
DETERMINANTS OF POVERTY LEVEL IN NIGERIA

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Abstract: *Poverty in Nigeria is high and widespread and has been a severe problem to both individuals and successive governments causing socio-economic and political problems in the economy. The study therefore investigates the determinants of poverty in Nigeria. A linear regression model was employed to understand if there is any significant relationship between Poverty level in Nigeria and selected explanatory variables. Employing poverty growth rate as the dependent variable, Income level growth rate, Adult literacy Growth Rate, Government Expenditure on Health Growth Rate and Misery Index Growth Rate were employed as explanatory variables. Unit root test using the Augmented Dickey Fuller test was conducted to test for stationarity among variables employed. The Auto Regressive Distributive Lag Bound Test for Co-integration was also employed while the Granger Causality test was conducted so as to ascertain the causal relationship between variables. The ECM was also conducted. Based on our findings, the study recommends for poverty to be reduced, there should be an improvement in the health sector, a check in the rising inflation and unemployment rate in Nigeria and an improvement in human capital development through formal and informal education.*

Keywords: *inflation, product, macroeconomics, unemployment*

INTRODUCTION

Poverty has continued to receive global in economic and national development programmes of countries because it is an age long phenomenon that besets mankind in our efforts towards development. It has become one of the greatest economic challenges of nations especially underdeveloped and developing countries. Poverty is the state of being poor.

It goes beyond the economic spheres and is a multifaceted concept which affects individuals and the economy socially, economically and otherwise and has been posited by scholars to have contributed to all forms of socio-economic and political problems in economies. It has thus become a major feature of underdevelopment. Based on different country conditions, World Bank (2002) posited that poverty is seen as a pronounced deprivation in well-being, comprising many dimensions which include low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. It also encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of (political) voice, and insufficient capacity and opportunity to better one's life. This thus constitutes a very broad definition which includes the multi-dimensional character of poverty and the somewhat elusive concept of dignity. Sengupta (2003) also posited that poverty is not only a situation of insufficient income to buy a minimum basket of goods and services but also the lack of basic capabilities to live in dignity. It has been posited that poverty has a linkage with known macroeconomic variables, as it has been seen that a sustained economic growth through high labour productivity, improved employment level, low price level and increased real wage is necessary and a pre-requisite for poverty reduction (Kanbur, 2001).

Broadly speaking, poverty has been conceptualized into four categories: lack of access to basic needs; lack of access to productive resources; inability to use common resources and as well as a result of exclusion mechanism (Olayemi, 2012). Poverty is high in majority of the African countries, Nigeria inclusive. It is highly visible in major dwelling communities with peculiar features such as overcrowding of settlements, with little or no basic social services and such environments are marked by unstable social and economic conditions which create vulnerability and social exclusion. Despite the huge wave of globalization which has been posited to contribute towards countries growth scientifically, culturally and economically, recent studies have shown a continuous rise in poverty. For instance, while the number of poor people reduced almost throughout East Asia and Pacific between 1981 and 2002, it increased throughout in Sub-Saharan Africa, (Ezeanyejí and Ozughalu, 2014).

Poverty in Nigeria is high, widespread and pervasive consuming a huge part of the country's large population. It has been reported that 7% of the world poor people live in Nigeria with about 110 million Nigerians recorded as being poor and living below the poverty line both in urban and rural areas (Punch, 2016). Although rich in natural resources, the economy cannot meet the basic needs of the over 190 million citizens despite a continuous positive growth rate of the GDP in recent times and thus causing various socio-economic problems in the country. It has led many Nigerians to attach no value and regard to life itself. Civil unrest stemming from perceived marginalization and continuous increase in unemployment, kidnapping, killings and other social vices due to the inability to afford basic life requirements have become rampant.

Kpakol (2008) posited that the poverty rate was higher in the northern part of the country and based on the six geopolitical zones in the country, 72.2% of the population in the North West are poor, 71.2%, 67%, 26.7%, 35.1% and 43.1% in North East, North Central, South East, South-South and South West respectively were poor. With a continuous increase in the population of the country, poverty eradication has remained a herculean task facing successive government in Nigeria. This has not been helped by policy inconsistencies and high corruption. Successive governments have formulated policies to combat poverty over the years, despite these, the country is plagued by a weak knowledge base and low human capital development

and was ranked 152 out of 187 countries in 2014 by the Human Development Index Report of United Nations Development Programmes (UNDP)

The high poverty rate has been blamed on the civil unrest, political instability, economic mismanagement, high inflation and unemployment rate, income inequality, increasing debt and debt servicing problem amongst others, with accompanying consequences seen as low life expectancy put at 53 years for male and 56 years for female respectively in 2015 (WHO, 2015), low output, high malnutrition and disease due to the inability to afford good food and health care.

Despite employing numerous poverty policies, which should have directly or indirectly contributed to reducing poverty level, it is still worrisome why the level of poverty is still high. This necessitated the study. The study thus aims to investigate what determines poverty level in Nigeria so as to proffer solutions.

CONCEPTUAL FRAMEWORK

Due to the nature of poverty and views of scholars, it has been difficult to agree on a concise and generally accepted definition of poverty. However a common view of poverty is seen as a situation of having insufficient income for securing basic goods and services. This has given rise to academic divide, and as such, poverty has been conceptualized based on views.

Absolute poverty

Absolute poverty is seen as a condition where one cannot afford the requirements needed to maintain healthy living and survive. It is characterized by the state of starvation, malnutrition, disease and lack of medical care, lack of education and access to education and other basic services, inadequate housing, unsafe environments, social discrimination and exclusion. It is a state where one lacks the resources necessary for subsistence. It is thus known as subsistence poverty. Absolute poverty is seen as those living below the poverty line; a line below which poverty begins and above which poverty ends. The World Bank in 1990 posited \$1 a day as the poverty line. With increasing cost of living, it was reviewed and put at \$1.25 (PPP) per day thus anyone who spends less than \$1.25 a day is below the poverty line and thus considered absolutely poor. However, scholars have argued the use of social indicators such as life expectancy, assets, literacy level and infant mortality to measure poverty rather than money metric measures due to its restrictive nature (Sakiru, 2013).

Relative Poverty

Relative poverty involves a relative standard that is standards which are relative to the particular environment. It defines poverty in relation to the economic status of other members of the society. It generally refers to the phenomenon of relative deprivation. People are seen as poor if they fall below prevailing standards of living in a given societal context. It thus posits that individuals are perceived as poor when compared relatively to other household in their society. Relative poverty therefore involves the inability to reach a minimum accepted standard of living in a particular society (UNDP, 2003).

Poverty Trap

Poverty trap involves a self-reinforcing mechanism which causes poverty to persist in a

cyclical pattern leading to even more poverty with generations trapped in a constant state of poverty. It is so binding in itself that it doesn't allow the poor people to escape it and visible in developing and under-developing countries. Several factors have been posited to cause poverty trap viz; lack of capital and credit to people, extreme environmental degradation (which depletes agricultural production potential), corrupt governance, violence, capital flight, poor education systems, disease, lack of public health care, war, poor infrastructure etc.

THEORETICAL FRAMEWORK

Individualistic Theory of Poverty

The theory posits that individuals are the poor due to their own doing. People are poor due to their laziness, illiteracy, teen parent, single female headed family etc thereby limiting their ability to strive and compete for opportunities eventually allowing poverty to become their way of life which is inadvertently passed down from one generation to the next (Sameti et al, 2012). The theory is built on the assumption that both the poor and the rich have different pattern of values, beliefs, and behavioral norms term was first used by Oscar Lewis in 1966 in his study on poverty in Mexico and Puerto Rico in 1961 and 1966.

Structural Theory of Poverty

The structural theory contends that the overall level of a nation's structure and demographic conditions put the people at risk of being poor or not. Beeghley (2000) posited that irrespective of individual effort, the structures that are inherent in a nation determine the position of a nation. The theory posits that the structural organization of the nation determines the poverty level. The structural theory sees poverty in the system as a result of capitalism whereby production is profit oriented and the outcome of such economic structure irrespective of people's effort (hard work, skills) is increased poverty amongst the people. In other words, a persistent defect in the economic structures in the nation causes poverty. Failure here involves improper or inefficient government policies and programmes as well as corruption in government can cause poverty.

Human Capital Theory

The importance placed on the set of skills workers are equipped with gave rise to the development and spread of human capital theory (Becker, 2010). Human capital entails the process of equipping individuals with education, skills and health for increased productivity. Schultz contends that schooling and training are investment and lead to an upward shift in individual's output. Todaro & Smith (2011) asserted that investment in human capital can improve people's quality thereby having a positive impact on the production of goods and services and inadvertently reduce poverty. It is the variation in the combination of intelligence, environment and education at the individual level that can account for most of the variation in the distribution of personal earnings. Education and training not only promote growth and efficiency but reduces inequality, poverty and the impact of disadvantaged backgrounds. Human capital has thus been seen as a most effective way for people with poor background to rise in the economic hierarchy. Education of parents tends to improve the treatment of

children; educated persons tend to invest more in schooling and health, food intake thereby improving life expectancy, innovation and thus escaping the poverty trap.

Machin (2009) posited that poor individuals and households do not invest substantially in education. The recommendation that stems from investment in human capital as it relates to poverty posits that people's wages and incomes cannot be equal due to varying and superior abilities. However, investing in the education by the poor and persons with less ability can improve their ability and level of thinking and will eventually improve their potentials.

METHOD OF STUDY

The method employed in the study is the Error Correction Model (ECM). In order to investigate the determinants of poverty in Nigeria and due to the availability of data, the growth rate of the annual time series data of variables employed were estimated and covers the period 1991 - 2015.

The long run model is specified thus:

$$POVGR = f(GDPGR, LITGR, GEHGR, MIXGR)$$

Econometrically, the model becomes

$$POVGR = \beta_0 + \beta_1 GDPGR + \beta_2 LITGR + \beta_3 GEHGR + \beta_4 MIXGR + \mu$$

Where

POVGR = Poverty Level Growth Rate proxied by Poverty Head Count Growth Rate

GDPGR = Gross Domestic Product Growth Rate proxy for Income level

LITGR = Adult literacy Growth Rate

GEHGR = Government Expenditure on Health Growth Rate

MIXGR = Misery Index Growth Rate

μ = Error term

The apriori expectations for the coefficients are as follows:

$$\beta_0 > 0; \beta_1 < 0; \beta_2 < 0; \beta_3 < 0; \beta_4 > 0$$

The research made use of the Unit Root Test to test the stationarity properties of time series data so as to overcome the problem of spurious correlation associated with non-stationary time series data. The Autoregressive Distributed Lag (ARDL) bounds test approach was employed as against the Johansen Co-integration method which uses a system of the equation to estimate long run relationship. The ARDL was employed so as to check the problem associated with determining short time series data (Green, 2008). The method can also test for Co-integration among variables regardless of whether the underlying variables achieved stationarity at level or order one. The Long run estimate of variables was established while the ECM technique was employed to shows how quickly the variables converge to equilibrium and should be statistically significant and negative.

ANALYSIS OF RESULT

Unit Root Test

Variable	ADF Test Statistic.	Critical values 1%	Critical values 5%	Critical values 10%	Prob.	Order of integration
POVGR	-5.234788	-3.737853	-2.991878	-2.635542	0.0003	I(0)
GDPGR	-5.901094	-3.752946	-2.998064	-2.638752	0.0001	I(1)
LITGR	-5.201648	-3.831511	-3.029970	-2.655194	0.0006	I(1)
GEHGR	-4.063701	-3.737853	-2.991878	-2.635542	0.0047	I(0)
MIXGR	-4.633101	-3.831511	-3.029970	-2.655194	0.0019	I(0)

Author's computation from output

The dependent variable poverty growth rate (POVGR) was stationary at level in the ADF test conducted. All explanatory variables GDP growth rate (GDPGR), literacy growth rate (LITGR), government expenditure on health growth rate (GEHGR) and misery index growth rate (MIXGR) were all stationary at first differencing. Thus the variables under study were integrated at either I(0) or I(1). Based on the order of integrations, the use of the ARDL approach to detecting the long run relationship becomes justified.

Lag Selection Procedures

The choice of lag length was based on Akaike information criterion (AIC), Schwarz information criterion (SC) and Hannan-Quinn information criterion (HQ). This is important because computing ARDL F statistic is very sensitive to lag order selection. The table below showed that lag at level was selected based on the SC (Pesaran, Shin & Smith, 2001).

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-56.46809	NA	*12.3570	*5.34505	*5.59189	*5.40713
1	-56.46388	0.006216	13.54623	5.431642	5.727858	5.506139
2	-55.77533	0.957984	14.02386	5.458724	5.804309	5.545638

* indicates lag order selected by the criterion

Where: LR: Sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

ARDL Bound Test for Cointegration

Dependent Variable: D(POVGR)				
Method: Least Squares				
Sample (adjusted): 1992 2015				
Included observations: 24 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.398660	2.140848	-0.653320	0.5241
D(GDPGR)	0.392628	0.297446	1.319997	0.2080
D(LITGR)	0.204446	0.166305	1.229340	0.2392
D(GEHGR)	-0.083753	0.028721	-2.916080	0.0113
D(MIXGR)	0.050865	0.020209	2.516980	0.0246
POVGR	0.799129	0.229757	3.478153	0.0037
GDPGR	0.023992	0.250855	0.095641	0.9252
LITGR	-0.080126	0.266728	-0.300402	0.7683

GEHGR	0.061984	0.051417	1.205524	0.2480
MIXGR	0.001100	0.031615	0.034783	0.9727
R-squared	0.825192	Mean dependent var		0.233706
Adjusted R-squared	0.712815	S.D. dependent var		5.943176
S.E. of regression	3.184928	Akaike info criterion		5.449073
Sum squared resid	142.0127	Schwarz criterion		5.939929
Log likelihood	-55.38888	Hannan-Quinn criter.		5.579297
F-statistic	7.343077	Durbin-Watson stat		1.761451
Prob(F-statistic)	0.000568			

Author's computation from output

F Statistic is significant at 5%. For ARDL test critical values for unrestricted intercept and no trend under 5 variables at 5% significance level are 2.62 – 3.79 (Peseran et al, 2001). The calculated F stat is greater than the upper bound value; therefore there is a long term or co-integration between poverty growth and other variables.

Granger Causality Test

Pairwise Granger Causality Tests			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
GDPGR does not Granger Cause POVGR	23	1.34921	0.2845
POVGR does not Granger Cause GDPGR		7.61624	0.0040
LITGR does not Granger Cause POVGR	23	0.09316	0.9115
POVGR does not Granger Cause LITGR		0.01292	0.9872
GEHGR does not Granger Cause POVGR	23	0.89904	0.4245
POVGR does not Granger Cause GEHGR		0.56774	0.5766
MIXGR does not Granger Cause POVGR	23	0.67056	0.5237
POVGR does not Granger Cause MIXGR		4.46330	0.0267
LITGR does not Granger Cause GDPGR	23	1.38589	0.2755
GDPGR does not Granger Cause LITGR		0.50750	0.6104
GEHGR does not Granger Cause GDPGR	23	0.73207	0.4947
GDPGR does not Granger Cause GEHGR		1.19684	0.3251
MIXGR does not Granger Cause GDPGR	23	0.95872	0.4021
GDPGR does not Granger Cause MIXGR		0.43378	0.6547
GEHGR does not Granger Cause LITGR	23	0.19244	0.8266
LITGR does not Granger Cause GEHGR		0.66216	0.5279
MIXGR does not Granger Cause LITGR	23	0.69439	0.5123
LITGR does not Granger Cause MIXGR		0.09901	0.9062
MIXGR does not Granger Cause GEHGR	23	0.58488	0.5674
GEHGR does not Granger Cause MIXGR		4.49819	0.0260

Author's computation from output

The result revealed no bidirectional relationship among variables, rather it revealed

three unidirectional causal relationships running from POVGR to GDPGR, POVGR to GEHGR and GEHGR to MIXGR.

Long run Estimates

Dependent Variable: POVGR				
Method: Least Squares				
Sample: 1991 2015				
Included observations: 25				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.033027	1.578263	0.020926	0.9835
GDPGR	0.208638	0.214999	0.970413	0.3434
LITGR	0.092373	0.144300	0.640149	0.5293
GEHGR	-0.081096	0.026874	-3.017658	0.0068
MIXGR	0.039834	0.018824	2.116087	0.0471
R-squared	0.357896	Mean dependent var	-0.164253	
Adjusted R-squared	0.229476	S.D. dependent var	4.001170	
S.E. of regression	3.512207	Akaike info criterion	5.527223	
Sum squared resid	246.7120	Schwarz criterion	5.770998	
Log likelihood	-64.09029	Hannan-Quinn criter.	5.594836	
F-statistic	2.786906	Durbin-Watson stat	1.596516	
Prob(F-statistic)	0.050553			

Author's computation from output

The above discloses the relationship between poverty level as the dependent variable and the explanatory variables. Restating the apriori expectation, a negative sign is expected between the dependent variable (POVGR) and explanatory variables GDPGR, LITGR and GEHGR while a positive sign is expected between POVGR and MIXGR.

From the result obtained, according to economic theory, an increase in government expenditure on health (GEH), will improve the health sector, which will in turn give the masses access to good health and will directly or indirectly improve their ability to escape poverty as a healthy man is more productive and industrious than an unhealthy one. Also, an increase in misery index (unemployment and inflation) negates on the people further pushing them into poverty. The coefficient of GEHGR -0.081096 shows that a 1% increase in GEH will lead to a decrease in poverty level by 0.08, while the coefficient of MIXGR shows that a 1% increase in misery index leads to an increase in poverty level by 0.039834. The R^2 of 0.357896 indicates that about 36% of total variation in the dependent variable is explained by the explanatory variables, other variables not included but captured by the stochastic term explains the remaining 64%.

Error Correction Model

Dependent Variable: D(POVGR)
Method: Least Squares
Sample (adjusted): 1993 2015

Included observations: 23 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.271070	1.004182	0.269941	0.7907
D(POVGR(-1))	0.352262	0.376336	0.936032	0.3632
D(GDPGR(-1))	0.196762	0.473270	0.415750	0.6831
D(LITGR(-1))	-0.180626	0.155016	-1.165208	0.2610
D(GEHGR(-1))	0.079957	0.042398	1.885881	0.0776
D(MIXGR(-1))	-0.042414	0.031365	-1.352283	0.1951
ECM(-1)	-1.226783	0.449017	-2.732150	0.0148
R-squared	0.555226	Mean dependent var		0.122973
Adjusted R-squared	0.388436	S.D. dependent var		6.051379
S.E. of regression	4.732332	Akaike info criterion		6.192504
Sum squared resid	358.3195	Schwarz criterion		6.538089
Log likelihood	-64.21379	Hannan-Quinn criter.		6.279417
F-statistic	3.328893	Durbin-Watson stat		2.300974
Prob(F-statistic)	0.025330			

Author's computation from output

The result from the parsimonious model above revealed that the LIT was rightly signed but not significant. The determinant of correlation (R square) revealed that 55.5 percent changes in poverty level in Nigeria are explained by the explanatory variables in the model. The F stat is significant at 5 percent level, showing the entire model is fit. The ECM bears the right sign, this shows that the speed of adjustment from short run to long run is 27.3% annually and it is significant at 5 percent level, showing that the model quickly adjusts to long run dynamics.

Conclusions

The aim of the study was to ascertain the determinants of poverty in Nigeria. The result showed that the variables exhibited various levels of stationarity and had long run relationship. Diagnostic test were favourable. In the short run, literacy level conformed to expectation but was insignificant. However, in the long run, the study revealed that the explanatory variables: Government Expenditure on Health and Misery Index conform to apriori expectation and were significant. It is therefore pertinent to conclude that some of the explanatory variables employed in the study play a role in determining the poverty level in Nigeria. Based on the result, the following recommendations are made:

There is a need for a sustained improvement in the health sector such that quality health services should be available to the people at affordable prices, as a healthy man is more productive than an unhealthy one and would aid in poverty reduction.

There should be productive measures to check the high inflation and unemployment rate in Nigeria. Employment increases the purchasing power of Nigerians which inadvertently equip them with financial resources to tackle poverty associated symptoms such as hunger, shelter etc.

Finally, measures should be put in place to encourage both formal and informal education. This will boost human capital development which in turn will improve individual's productivity.

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