1)	-9.781751	11.15349	-0.877013	0.3885
ECM(-1)	-0.010896	0.005347	-2.037929	0.0519
R-squared	0.607685	Mean dependent var		0.815789
Adjusted R-squared	0.594782	S.D dependent var		12.50402
S.E of Regression	12.41126	Akaike info criterion		8.127174
Sun Squared Resid	4005.022	Schwarz criterion		8.644307
Log likelihood	-142.4163	Hannan-Quinn criterion		8.311166
F-statistic	11.50468	Durbin-Watson Stat		2.614754
Prob. (F-statistic)	0.034468			

Source: Computed from E-view

From the error correction model result, the coefficient of the error correction term (i.e., ECM (-1)) has a correct negative sign. It is also statistically significant at the 0.05 level of significance. The coefficient

of the error correction term is -0.010896. The implication is that any disequilibrium in the short-run is reconciled to stable long-run (equilibrium) trend with a speed of adjustment of about one percent within a year.

4.6. Granger Causality Test

The result of the pairwise Granger causality test is presented in table 6.

Table 6: Granger Causality Test Result

Lags: 2

Null Hypothesis	Obs	f-statistic	Prob.
LTGEA does not Granger cause RPOV	38	1.03458	0.3666
RPOV does not Granger cause LTGEA		0.13336	0.8756
LTGERC does not Granger cause RPOV	38	0.10684	0.8990
RPOV does not Granger cause LTGERC		0.45000	0.6415
LTGETC does not Granger cause RPOV	38	2.22971	0.1235
RPOV does not Granger cause LTGETC		0.01878	0.9814
LTGEE does not Granger cause RPOV	38	1.82716	0.1768
RPOV does not Granger cause LTGEE		0.16846	0.8457
LTGEH does not Granger cause RPOV	38	1.28289	0.2907
RPOV does not Granger cause LTGEH		0.77719	0.4679

Source: Computed from E-view

4.7. Post Estimation Tests

Some of the assumptions underlying classical linear regression model (CLRM) are tested in this section. The results and decisions of the tests of these assumptions are presented in table 7. Note that for each of the tests in table 7, the null hypothesis will not be rejected if the estimated probability value is greater than 0.05.

Table 7: Post-Estimation Tests Results

Test	Value	Prob	Decision
Linearity (Ramsey-Reset) Test t-statistic F-statistic	0.127167 0.016171	0.8996 0.8996	Accept (model correctly specified)
Breusch-Godfrey Serial Correlation LM test F-statistic	0.86889	0.67643	Accept (no autocorrelation)
Heteroscedasticity (Breush-Pagan-Godfrey) Test F-statictic	0.761820	0.5834	Accept (residuals have constant variance)
Normality (Jarque-Bera) Test F-statistic	0.546830	0.760777	Accept (data normally distributed)

Source: Computed from E-view

4.8. Discussion of Findings

Estimated Long-Run Regression Result

The estimated long-run regression result indicated that total government expenditure on agriculture, total government expenditure on road and construction, and total government expenditure on health have significant negative impact on rural poverty while total government expenditure on transportation and communication has insignificant negative impact on rural poverty. However, total government expenditure on education has significant positive impact on rural poverty. The negative impact of government spending on agriculture, road and construction, health, and transportation and communication imply they reduce rural poverty. On the other hand, the positive impact of government expenditure on education on rural poverty implies that, instead of alleviating rural poverty, it has aggravated it. The behaviour of government expenditure on education could be attributed to the fact that rural dwellers in Nigeria did not benefit significantly from government provision of educational services and facilities in the country during the period under investigation. It could also be that, due to corruption, the amount of money recorded to have been spent on the education sector was not actually spent. This is evident from the poor state of infrastructure in rural public schools across the country.

Estimated Short-Run Regression Result

The short-run regression result showed that total government expenditure on agriculture in the current period has significant negative effect on rural poverty while its value lagged by two periods has insignificant positive impact on rural poverty. Total government expenditure on road and construction in the current period and its lagged value in period one have insignificant positive impact on rural poverty. Total government expenditure on transportation and communication in the current period has insignificant positive impact on rural poverty while its lagged value in period one has insignificant negative impact on rural poverty. Total government expenditure on education in the current period has insignificant negative impact on rural poverty while its value lagged by one period has insignificant positive impact on rural poverty. Total government expenditure on health in the current period and its lagged value in period one have insignificant negative impact on rural poverty in Nigeria.

The estimated short-run regression also showed that the coefficient of multiple determination (R-squared) is 0.607685. This implies that the explanatory variables jointly account for about 60 percent of the total variation in the dependent variable. In other words, government provision of economic, social and community services explain about 60 percent of rural poverty in Nigeria. The adjusted R-squared is 0.594782. This implies that if additional explanatory variables are introduced to the model, the R-squared will reduce to about 59 percent due to loss of degree of freedom. The adjusted R-squared therefore measures the penalty for including irrelevant variables in the model. The F-statistic is 11.50468 with probability value of 0.034468. This means that the overall estimated regression result is statistically significant at the 0.05 level of significance.

The computed Durbin-Watson statistic is 2.614754. Since the computed Durbin-Watson statistic is greater than two, we conclude that the estimated regression model is not affected by the problem of serial correlation.

5. Conclusions and Recommendations

5.1. Conclusions

Based on the findings of the study, the following conclusions are drawn, that:

1. total government expenditure on agriculture strongly reduces rural poverty in Nigeria;

2. total government spending on road and construction contributes significantly to rural poverty reduction in Nigeria;
3. the contribution of total government expenditure on transportation and communication to rural poverty reduction in Nigeria is insignificant;
4. total government spending on education strongly aggravates rural poverty in Nigeria; and
5. total government expenditure on health makes strong contribution to rural poverty reduction in Nigeria.

5.2. Policy Recommendations

Based on the outcome of the study, the following policy measures are recommended.

1. To reduce rural poverty in Nigeria, there is the need for the government to increase its spending on rural agricultural activities. To this end, the government should assist rural farmers with capital with which to purchase modern implements that will boost rural agricultural productivity. The government should also provide agricultural inputs such as fertilizers, chemicals, high-yielding varieties of crops, and extension services to farmers in the rural areas.
2. There should be an increase in the provision of transportation and communication services to the rural areas by the government.
3. The government should ensure that good network of roads are provided in the rural areas. To this end, a comprehensive rehabilitation of roads in the rural areas to make them motorable at all seasons is necessary.
4. Public schools in the rural areas should be rehabilitated while new ones that will accommodate the increase in the number of school children should be built. Facilities that will enhance learning and teaching should be provided while qualified, adequately trained and properly motivated teachers should be deployed to schools in the rural areas.
5. There is the need for the government to improve the health condition of rural dwellers. This can be achieved through the provision of adequate modern healthcare services and facilities in rural areas. Also, trained medical practitioners should be deployed to healthcare facilities in the rural areas.
6. There is also the need to embark on a comprehensive rural development programme throughout the country. This should include rural electrification, provision of safe drinking water, and improved access to other basic necessities of life.

References

1. Amire, C. M. (2020) impact of health and education expenditure on poverty alleviation in Nigeria. *Caleb International Journal of Development Studies*, 3(1), 199-213.
2. Anyanwu, J. C. (2006). Rural poverty in Nigeria: Profile, determinants and exist paths. *African Development Review, 17*(3), 435-460. https://doi.org/10.1111/j.1017-6772.2006.00123.
3. Apata, T. G., Apata, O. M., Igbalajobi, O. A., & Awoniyi, S. M. O. (2010). Determinants of rural poverty in Nigeria: Evidence from small farmers in South-Western Nigeria. *Journal of Science and Technology Education Research, 1*(4), 85-91.
4. Banerjee, A., & Duflo, E. (2012). *Poor economics: A radical rethinking of the way to fight global poverty*. Public Affairs.

5. Besley, T., & Burgess, R. (2003). Halving global poverty. *Journal of Economic Perspectives, 17*(3), 3-22.
6. Blank, R. (2010). Selecting among anti-poverty measures: Can an economist be both critical and caring? *Review of Social Economy, 61*, 447-469.
7. Central Bank of Nigeria (2022). *2021 annual statistical bulletin*. CBN.
8. Chude, N. P., Chude, D. I., & Anah, S. (2019). The relationship between government expenditure, economic growth and poverty reduction in Nigeria. *International Journal of Developing and Emerging Economies*, 7(2), 1-10.
9. Collier, P. (2009). Macroeconomic effects of oil on poverty in Nigeria. *Institute of Development Studies (IDS) Bulletin, 18*(1), 55-60. https://doi.org/10.1111/j.1759-5436.1987.mp/800/00.
10. Dankumo, A. M., Ishak, S., Bani, Y., & Hamza, H. Z. (2019). The relationship between public expenditure, corruption and poverty in Nigeria. *Journal Ekonomi dan Studi Pembangunan*, 1191, 76-89. http://dx.doi.org/10.17977/umoozv11i2019p076.
11. Davis, E. P. (2007). *A confrontation of economic and theoretical approaches to "ending poverty" in Africa.* Brunel University and London School of Theology, Working Paper.
12. Davis, E. P., & Sanchez-Martinez, M. (2014). A review of the economic theories of poverty. *National Institute of Economic and Social Research (NIESR), Discussion Paper* No. 435.
13. Edeh, C. E., Obi, A., & Obi, C. O. (2018). Impact of education spending on poverty reduction in a democratic dispensation in Nigeria. *International Journal of Economics and Financial Management, 3*(3), 1-9.
14. Elijah, O. A., Okoruwa, V. O., & Ajani, O. I. Y. (2011). Analysis of differences in rural-urban households food expenditure share in Kwara and Kogi States of Nigeria. *Global Journal of Agricultural Sciences, 10*(1), 1-18.
15. Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Princeton University Press.
16. Ewubare, D. B. (2020). Rural household poverty and public spending in Nigeria. *Social Science Review, 1*(1), 19-28.
17. Iorember, P. T., & Jelilov, G. (2018). Computable general equilibrium analysis of increase in government agricultural expenditure on household welfare in Nigeria. *African Development Review, 30*(4), 362-371. https://boi.org/10.1111/1467-8268-12344.
18. Jideofor, N. J., Okafor, M. C., & Ohiorenuan, I. K. (2021). Impact of public capital expenditure on poverty rate in Nigeria. *International Journal Papier Public Review, 2*(4), 46-55. https://doi-org/10.47667/ijppr.vi4.115.
19. Jung, S. Y., & Smith, R. (2007). The economics of poverty: Explanatory theories to inform practice. *Journal of Human Behaviour in the Social Environment, 16*(1-2), 21-39.
20. Kolawole, R. J. (2021). Evaluation of poverty alleviation programmes in Nigeria: The demand driven approach perspective. *International Journal of Development and Management Review, 6*(1), 161-177.
21. Lewis, O. (1965). *The children of Sanchez*. Pengiun.
22. Ndanusa, A. (2019). Public expenditure on education and poverty reduction in Nigeria. *Dutse Journal of Economics and Development Studies*, 8(1), 204-212.

23. Nwani, S. E., & Osuji, E. (2020). Poverty in sub-Saharan Africa: The dynamic of population, energy consumption and misery index. *International Journal of Management, Economics and Social Sciences, 9*(4), 247-270.

24. Nzeribe, G. E., Ezenekwe, U. r., Uzodigwe, A. A. (2022). Empirical analysis of the effect of public health expenditure and out-of-pocket health spending on poverty in Nigeria. *Journal of African Development, 23*(2), 155-186. https://doi.org/10.5325/jafrideve.23.2.0155.

25. Okoye, P. U., Ngwu, C., & Ohaedeghasi, C. I. (2021). The tripartite dynamic relationship between poverty, unemployment and construction sector: Empirical evidence from Nigeria. *Management Dynamics in the Knowledge Economy, 9*(1), 17-38. https://doi.org/10.2478/mdk-2021-0002.

26. Oriavwate, V. E., & Ukawe, A. (2018). Government expenditure and poverty reduction in Nigeria. *Journal of Economics and Public Finance*, 4(2), 156-163. http://dx.doi.org/10.22158/jepf.v4n2p156.

27. Osundina, C. K., Ebere, C., & Osundina, O. A. (2014). Dis-aggregated government spending on infrastructure and poverty reduction in Nigeria. *Global Journal of Human-Social Science: Economics*, 14(5), 1-7.

28. Townsend, P. (1979). *Poverty in the United Kingsom.* Allen Lane and Pengiun Books.

29. Tubotamuno, B., Daso, A., & Obayori, J. B. (2021). Government spending and poverty in Nigeria: A study of education spending. *European Journal of Accounting, Finance and Investment*, 7(12), 12-22.

30. World Bank (1996). *Nigeria-poverty in the midst of plenty: The challenge of growth with inclusion.* World Bank poverty Assessment Report. The world Bank Group.

31. World Bank (2000). *The nature and evaluation of poverty*. World Bank Development Report. The World Bank Group.

32. Yahaya, N. (2016). *The relationship between government expenditure and poverty trends: A study of Nigeria (1965-2014).* A M.Sc Thesis submitted to the Graduate School of Public Administration, Seoul National University.