The Poverty-Economic Growth Nexus in Nigeria (1981-2012)

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Abstract

This paper employs quantitative research methodological framework to question the extent to which poverty affects economic growth in a developing economy like Nigeria. It draws econometric method specifically on unit root test, co-integration test and regression analysis to find the relationship between Real Gross Domestic Product (a proxy for growth) on the one hand and per capita income, unemployment rate, government expenditure on health, government expenditure on education, government expenditure on transportation and communication and government expenditure on agriculture on the other hand. Finding from the study reveals a negative relationship between poverty and economic growth in Nigeria. This implies that decreasing poverty would increase economic growth. The paper also finds that various government policies aimed at addressing equitable distribution of income, domestic macroeconomic management and an acceptable revenue sharing formula, failed to yield the desired result of alleviating poverty in Nigeria primarily due to lack of concerted efforts of responsible agencies, institutional malpractices and the gap between poverty alleviation programmes and the grass roots. In conclusion, the paper recommends effective policy formulation and implementation that would improve transparency and accountability, promote pro-poor growth, among others by the government to address poverty in Nigeria.

I. INTRODUCTION

Poverty remains one of the most challenging features of the developing countries to which Nigeria belongs. It is a scourge that has eaten so deep into the fabrics of the Nigerian populace. Omonona (2010) contends that the major causes of Nigeria's poverty go beyond low incomes, savings, and growth - which are usually associated with the features of developing countries poor. Causes of poverty include high level of inequality attributable to unequal access to income opportunities, basic infrastructure, poor education and health status. Moreover, it is an established fact that Nigeria is among the most endowed countries in terms of human, material and mineral resources in the world but yet is rated the one of the poorest countries world-wide (ibid).In the words of Abiola and Olaopa (2008), the scourge of poverty in Nigeria is an incontrovertible fact, which results in hunger, ignorance, malnutrition, disease, unemployment, poor access to credit facilities, and low life expectancy as well as a general level of human hopelessness.

In describing the human and social ills of poverty, Akanbi (2012) submits that poverty could constrain the creative ability of man and make him think of just mere existence which in

some circumstances he even fails to barely obtain. The scholar argues that poverty could rob man of his self-worth/esteem, and even spur man into all forms of illegal acts to keep body and mind together (ibid). In a different context, Amakom (2011) records that poverty in Nigeria has many dimensions and includes inadequate access to government utilities and services, environmental issues, poor infrastructure, illiteracy and ignorance, poor health, insecurity, social and political exclusion.

However, development economists are divided in terms of the conflict which exists between poverty reduction and economic growth. While some scholars argue that measures aimed at salvaging poverty such as income redistribution from the rich to poor are anti-growth given that the poor spend more of additional income on consumption than on savings, other critics argue that the existence of poverty is not friendly for economic growth. The critics contend that being poor implies that those affected by poverty are not contributing their potential quota to national income. This can be attributed to certain deprivations such as access to credit to invest in income earning ventures and in human capital, that is, education/skill acquisition (Todaro & Smith, 2011).

Therefore, the objective of this paper is to investigate the nexus between poverty and economic growth in Nigeria. The rest of the study is structured as follows: section 2 presents a review of theoretical and conceptual linkages between poverty and economic growth. Section 3 captures the analyses of poverty profile and macroeconomic performance in Nigeria while section 4 presents the methodology that governs the paper. Section 5 highlights the result and data analysis while section 6 concludes the paper.

II. THEORETICAL AND CONCEPTUALLINKAGES BETWEEN POVERTY AND ECONOMIC GROWTH.

Despite pluralistic theories of inequality, there is no comprehensive theory of poverty in Economics (Akeredolu-Ale, 1975, Bakare, 2004, Osahon & Osarobo, 2011). While drawing on Tella (1997), Osahon and Osarobo (2011) discover that poverty theories are woven around the objects and subjects, as well as the nature of the phenomenon. However, this paper will explore capitalist entrepreneurial theory, national- circumstantial theory, Bradshaw theories of poverty and Nurke poverty trap to thumbprint theoretical thoughts that have shaped poverty over time.

First, the capitalist entrepreneurial theory opines that the rather crude exploitation of the poor by means of low wages and poor conditions of services allows for a possible rise in savings among the entrepreneurial class. The resultant inequality in income could result in the preponderance of poverty among the peasant majority.

The individual attributes theory, on the other hand, posits that an individual's location in the society's hierarchy of income and wealth is presumed to be determined above all, by his motivations, attitudes and abilities (McClelland, 1961; Hagen, 1962).

The national-circumstantial theories identify factors such as geographical locations and natural endowments of the environment in which persons live including such other variables as unemployment, old-age, physical disabilities, as culprit of poverty (Akeredolu-Ale,1975). The power theory recognizes the structure of political power in the society as the main determinant of the extent and distribution of poverty among the population.

Bradshaw (2006) identified five theories that make up the bulk of the poverty literature.The first theory which is known as the individual theory of poverty is a large and multi-faceted set of explanations that focus on the individual as responsible for their poverty situation. Individuals in poverty are regarded as architect for creating their own problems and the writer argued that with harder work and better choices, the poor could have avoided (and now can remedy) their problems. Other variations of the individual theory of poverty ascribe poverty to lack of genetic qualities such as intelligence that are not so easily reversed. The

second theory of poverty has its root cause in the "Culture of Poverty." The theory suggests that poverty is created by the transmission over generations of a set of beliefs, values and skills that are socially generated but individually held. Individuals are not necessarily to blame because they are victims of their dysfunctional subculture or culture (Bradshaw, 2006). The third theory is a progressive social theory where the theorists look not to the individual as a source of poverty but to the economic, political and social systemwhich causes people to have limited opportunities and resources with which to achieve income and well-being. Nineteenth century social intellectuals like Marx and Durkheim showed how the economic and social systems overrode and created individual poverty (Bradshaw, 2006).The fourth theory is based on poverty caused by geographical disparities. The theory calls attention to the fact that people, institutions, and cultures in certain areas lack the objective resources needed to generate well-being and income, and that they lack the power to claim redistribution. Framings of the underlying problem are found in expressions like: rural poverty, ghetto poverty, urban disinvestments, Southern poverty, Third world poverty, and so on.

The Nurkse' poverty trap model illuminates the notion that in poor countries poverty as under-*consumption* results from underproductionof material commodities. Nurkse identifies the lack of real capital as the main bottleneck in economicdevelopment. Lack of real capital is both the starting point and the end of a causal chain.Nurkse analyses the deficiency of real capital both from the supply side and from thedemand side. The supply of capital is determined by the ability and the desire to save. In poor countries saving is restricted due to low income, which mainly has to be used for consumption. In addition, low income countries save little because of the *demonstrationeffect* not only valid inside a country, but also between countries: higher standards of living elsewhere encourage levels of consumption which are higher than feasible. Low income, on the other hand, results from low labour productivity, which again is a result of deficient capital. Thus the circle is closed on this side. The demand for capital depends on the propensity of enterprises to invest. They invest little in a country with low purchasing power, which is the case, as the real income is low – thus closing this part of the circle. The system's condition thus described has two characteristics: the economy is in a state of stable equilibrium, and the equilibrium is sub-optimal. *Nurkse chose the term underdevelopment equilibrium, analogously to the underemployment equilibrium analysed by Keynes. We may also call it a 'poverty trap'*, as no endogenous forces exist to overcome poverty (ibid).

LINKAGES BETWEEN GROWTH AND POVERTY

According to Herrick and Kindleberger (1983) economic growth involves the provisions of inputs that lead to greater outputs and improvements in the quality of life of a people. Jhingan (1985) refers to it as a quantitative and sustained increase in a country's per capita output or income accompanied by expansion in its labour force, consumption, capital and volume of trade and welfare (see also Thirlwall 1972). According to Todaro (1977) and the World Bank (1997) to determine the growth of any country's economy certain indicators are usually taken into consideration. These indicators include: (i) the nation's Gross Domestic Product (GDP); (ii) the nation's per capita income (iii) the welfare of the citizens; and (iv) the availability of social services and accessibility of the people to these services. Gross Domestic Product refers to the total output of final goods and services produced in a country during any given period of time by residence of a country irrespective of their nationality.

Per capita income is the total national income divided by the population of a country. Welfare is usually determined by the increased and sustained flow of goods and services consumed by the people with the resultant effects of an increase in life expectancy at birth, reduction in infant and maternal mortality. Availability of and accessibility to social services

include health care services, education and clean water. (see also Thirlwall 1972; Meire 1982; World Bank 2005). According to Calamitsis (1999), Hernandez-Cata (1999) Ouattara (1999) and Dollar and Kraay (2001) the progress in the above indicators are better determined by the following factors; good rule of law, a well- defined property rights for landholders and informal entrepreneurs, openness to international trade, developed financial markets that strengthens savings mobilization and intermediation and promote sound banking systems, macroeconomic stability, moderate size of government, political stability and security of life, a capable and efficient civil service, a transparent and predictable and impartial regulatory and legal system, and good governance with emphasis on tackling corruption and inefficiency and on enhancing accountability.

Following Neo-classical theory, Atoloye (1997) discovers that the progress in these indicators is also determined by a stable macro-economic environment and with the right combination of factors of production most especially labour and capital. Thus, the standard neo-classical model begins from the premise of a fixed technological co-efficient and elasticities of labour and capital that can be altered depending on the combination of the two factors. The state of evolution of technology alters the value of the constant co-efficient at any point in time. The capital component is made up of the stock of human and physical capital. The more the output given to the right combination of basic factors of production; the more the possibility of extending supply beyond the frontiers of economic requirements. The production function in the neo- classical growth model is therefore given as:

$$Y = A^{\mu}K^{\alpha} L^{1-\alpha}$$

Where:

Y = Gross Domestic Product

K = the stock of human and physical capital

L = unskilled labour used in production 1- = the parameters that represent technology

A = constant reflecting the initial static endowment of capability

u = the rate of evolution of technology

As a poverty reduction mechanism higher technological capabilities will permit greater amount of output from any given level of input, while the increase in output permitted by improved technology will go along way to increase standard of living of the people and thereby reduce poverty. Atoloye (1997) further stated that economic growth enhancing strategies such as import substitution and export-led growth strategies are also important for poverty reduction. For instance, the emphasis on export-led growth is in the pursuit of the international competitiveness which makes it possible for a country to control its domestic production process, increase productivity and generate surpluses which are transmitted across its national borders in return for foreign exchange. The maintenance of the tempo in addition to development of adequate human capital would help to accelerate and sustain income level and enables man to take control of his environment and pave the way for sustainable poverty reduction.

The economic growth approach is based on the assumption that economic deprivation caused by lack of access to property, income, assets, factors of production and finance are the root cause of all poverty and that non-economic causes of poverty are only secondary arising from the primary economic causes. Attention is therefore focused on rapid economic growth as measured by rate of growth in real per capita or per capita national income, price stability and declining unemployment, among others. All these are to be attained through proper harmonization of monetary and fiscal policies. Furthermore, National Bureau of Statistics, NBS, stated that the approach could work through trickle-down effects, which holds that as economic growth continues the effects will progressively trickle down to the core poor and most disadvantaged in the society (FOS, 1996).

Economic growth can reduce poverty through two channels; (i) when there is increase in employment and improvement in the opportunities for productive activities among the poor. This suggest that growth that emphasized labour-intensive strategy is generally more effective in reducing poverty than growth that is biased against export; (ii) when economic growth is associated to increase in productivity it will improve wages and under most circumstance the poor segments of the society will see an improvement in their living condition. This form of approach (economic growth approach) is evidentin most East Asian countries (examples are Japan, Hongkong, South Korea, Malaysia, Singapore and Indonesia), which given the remarkable increase in their GDP, per capita income, welfare and improvement in the quality of their social services, inequality and poverty have decreased (Edwards, 1995).

III. POVERTY PROFILE AND MACROECONOMIC PERFORMANCE IN NIGERIA

Available data on the magnitude of poverty in Nigeria has been on the increase since the 1980s. As reported by the UNDP (2011), between 1980 and 1996, the percentage of the core poor rose from 6.2 percent to 29.3 percent, and declined to 22.0 percent in 2004. According to Omotola (2008), about 70% of the population now lives in abject poverty.

As noted by Omotola (2008), Nigeria is richly endowed and the country's wealth potentials manifest in the forms of natural, geographical, and socioeconomic factors. With this condition, Nigeria should rank among the richest countries of the world that should have no business with extreme poverty. Looking at the records from the Federal Office of Statistics, Garba (2006) reveals that about 15 percent of the population was poor in 1960; the figure rose to 28 percent in 1980 and, by 1996, the incidence of poverty in Nigeria was 66 percent or 76.6 million people. Garba (2006) equally remarks that the UN Human Poverty Index, in 1999, placed Nigeria among the 25 poorest nations in the world.

According to the UNDP 2011, anybody living on less than US$1 a day is living below the poverty line and is suffering from deprivation characterized by low calorie intake, poor housing condition, inadequate health facilities, poor quality of educational facilities, low life expectancy, high infant mortality, low income, unemployment and underemployment Nwaobi (2003). As observed by Garba (2006), the world's per capita income as of 2003 was $7,140. Compared to this, Nigeria's per capita of $290 makes the country one of the poorest in the world. This relegated Nigeria to the ranks of Togo ($270), Rwanda ($220), and Mali ($210). Other indicators of development, such as life expectancy, for which Nigeria is ranked 155th out of the world's 177 countries, and infant mortality, for which Nigeria is ranked 148th among 173 countries, were consistent with Nigeria's low rank in income per capita (CIA, 2009). Based on these empirical data, Nigeria has been classified as a poor nation; a situation which can be described as

In terms of the human development index, Nigeria is ranked 158th of the 159 countries surveyed in 2005 (CIA, 2009). Using selected world development indicators, the life expectancy at birth in 2006 for male and female in Nigeria was 46 and 47 years, respectively. Between 2000 and 2007, 27.2 percent of children under five were malnourished. This is alarming compared to 3.7 percent between the same periods in Brazil, another emerging economy. Worse still, the mortality rate for children under five years old is given as 191 per 1,000 births in 2006. This situation is very ridiculous compared to the figures of 69 per 1,000 births in South Africa, 108 per 1,000 births in Togo, 120 per 1,000 births in Ghana, and 149 per 1,000 births in Cameroon (World Bank, 2011). This implies that there is a generalized high level of poverty in the country. An analysis of the context reveals that poverty holds sway in the midst of the plenty. Nigeria is the eighth largest oil producing country in the

world, but it harbours the largest population of poor people in sub-Saharan Africa and is ranked 158th on the human development index. Presently, Nigeria produces more than two million barrels of crude oil a day. (CIA 2009).

TABLE 1: NIGERIA POVERTY PROFILE

Year	Poverty Incidence (%)	Estimated population (million)	Population in poverty (million)
1980	27.2	65	17.1
1985	46.3	75	34.7
1990	42.7	91.5	39.2
1995	65.6	102.3	67.1
2000	70.6	115.8	69.1
2005	54.4	126.3	68.7
2010	56.6	148.2	77.1
2012	69	163	112.47

Source: National Bureau of Statistics, 2012.

The National Bureau of Statistics in its poverty report says 69 percent of all Nigerians made less than $1 a day in 2010. This is 10 percent higher than the last poverty study in 2012, and the report notes that income inequality has also increased since then. The poverty incidence which was 27.2% in 1980 rose to 46.3% in 1985. It dropped marginally to 42.7% in 1992 but rose to 65.6% in 1996. By 2010, the poverty incidence in Nigeria was 69%, while it increased to 69% in 2012.The rising poverty trend according to Sule (2012) is traceable to people orientation about governance.

Table 2: Poverty level %

Year	National	urban	Rural	male headed household	female headed household	estimated population (million)	population in poverty (million)
1985	**28.1**	**17.2**	**28.3**	**29.2**	**26.9**	**65**	**17.7**
1995	**46.3**	**37.8**	**51.4**	**47.3**	**38.6**	**75**	**34.7**
1999	**42.7**	**37.5**	**46.0**	**43.1**	**39.9**	**91.5**	**39.2**
2006	**65.5**	**58.2**	**69.8**	**66.4**	**58.5**	**102.3**	**67.1**
2011	**54.4**	**43.2**	**63.3**	**58.2**	**43.5**	**126.3**	**68.7**

Source: federal office of statistics 1999 and 2011.

From above, the incidence of poverty increased during the period 1985- 2006, however, there was a decline in poverty level between 1995 and 1999. The proportion of people living in poverty in 1985 was 28.1% which later rose to 46.3% in 1985, but decreased to 42.7% in 1999 before escalating to 65.6% in 2006. Nevertheless, the proportion of people living in poverty declined to 54.4% in 2011 (Bello, 2007).

This translated to 17.7 and 34.7 million poor people in 1985 and 1995 respectively. The number of people in Nigeria also increased from 39.2million people in 1999 to 67.1 million people in 2006 and 68.7million poor people in 2011. In spite of the observed drop in poverty in 1999 and 2011, the population in poverty was 4.5 million higher than the 1995 figure and 1.6 million higher than that of 2006 figure respectively (federal republic of Nigeria, 2011).

The reduction in poverty level to 54.4% is traceable to reforms introduced to alleviate poverty since the declaration of the MDGS in September, 2000 (Kankwanda, 2002).

Table 3: Average Growth Profile of Poverty, Unemployment and other Variables

Year	Poverty	Umemploy	Agric	Manuf	Services	Populatn	Inflatn
1987-1991	44.0	4.6	4.4	6.9	8.7	164.3	27.4
1992-96	54.3	3.0	2.8	-2.8	3.5	2.9	51.3
1997-2001	67.4	10.2	4.1	1.5	10.7	2.9	10.2
2002-2006	57.4	13.0	16.6	9.3	11.5	3.5	13.6
200-11	60.0	18.5	6.2	8.3	29.1	3.2	10.8

Source: CBN (2010); CBN Annual Report and Statement of Account (various issues)

Table 3 also revealed that between1987-1991, agricultural contribution to real GDP was 4.4 percent, manufacturing 6.9 percent and services sector averaged 8.7 percent. During the 1991-96, the real sector contributions declined to 2.8 percent for agriculture, -2.8 percent for manufacturing while services sector averaged 3.5 percent. In 1997-2001, the contribution of the agricultural sector to real GDP was 4.1 percent, manufacturing 1.5 percent and 10.7 percent for the services section. An increase in the real sector contributions between 2002 and 2006 recorded 16.6 percent for agriculture, 9.3 percent for manufacturing and 11.5 percent for services sector. In the final period, there was a decline in contributions to real GDP from agriculture and manufacturing while services sector recorded an increase. Thus, agricultural sector contribution was 6.2 percent, 8.3 percent for manufacturing and 29.1 percent for services sector. It can also be seen from table 2 that average population and inflation growth rates for the period 1987-1991 was 164.3 and 27.4 percent respectively. During the 1992-96, average population growth declined to 2.9 percent while inflation increase to 51.3 percent and between 1997-2001, population growth remained the previous level while inflation rate declined to 10.2 percent. In 2002-06 periods, average population growth was 3.5 percent and 13.6 percent for inflation. Finally, in 2002- 2011, average population and inflation growth declined marginally to 3.2 and 10.8 percent respectively CBN (2010).

IV. METHODOLOGY

The research methodology used in this research work is quantitative. This methodological framework is adopted because Real Gross Domestic Product (GDP), per capita income, education, health, agriculture, transport and communication are macroeconomic variables which are better analyzed in terms of aggregates. The rest of the section covers: methods, sources of data, model specification, results and analysis.

Methods

The method of analysis in this study is econometric technique. The study draws on time series data for collecting data on the Gross Domestic Product (GDP) and macroeconomic variables such as, poverty rate, per capita income, government expenditure on education, government expenditure on health, government expenditure on agriculture, government expenditure on transport and communication. Ordinary Least Square (OLS) technique, unit root test and co integration are used to estimate the coefficients of the model in this paper. The time series data covers span between 1981 and 2012.

Sources and Analysis of data

The data for this paper were obtained from secondary sources, specifically from Statistical Bulletin: a publication of the Central Bank of Nigeria, National Bureau of Statistics and websites of various international economic institutions. These data were analyzed using the Ordinary Least Square (OLS) technique, Unit Root Test and Co integration test with the aid of Eview7 Statistical package.

Model Specification

The model specification pictures an analytical framework in the form of a regression analysis, in which we are assuming a functional relationship in a form that is estimable between RGDP, and the explanatory variables.In the course of model specification, the paper reflects on the empirical works of Osahon and Osarobo[1] (2011), Ijaiya, et al[2] (2011) and Aiyedogbon[3] (2012). The empirical contributions of these scholars were combined in order to arrive at the modified model used in this paper which is captured below:

RGDP=f(POV,GEOE,GEOH,PCI,UER,GOA,GETC)……(1)

Taking the natural logarithm of both sides, the model produces a linear equation of the form:
LogRGDP = f(LogPOV, LogGEOE, LogPCI, LogGEOH, LogUER, LogGOA, LogGETC)…….. (2)

By rewriting the model, it becomes:

LnGDP = Lnα_o + α1LnPOV + α2LnGEOE α3LnPCI + α4LnGEOH + α5LnUER + αLnGOA+

[1]Osahon and Osarobo (2011) empirically assessed the relationship between poverty, income distribution and the growth of the Nigerian economy, using co-integration technique, and unit root and error correction mechanism.The authors specify functional relationship between RGDP and its associated independent variables

[2]Ijaiya et al (2011) used multiple regression analysis to examine the impact of economic growth on poverty reduction in Nigeria by taking into consideration a time subscript and a difference-in-difference estimator that describes poverty reduction as a function of changes in economic growth.In specifying the model emphasis was placed on whether the nation's economic growth has any significant influence on poverty reduction

[3] In estimating the model, the scholar used the Cochrane Orcutt Iterative method where the dependent variable for the study was the incidence of poverty (PGR) while independent variables include growth rate of unemployment (UNM), growth rate of agricultural contribution to real GDP (AGR), growth rate of manufacturing contribution to real GDP (MNR), growth rate of services sector contribution to real GDP (SVC), growth rates of population and inflation. In order to achieve better results, only three variables were logged and they included poverty, agricultural and manufacturing sectors.

α7LnGETC + Et……. (3)

After introducing the error correction model taking the stationarity test into consideration, the model used is transformed into;

$$\mathbf{RGDP_{t-2} = \beta_0 + \beta_1 GOEH + \beta_2 GOED_{t-1} + \beta_3 GOA + \beta_4 GETC + \beta_5 PCI_{t-1} + \beta_6 POV_{t-2} + \beta_7 UER_{t-1} + \beta_8 ECM_{t-2} + \mu}$$

Where:

Ln= Natural logarithm
RGDP- Natural logarithm of Growth Rate of Real Gross Domestic Product, measured using a constant price, that is, the value of the GDP for different year is measured, using the price of a base year.

POV= Natural logarithm of Growth Rate of Poverty Rate

GEOE= Natural logarithm of Growth Rate of Government Expenditure on Education

PCI=Natural logarithm of Growth Rate of Per Capita Income

GEOH= Natural logarithm of Growth Rate of Government Expenditure on Health

UER = Natural logarithm of Growth Rate of Unemployment rate

GOA= Natural logarithm of Growth Rate of Government expenditure on Agriculture.

GETC= Natural logarithm of Growth Rate of Government expenditure on Transport and Communication.

μ= Error term

$\beta_0 - \beta_8$ are the intercept

The apriori expectations are;
$\alpha 1 < 0, \alpha 2 > 0, \alpha 3 > 0, \alpha 4 > 0, \alpha 5 < 0, \alpha 6 > 0, \alpha 7 > 0.$

V. ANALYSIS AND RESULTS

This section presents analysis and interpretation of the empirical results. It begins with a descriptive analysis of the data and followed by the results of various empirical tests conducted in the study, which are discussed in three sub-sections: (1) Unit root analysis (2) co-integration test analysis, (3) regression analysis.

Unit Root Test

TABLE 1: RESULTS OF UNIT ROOT TESTS (NONE)

VARIABLES	*ADF-STATISTICS*	*CRITICAL VALUES*	*ORDER OF INTEGRATION*
RGDP	***-7.3703 (0.0000)***	***1%= -3.6793 5%= -2.9678 10%= -2.6229***	***Second difference I(2)***
GOED	***4.9009 (1.0000)***	***1%= -3.6702 5%= -2.9639 10%= -2.6210***	***Level I(0)***
GOEH	***-5.2780 (0.0002)***	***1%= -3.6702 5%= -2.9639 10%= -2.6210***	***First difference I(I)***
POL	***-8.6306 (0.0000)***	***1%= -3.6793 5%= -2.9678 10%= -2.6229***	***Second difference I(2)***
UER	***-5.6813 (0.0001)***	***1%= -3.6793 5%=-2.9678 10%= -2.6229***	***First difference I(1)***
PCI	***-8.6631 (0.0000)***	***1%= -3.6702 5%= -2.9639 10%= -2.6210***	***First difference I(1)***
GETC	***4.2462 (1.0000)***	***1%= -3.7241 5%= -2.9862 10%= -2.6326***	***Level I(0)***
GOA	***-5.5905 (0.0001)***	***1%= -3.6616 5%= -2.9604 10%=2.6192***	***Level I(0)***
ECM	***-10.1037 (0.0000)***	***1%= -3.6999 5%= -2.9763 10%= -2.6274***	***Second difference I(2)***

Source: E-view 7.0 output file.

In order to investigate the order of integration among the variables such as RGDP, GOED, GOEH, POL, UER, PCI, GETC and GOA, the study used the Augmented Dickey Fuller (ADF). As stated in the methodology, the tools of unit root tests (ADF) is tested for all the variables by taking null hypothesis as 'presence of unit root' (that is, presence of non-stationarity) against the alternative hypothesis 'series is stationary'. If the absolute computed value exceeds the absolute critical value, then we reject the null hypothesis and conclude that series is stationary and vice-versa. It is clear from the Table above that the null hypothesis of no unit roots for three of the variables (GOEH, UER and PCI) are rejected at their first

differences, while for GOED, GETC, and GOA the null hypothesis for no stationarity are rejected at level and only the null hypothesis for RGDP, POL and ECM were rejected at second difference. Since the ADF test statistic values are less than the critical values at one percent levels of significances. Thus, these variables are stationary and integrated of same order, that is, I (1). Thus it is cleared that all the variables have unit root in their level form at either level, first difference or second difference the variables became stationary.

TABLE 2: CO-INTEGRATION TEST

There is need to test whether these variables are co integrated or not. The co integration results are reported below.

Hypothesized No. of CE(s)	Eigenvalue	Trace statistics	0.05Critical Value	Prob.**
At most 1 *	0.873762	183.6620	111.7805	0.0000
At most 2 *	0.787160	121.5744	83.93712	0.0000
At most 3 *	0.751507	75.15798	60.06141	0.0016
At most 4	0.491920	33.38779	40.17493	0.2036
At most 5	0.280123	13.07432	24.27596	0.6153
At most 6	0.078337	3.214065	12.32090	0.8203
At most 7	0.025236	0.766798	4.129906	0.4386

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistics	0.05 Critical values	Prob.**
None *		67.97950	48.87720	0.0002
At most 1 *	0.873762	62.08762	42.77219	0.0001
At most 2 *	0.787160	46.41645	36.63019	0.0027
At most 3 *	0.751507	41.77019	30.43961	0.0013
At most 4	0.491920	20.31347	24.15921	0.1526
At most 5	0.280123	9.860252	17.79730	0.5000
At most 6	0.078337	2.447267	11.22480	0.8682
At most 7	0.025236	0.766798	4.129906	0.4386

Given that all the variables are non-stationary, we then decided to find out whether these variables are co-integrated. In doing this we adopted the MacKinnon-Haug-Michelis (1999) p-values procedure. The result of the test is presented in table 2.

Trace Statistics: From the results above, there are four co- integrating equations rejecting the null hypothesis which says that at least three of the equations are co-integrated. Under the trace statistics, the criterion for decision rule is to reject the null hypothesis when the result of the trace statistics value is greater than the result of the critical value at 5% level of significance. In this case trace statistics value is (75.16) which is greater than the critical value (60.06).

The **maximum eigenvalue** results also state that there are three co-integrating equation, that rejects the null hypothesis which says that at least three of the equation are co- integrated. Under maximum eigenvalue, the criterion for decision rule is to reject the null hypothesis when the result of the maximum eigenvalue is greater than the result of the critical value at

5% level of significance. In this case the maximum eigenvalue is (41.77) which is greater than the critical value (30.44)

The result from the normalized co integration coefficients shows the long run relationship between RGDP as the dependent variable and poverty rate, per capita income, government expenditure on education, government expenditure on health, government expenditure on agriculture, government expenditure on transport and communication as the independent variables.

TABLE 3: ORDINARY LEAST SQUARE RESULT

Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C	*11.14459*	*0.925055*	*12.04749*	***0.0000***
GOEH	*0.205466*	*0.079215*	*2.593758*	***0.0159***
D(GOED,1)	*-0.100156*	*0.079142*	*-1.265516*	*0.2178*
GOA	*-0.014822*	*0.029906*	*-0.495638*	***0.0247***
GETC	*0.063447*	*0.039790*	*1.594547*	***0.0239***
D(PCI,1)	*0.006527*	*0.084904*	*0.076874*	*0.6394*
D(POV,2)	*-0.980867*	*0.302083*	*3.247009*	***0.0034***
D(UER,1)	*-0.000393*	*0.001595*	*-0.246334*	*0.8075*
D(ECM,2)	*0.177412*	*0.072211*	*2.463211*	***0.0223***

R-square	***0.937336***
Adjusted R-square	***0.919059***
F-statistics	***51.28496***
Prob (F-statistics)	***0.000000***
Durbin Watson	***1.346666***

RGDP=11.14459-0.98POV-0.10GEOE+0.0065PCI+0.21GEOH-0.00039UER-0.15GOA+0.063GETC+μ_t

From the regression result in table 3, the value of the constant term (intercept) is 11.5, which gives the estimate of the parameter A_0. The figure represents the autonomous Real GDP, which is the value of RGDP when all the explanatory variables are zero.

For every 1% increase in POV, Real GDP will decrease by 0.98% which agrees with the a priori expectation of the study. The nature of the relationship between economic growth and poverty level is negative, this is because rate of poverty is one of the indicators of less developed countries and it should be noted however that an increase in the rate at which vast majority of the people are poor, it would go a long way in retarding the steady growth rate of the economy, since aggregate demand will be affected.

The parameter for GEOE stipulates that for any one percent increase in government expenditure on education, Real GDP decreases by 0.1%, it does not agree with the a priori expectation. The reason is not farfetched because funds meant for the education sector have not been properly utilized and in most cases siphoned through rent seeking opportunities, thus precipitating incessant strike by the following unions example of which include Academic Staff Union of Universities (ASUU), Nigerian Union of Teachers (NUT), Non Academic Staff Union (NASU), Senior Staff Association of Nigerian Universities (SSANU).

For every 1% increase in PCI, Real GDP will increase by 0.0065%. This conforms to the a priori expectation that income per head is one of the economic features of economic growth.

The result shows that equitable and fair distribution of income would stimulate growth and also have multiplier effect on the economy, but from the model it is not an instrumental variable in determining the growth of Nigerian economy.

For every 1% increase in government expenditure on health, this will lead to approximately 0.21% increase in Real GDP, which agrees with the a priori expectation of the study. Thus increase in government expenditure on health raises the health status of the people and as such promoting economic growth. The parameter explains that there is a positive relationship between government expenditure on health and real GDP. In order to improve human capital and reduce poverty, it is very important for the Nigerian government to increase its spending on the health sector. This would have multiplier effect on the real GDP.

For every 1% increase in UER, Real GDP will decrease by 0.00039%, it agrees with our a priori expectation. Using Nigeria as a case study, the level of unemployment and underemployment is very high. The result of this is the non- utilization of idle human resources (capital). When resources are not optimally and efficiently utilized, RGDP will continue to diminish and this would cause lower growth both in the short and long run.

If government expenditure on agriculture increases by one percent gross domestic product decreases by 0.15%, it agrees with the a priori expectation. The study reveals that there is an inverse relationship between government expenditure on agriculture and economic growth in Nigeria; this is because funds meant for developing the sector are siphoned or looted by some kleptomaniac politicians for their own end.

The error correction model is conducted because all our variables are not stationary at level. ECM which is stationary at second difference shows a coefficient value of 0.1774, t-statistics of 2.4632 and the probability of 0.0223; this implies that there is element of positive long run relationship between the variables adopted in this study.

The result also shows that there is positive relationship between government expenditure on transport and communication and economic growth in Nigeria. It agrees with the a priori expectation Poverty would greatly reduce when good roads are constructed, production and distribution of goods would be easy because farmers would be able to transport their goods to the market. Good and efficient communication network would also help to reduced poverty and asymmetric information in the market system. The error term captures other variables that affect poverty but not included in the model.

The coefficient of determination measures the percentage of variation of the dependent variable that can be explained by the regression model. From the above, R^2 is0.937, which is approximately 93.7%. 93.7% variation in RDGP has been explained by the joint variation of the variables in the model. The remaining 6.3% will be attributed to other factors influencing the RDGP but not represented in the model. The error/random/stochastic term E_T is taking care of the influence of other variables influencing the dependent variable but not reflected or captured in the model. It also indicates a strong relationship between independent variables on the dependent variable.

The adjusted R^{-2} is also a the coefficient of determination, but it is a better value for it accounts for degree of freedom and as such will be adopted for the purpose of interpretation. The R^{-2} value of0.91, indicates that 91 percent of variations in RGDP. It shows that there is approximately 91% degree of relationship between Real GDP and independent variables. Other factors affecting real GDP, which were not captured in the model is 9%.

Durbin- Watson stat of 1.3 is a test of serial/ autocorrelation posits that there is absence of serial/ autocorrelation since it is greater than o and less than 2.

F-test measures the overall significance of the model. That is the reliability of the model. It should be noted however, that from the result of model one above the probability level is 0.0000, which shows that F-test is perfectly significant; the model is reliable for policymaking based on probability decision criteria.

From the result above, since the **P-value** is less than 5% for poverty rate, we reject the $\mathbf{H_0}$which states that Poverty has strong relationship with gross domestic product, per capita income, education, health, unemployment, agriculture, transport and communication, and that there is a significant relationship between poverty and Real GDP (economic growth) in Nigeria. In conclusion, the linear regression model for Nigeria has a reasonable fit and therefore it can be concluded that relational expression exist between RGDP, GOED, GOEH, PCI, POL, UER, GOA, GETC. The Null hypothesis is therefore rejected on this basis.

However, the result of this study differ from the above studies due to the addition of government expenditure on agriculture, transport and communication, but this research has also confirmed the result of the research work of Osahon and Osarobo (2011), Ijaiya et al (2011) and Aiyedogbon(2012), that there is a strong and negative relationship between poverty and economic growth in Nigeria.

V1. CONCLUSION AND RECOMMENDATIONS

The study questioned the extent to which poverty has affected economic growth in Nigeria. The study discovered poverty has a negative and statistically significant relationship with economic growth in Nigeria. Thus if the gap between the rich and the poor is reduced, there would be an improvement in economic welfare. The paper also found that various government policies aimed at addressing equitable distribution of income, domestic macroeconomic management and an acceptable revenue sharing formula, failed to yield the desired result of alleviating poverty in Nigeria primarily due to lack of concerted efforts of responsible agencies, institutional malpractices and disconnectivity between the poverty alleviation programmes and the grass rooted people.

In order to address the problem of poverty in Nigeria and for the economy to meet expectations and contribute significantly to economic growth and development, the following recommendations will be useful:

I. For Nigeria to greatly curb poverty there is need to formulate and implement policies that would improve transparency and accountability, overcome institutional constraints, promote pro-poor growth, bring about structural change, enhance distributive equity, engender social and cultural re-orientation, and promote human development.

II. Poverty is a multi- dimensional and in the case of Nigeria, we have shown that unemployment, corruption, the non- diversification of Nigeria's economy, inequality, laziness, poor health sector and a poor education system are some of the key determinants of poverty. These determinants are many times related to each other. For example unemployment, poor education and poverty can be seen as vicious cycle. Today, people who are not educated lack the opportunity of being hired for good jobs. Hence all these factors are correlated and must be tackled together if any progress wants to be made.

III. Being educated does not necessarily mean you will be employed. Many people graduate from school and stay for years without a job. This is partly due to lack of employment opportunities and corruption. Many offices hire solely by preference, not by merit, preferential treatment has become the order of the day. Nigerian government needs to do more for the employment of young graduates which will also help in reducing crime rates, as many youths resort to crime for survival.

IV. A factor that is very critical for Nigeria is the need for economic diversification. As the Niger Delta crisis suggests, if there is a problem in the oil sector, the whole economy is facing economic and social problems as oil contributes about 97 percent of Nigeria' export and government revenues. More investments need to be

made in the agricultural, manufacturing sectors and other promising sectors of the economy.

V. The area of health care also needs more attention, especially in reducing Nigeria's high rate of mortality. Many people are dying from several preventable diseases such as cholera, malaria, HIV/AIDs, and so on. By providing clean water and adequate health care facilities, the government can save the lives of her citizens.

VI. The Federal, State and Local government must ensure commitment in the areas of fund allocation for provision of social services that are beneficial to the poor, fostering efficient macroeconomic and sectoral policies and the provision of enabling environment to facilitate private sector economic framework.

VII. There is also the need to develop long term strategic plans that address unemployment, taking into consideration the educational curriculum and the needs of the labor market as well as strengthening the human and financial capacity of poverty alleviation institutions in the country.

VIII. Finally, there is the need to fully integrate the MDGs in the national development strategy and enhance monitoring thereof. There should be periodic and consistent reporting of the MDGs.

Sequel to the problems encountered in the course of this research work, the scholars feel obliged to make recommendation to serve as a guide for further research. The researchers strongly suggest that further research should be conducted on other indicators on poverty and economic growth (example, corruption, institutional quality, and so on) to allow for comparison of research outcomes. Secondly, the question of poverty should also be investigated at the state and local levels in order to understandhow the livelihood dynamics of the local people can reshape economic growth.

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