Master's Thesis of Public Administration

The Relationship between Government Expenditure and Poverty Trends:
A Study of Nigeria (1965-2014)

정부지출과 빈곤 추세 간 관계에 대한 연구:
나이지리아 (1965-2014) 사례를 중심으로

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Abstract

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The aspiration of most developing countries is to achieve industrial development, economic growth, and higher living standards for the citizens. To this end, governments all over the world rely on economic development plans and national budget to achieve this goal. While Nigeria receives huge revenue from crude oil sales receipts to finance development projects through its annual budgets, the high level of poverty suggests that there these projects even when backed by law in the budget, are not being implemented. *This raises concern regarding the effectiveness of Government budget expenditure in Nigeria as it affects the economy since the level of poverty keeps increasing.*

This study examines the relationship and impacts of the government expenditure in general and specific sectoral expenditures on the level of poverty in Nigeria. The result reveals a significant negative relationship

between total government expenditure and poverty trend based on time series data from 1965 to 2014. The relationships between poverty and specific sectoral expenditures such as education, health, agriculture and transportation and communications in the presence of control variables such as population and gdp growth rate are also identified by the time series data from 1965 to 2014. The data are analysed using multiple linear regression analysis, after using Wilhlems and Fiestas model and ADF Co-integration test to ensure stationarity and cogency of the data. The result also reveals that there is an existing significant negative relationship between poverty trend and the education, health and agriculture expenditures in Nigeria.

Some of the major factors hindering the outcomes of the Nigerian government expenditure to improve the well-being of its citizen and reduce the rate of poverty in the country are population, inflation and corruption. Consequently upon the identified factors, the study recommend proper and adequate allocation of funds to sectoral activities especially education, health and agriculture. It should also focus on controlling the population growth of the country, inflation and control of corruption and designing a good implementation mechanism for government programmes and projects.

Key words: Poverty, Government expenditure, Population, Corruption

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Table of Contents

List of Tables

List of Figures

CHAPTER ONE

1.0 Introduction

1.1 Background of the Study

The aspiration of most developing countries is to achieve industrial development, economic growth, and higher living standards for the citizens. To this end, governments all over the world rely on economic development plans and programs in order to support, moderate or replace entirely the operation of market forces. One key instrument used to operationalize the economic development plans and programs of governments is the national budget. The budget can be described as a plan document which contains the set of policies to be implemented by the government over the short term usually a year, but in some countries up to 5 years. Importantly, it contains an estimation of the expected income and expenditure of the public treasury over the budget period.

Thus, a budget can serve not only as an economic planning document containing policies and projects to be implemented over a defined period; it can also serve as a public finance document expressing the financial flows over the budget period. In many countries, the budget is typically a legislative document as well, which has the force of law backing it. This ensures that the authorities responsible for its implementation have the legal (and constitutional) powers to do so, on behalf and for the good of the public. As a

result, careful implementation of the provisions is an important condition and consideration in order to achieve the development plans and programmes.

In Nigeria, the budget is a key instrument for delivering economic stability and social reforms in the country. It is usually linked to a medium to long-term development plan. While the long-term development plan containing projects for a period of time and this budget are broken into annual budgets. It is also backed by the Appropriation Act (law) enacted by the National Assembly. In 2014, the total expected expenditure stood at about $24.5billion. This is separate from expenditure by sub-national governments which operate independently of the federal (national) government. With such huge expenditure outlay, it can be expected that programmes and projects contained in the budget will be able to deliver on the economic and social goals. The current long-term vision plan of the country aims at attaining the position of one of the world's 20 largest economies by GDP by 2020, but how visible is that plan in a country with a high rate of poverty.

However, in some instances, government allocations to MDAs may not be adequately utilized or implemented and, as a result, the planned projects and programmes may not be delivered. This has consequences for the expected social and economic impact that such projects were meant to provide. In the absence of such projects, economic development suffers and social welfare may worsen. As many as over 1000 'abandoned projects' were discovered in 2014 which had been discontinued or remain uncompleted. As a result, such

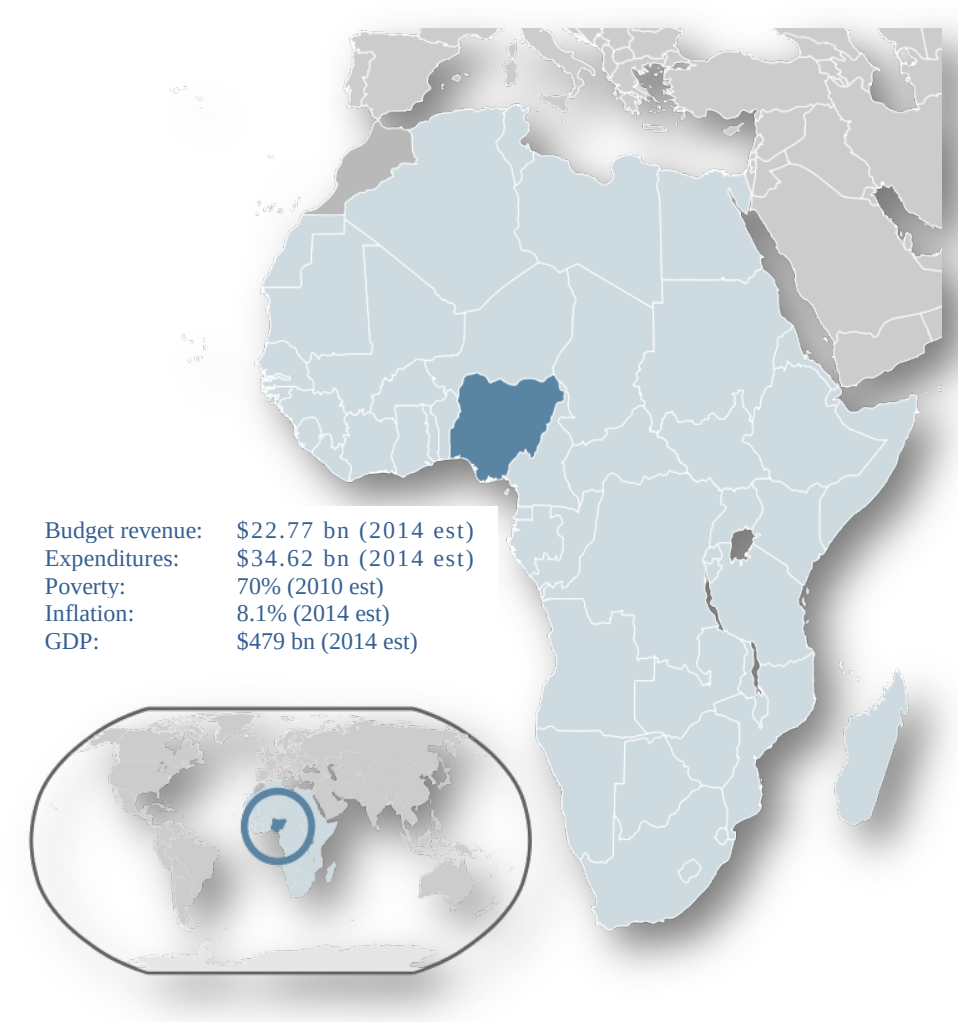
projects will not be able to provide the expected benefits to the economic and people of the country. This raises the issue of the effectiveness of Government budget expenditure as a tool for providing social economic needs which will probably have an impact on the poverty in Nigeria. *While several studies have investigated the causes of poverty in Nigeria, this is the first study, to the best of our knowledge which draws the link between the Government budget expenditure and the trends of poverty in Nigeria.*

In view of the above it is appropriate to consider the reasons why Government expenditure is not adequately or fully expended and how it can be corrected in Nigeria. The answer(s) to this question will enable us understand the causes of failure in reduction of poverty in Nigeria, address some causes and suggest some recommendations to improve the welfare of the citizenry.

The figure below shows that oil has been the dominant source of government revenues in Nigeria since 1970s; it emerged as Africa's largest economy, with 2014 GDP estimated at US$479 billion following an April 2014 statistical "rebasing" exercise[1].

[1] See https://www.cia.gov/library/publications/the-world-factbook/geos/print_ni.html

Figure 1: Location and brief highlights of Nigerian Economy



Source: The World Fact book website

1.2 Statement of the Problem

Nigeria is a country endowed with so many resources both natural and in human capacity. It is rated the 6th largest oil producing country in the world, Africa's largest economy with nominal GDP recorded at $510b in 2013 (World Bank 2013). Despite its abundance of resource endowment, Nigeria

still has a large percentage of poor people, representing 64% of the population (National Bureau of Statistics, 2010). The country earns considerable foreign income from the export of crude oil, about 80% of its total national revenue. About 2.2million barrels of oil are produced daily mostly for export since local refining capacity is low. Due to its high dependence on oil revenue, even the annual national budget is based on the crude oil sales receipts, which is used to finance development projects. Yet it still experiences a misalignment between the proposed policy in the budgets, and the implementations of such budgets even when backed by law.

This raises concern regarding the effectiveness of Government budget expenditure in Nigeria as it affects the economy since the level of poverty is so high (affecting more than half of the population). Specifically, it raises the question whether the non-implementation of the budget (which is a law) has an effect on the level of poverty in Nigeria.

1.3 Research Questions

In order to address the above problem, the following questions have been articulated for this study:

1. What is the relationship between the Government Total Expenditure and the trends of poverty in Nigeria?
2. What is the impact of various Government Sectoral Expenditures on the trends of poverty in Nigeria?

3. What are the factors affecting the expected outcomes of the government expenditures in Nigeria.

1.4 Research Objective

The objective of this study is to first examine the relationship between the expenditure and poverty in Nigeria and then determine which of the sectoral government expenditure significantly influence poverty reduction in Nigeria.

1.5 Significance of the Research

This study investigates the impact of government expenditure on poverty rate in Nigeria. Although there have been many studies on government expenditure and other variables such as economic growth, human capital development and various others, the most closest studies to this study is government expenditure and poverty in Ekiti state in Nigeria. Therefore to the best of my knowledge, this is the first to draw the relationship between government expenditure and poverty trends and considering the presence of population, inflation growth and GDP growth rate in Nigeria.

1.6 Scope of Research and Limitations

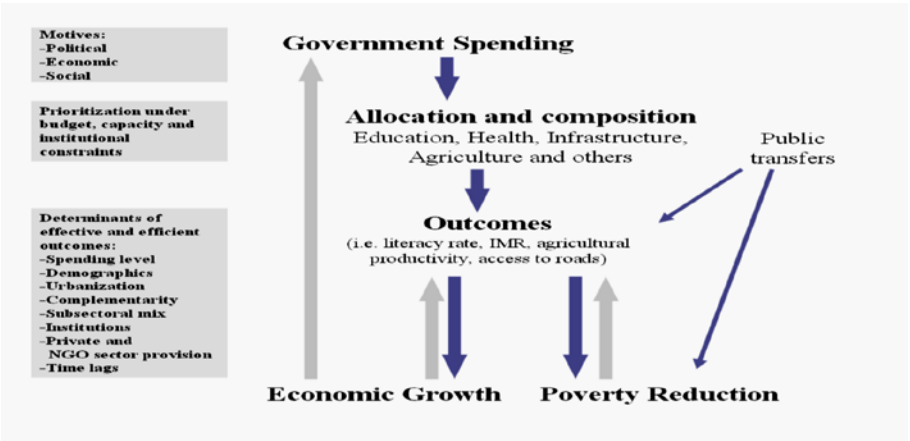
This study focuses strictly on the relationship between government expenditure and poverty trends, and the impact of some sectoral expenditure on poverty trend in Nigeria from 1965 to 2014. The limitations of this study

circles around the data readily available for the research which are for the specific variables used in the study.

1.7 Conceptual Framework

With specific objectives in this study to understand how the government spending affects the reduction of poverty, this research uses a combining and adapting of some success literatures, the research framework will be developed through the adaptation and modification of Wilhem and Fiestas 2005 framework . to guide us through the understanding Government expenditure, its relationship poverty trend and some factors that can affect these relationship within Nigeria.

Figure 2: The Conceptual Framework of Relationship between Government Spending and Poverty Reduction

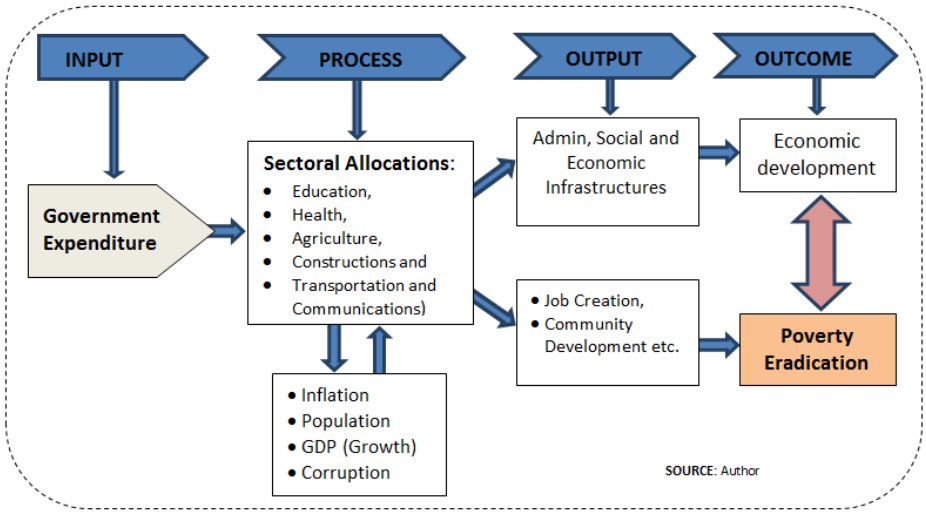


Source: Wilhem and Fiestas (2005)

This framework will guide us through the understanding Government expenditure, its relationship poverty trend and some factors that can affect these relationship within Nigeria.

However, the modified framework shown below is divided is four main sections, "input, process, output and outcome, other factors may affect process and output. The input identifies the independent variable that will be used in this research. The process stage shows the allocation stage and some control variables that can affect the dependent variable. The output stage shows the short term impact of the process stage while the outcome will show the long term impact

Figure 3: Conceptual Framework



Budget in this case (is the budget preparation process, legislative and executives discussions and acceptance and passage of the final or agreed budget) is the input. Once all these process are concluded and disbursed to the

MDAs, it is expected that it will be successfully implemented. The process of implementation involves MDAs carrying out these development projects and programmes, including poverty reduction projects and programmes. If these are appropriately implemented, the budget implementation process should yield certain outputs such as job creation, social infrastructure such as (health, education, water) and spending on economic such as (transport, security, agriculture, industry) which should also help create more jobs and. These are expected to lead to economic development and lower poverty trend. On the other hand, possibly as a result of Inflation, increase in population, increase in corruption and some other factors that can effect expenditures, could lead to a so called (backward economic development), and the plan to reduce poverty will not occur.

CHAPTER TWO

2.0 Literature Review

2.1 Introduction

This chapter looks at previous literature related to this research with the aim of justifying the framework of the study already established in chapter one. To achieve this, the chapter is divided primarily into four parts namely: Poverty, Poverty in Nigeria, Government Expenditure in Nigeria and Government Expenditure and poverty.

2.2 Poverty

Poverty is a contested concept, the particular meaning of which depends on the ideological and political context within which it is used. However, in the broadest sense it can be generally understood as the lack of, or inability to achieve, a socially acceptable standard of living, or the possession of insufficient resources to meet basic needs. United Nations (1995) defined Extreme or absolute poverty as a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services. Poverty can also be defined by focusing on an agreed 'poverty line' by reference to the income required to avoid poverty (however conceptualized): this is sometimes referred to as an

indirect definition of poverty (Ringen, 1988). Poverty may also be defined using a set of poverty indicators, which would comprise a *direct* definition of poverty (and in some instances, the set of poverty indicators are then combined to create an index).

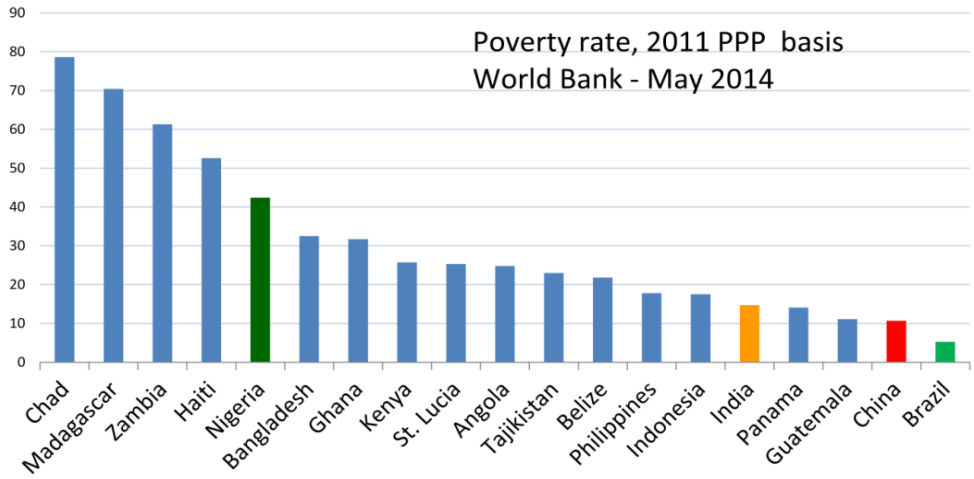
According to Asian Development Bank (2006) defines poverty into three categories: (1) human poverty, which is a lack of essential human capabilities, notably literacy and nutrition (2) income poverty, which is a lack of sufficient income to meet minimum consumption needs (3) absolute poverty, which is a degree of poverty below the minimal calorific requirement plus essential non-food components. However, Asian Development Bank also emphasizes that it is now increasingly realized that poverty is a multidimensional concept and should encompass all important human requirements.

UNECA (2005), states that, poverty does not have a single or universally accepted definition, which makes it a multi-dimensional concept. Kotler, Roberto & Leisner, 2006), went further to state thata there is little or no agreement on a single definition and measurement of poverty. However poverty is said to affect heterogeneous groups such that the concept of poverty is relative depending on different interest groups and individuals experiencing it (Rank, 2004). Hence, the literature is full of definitions reflecting the peculiar perceptions of various researchers and policy makers, as well as the circumstances prevailing in different regions of the world (Igbinedion and Igbatayo, 2007). Extreme poverty widely refers to earning below the

international poverty line of $1.25/day (in 2005 prices), set by the World Bank. This measure is the equivalent to earning $1.00 a day in 1996 US prices, hence the widely used expression, living on "less than a dollar a day (Wikipedia).

There are some many difficulties surrounding the development of a general definition and the methods of measurement of poverty, this has so many times led poverty researchers and policy makers to relate poverty to the concepts of deprivation, the disadvantaged, inequality, the underprivileged and the needy. Currently, extreme poverty widely refers to earning below the international poverty line of $1.25/day (in 2005 prices), set by the World Bank. This measure is the equivalent to earning $1.00 a day in 1996 US prices, hence the widely used expression, living on "less than a dollar a day (Wikipedia).

Figure 4: Poverty Rate on PPP Basis at 2011



Source: World Bank (2014)

Absolute poverty rates, based on 2011 constant PPP international dollar, according to The World Bank in 2014. According to World Bank's revised estimates for extreme poverty coupled with regional economic development, extreme poverty rates have fallen significantly in China and India. In other countries, extreme poverty has increased per 2011 benchmarks compared to 2005 benchmarks.

World Bank (2000) Also defined poverty is a multidimensional concept involving the lack of social and cultural, as well as economic, means necessary to procure a minimum level of nutrition, to participate in the everyday life of society, and to ensure economic and social reproduction. Aigbokhan (2000) also added by defining poverty as the inability to achieve a certain minimal standard of living. The World Bank (1990) also came up with a new paradigm for fighting poverty with emphasis on boosting the strength and capabilities of those who are living as poor and also increasing the focus on the non-income dimensions of poverty.

2.3 Poverty in Nigeria

Nigeria is large country, with a population of over 180 million which makes it the most populous country in Africa. Nigeria benefits from a tropical climate with vegetation and diverse range of crops that grow. It should have been one of the world’s biggest exporters of a variety of products, which would have led to a large proportion of its people, reaping the fruits of its trade. This shows how important agriculture is to poverty reduction in Nigeria.

It is said that poverty has been a major challenge facing the Nigerian population in the past decades. In the 1980s, a little less than 30% of the Nigerian population lived below the poverty line. Researches and statistics has shown that, there has be no real change in Nigerians' living standards, while the living standards worldwide have been increasing, thus including goods that are vital for social inclusion such as access to telecommunications, TV, radio, etc. [2]

Public intervention was supposed to follow a twofold strategy, promoting labor-intensive growth and investment in human capital via primary health care, primary education and targeted social spending to reduce poverty. Some studies have shown that such public investments can be used for poverty reduction. For example, Olaniyan and Bankole (2005) studied the interaction between human capitals' capabilities and poverty reduction in rural Nigeria where they found out that health and education, have significant effect on poverty reduction in Nigeria. Their findings suggested that efforts should be made at the policy level to reduce poverty by increasing public expenditure on health and education to ensure the improving of human capital of individuals thereby reduces the rate of poverty.

Adegoke (2007) carried out an econometric study on the role of education in alleviating poverty in Nigeria. The study found out that there was a bi-directional relationship between expenditure on education and poverty

[2] See Poverties website, http://www.poverties.org/poverty-in-nigeria.html

reduction in Nigeria. The study concluded that expenditure on education which has gone very low in Nigeria contributed to worsening situation of poverty, whether measured in income or non-income terms.

Fan et.al (2008) conducted a quantitative research which aimed to analyze the marginal returns of different types of Thai government expenditure on agricultural growth and rural poverty reduction. This study utilized regional level data from 1977 – 1999 from various agencies, especially from Thailand Development Research Institute database. The authors use the double-log functional forms for all equations. Rather than only using single-equation methods (two-stage least square), this study employs both full information likelihood maximum system approach (assuming normal distribution of error terms in each equation) and two-stage least square.

Because of the nature of two-stage least square and full information likelihood maximum techniques, the authors perform diagnostic tests on serial correlation. To measure the effect of marginal return of public investment, the authors employ either returns in money (baht) or number of poor brought out from poverty per unit spending in 1999 price. These measures provide useful information for comparing the relative benefits of additional units of expenditure. In addition it is useful to set future priorities for government expenditure to further increase production and reduce rural poverty. The analysis shows that public investments reduce poverty and increase agricultural production at the same time.

Also, there are sizable differences in production gains and poverty reductions among various expenditure items and across regions. Agricultural research has the largest return in agricultural productivity, rural electricity and education investments also have favourable returns and investment in roads has no statistically significant return in agricultural productivity. In terms of poverty reduction effects, government expenditure on rural electricity has the largest marginal return for the country as a whole, the poverty reduction effect of agricultural research ranks second and education ranks third. Irrigation and roads have similar effects on poverty reduction, and their effects are much smaller than other types of investments.

However, the result is supposed to have an effect on future government spending allocation. , They concluded that since agricultural research only accounts for 0.1% of total spending comparing with all type spending (roads, electricity, and telecommunication which account for more than 30%), the Thailand government could reallocate its spending to activities that have greater impact on growth and poverty trend, such as agricultural research.

Ayeni (2005) carried out an empirical research on the impact of government expenditure on poverty reduction in Ekiti state, Nigeria using multiple regression analysis. He found out that education as an investment has positive relationship with job creation which consequently can help to reduce poverty. Akinsanya (2004) investigated the impact of government expenditure on

poverty reduction in Ekiti state of Nigeria, using multivariate regression analysis and concluded that government expenditure on agriculture is positively related to poverty reduction in Ekiti state. However, his findings also showed that government expenditure on education has a negative and significant relationship with poverty reduction in Ekiti state.

Ostensen (2007) explains in her study of poverty in Norway that "the addition of public services in the income definition has a great impact on the result of poverty analysis". In addition she asserts that health care affects substantially to income distribution. According to Krueger (2009), economic growth is believed as a main policy to achieve significant reduction in poverty. However, to emphasize growth effect over poverty reduction, it is important that the poor have access to social and economic services that enable them to become more productive.

Furthermore, it also entails concentration on policies that will enable most citizens of society to become more productive (pro growth). Pro-growth policies are undertaken with attention to poverty alleviation through education, health care, and provision of means for increasing productivity.

2.4 Government Expenditure

Ojo, (2012) defines a budget as the statement of expected income and expenditure over a time period, usually a year of the government. Governments at all levels do envisage how much they are likely to generate

from all source available to them. At the same time, they visualize what the expenditure will be. Suparmoko, (2002) also defines government expenditure as an expenditure to finance government's activities which is aimed to gaining overall social welfare by utilizing some resources, product, and money. Cambridge Dictionaries defines it as the amount a government spends in a particular period of time. [3] Also, others have stated that government expenditures is the overall public spending carried out by the government, government expenditures or spending contributes to aggregate demand.[4]

Fosler and Henrekson (2001), Pevcin (2003), Brady (2007), Pham (2009) and Maku (2009 all conducted a panel study over a period on the relationships between public expenditure and economic development and their empirical findings where that, when government spends more, it has a negatively effect on growth. Barro (1990) studied on government expenditure and economic growth and his finding was that government expenditure has an impact on economic growth. Other studies by de Groot and Nijkamp, 1999; Dar Atul and Amirkhilkhali, 2002; Easterly and Rebelo, 1993; and Barro and Sala-i-Martin, 1992, also support that government activity determines the expected outcome of the growth of the economy. This makes the study of government spending and how it affects the economic growth and poverty important for economic planning.

[3] See http://dictionary.cambridge.org/dictionary/english/government-expenditure
[4] See http://www.investorwords.com/5590/government_expenditure.html#ixzz3r6HiVqSf,

Ram (1986) who estimated growth equations looking at 115 countries for the period 1960 -1980, used an equation derived for economic growth from two different production functions. On one hand, was the study on government sector and on the other was the non-government sector. He studies show that overall government spending had a positive impact on growth. Also, Landau (1986) in his study examined the impact of government expenditure variables on economic growth rate using a regression model based on time series data. His finding was that increase in government consumption expenditure leads to decreased in economic growth. This however makes Ram's model, a better theoretical explanation.

Rashid and Sara (2010) studied the relationship between government expenditure and poverty between 1976 to 2010, while they examined the long run and short run relationship between the fiscal deficits, which is outcome of high government expenditure over the level of tax revenue collection, and poverty. The results showed that there is a negative relationship between government expenditure and poverty. It also showed that the short run and the long run relationships between poverty and other variables are identified by ECM model and Johnson Co-integration test respectively and the results show an existing short run as well as long run relation between the poverty and government expenditure.

2.5 Government Expenditure in Nigeria

Although there hasn't been any study on total government expenditure and poverty in Nigeria, most studies had been on sector expenditure and growth economic growth. One study that came close to this study was that by Ogundipe and Oluwatobi (2013) also, looking at evidence from disaggregated analysis stated that the "uncorrelated level of economic prosperity with the vast amount of budgetary allocations in terms of expenditure in Nigeria has raised major concerns and occupies the center of literature debate over time". Their study attempted to investigate the impact of both government recurrent and capital expenditure on growth using an econometric analysis based on Johansen technique and data from 1970-2009. Their finding is that some components of total expenditure impacted negatively insignificant on growth rate except education and health; further diagnosis test also showed that capital expenditure may likely have significant impact on growth rate in the long-run.

Chimobi (2009) studied the Government Expenditure and National income in Nigeria to test for the direction of causality between Government expenditure and National Income using annual data for the period of study. The econometric methodology employed was the Co-integration and Granger Causality test. First, the stationarity properties of the data and the order of integration of the data were tested using both the Augmented Dickey-Fuller (ADF) test and the Phillip-Perron (PP) test. The study found that the variables

were non-stationary in levels, but stationary in first differences. After applying the Johansen's multivariate approach to investigate for co-integration on the long-run relationship among the variables, the study's result showed no long-run relationship between Government expenditure and National Income in Nigeria. The Granger Causality test reveals that causality runs from Government expenditure to National Income. This result shows that Government expenditure plays a significant role in promoting economic growth which will also has a positive impact on poverty reduction in Nigeria.

Ogun, T. P. (2010) investigates the impact of infrastructural development on poverty reduction in Nigeria. Specifically, the relative effects of physical and social infrastructure on living standards or poverty indicators are examined, with a view to providing empirical evidence on the implications of increased urban infrastructure for the urban poor. The study found that infrastructural development leads to poverty reduction. The results showed that infrastructure in generally leads to reduced poverty, which means that increased investment in infrastructure would drastically reduce poverty in the areas. He also stated that there are three existing schools of thought in existence on the effectiveness of spending in infrastructure as a poverty reduction strategy. The first school argues that investment in social infrastructure, which embraces investment in education and health, is more significant to poverty reduction than the physical infrastructure; the second school of thought argued that investments in both physical and social infrastructure reduce poverty, while

the third school maintained that investment in infrastructure in general has no effect on poverty reduction.

Table 1: The Poverty by headcount and Government Sectoral Expenditures in real figures for 1990 to 2014

Years	Poverty Trends by head count (m)	Education	Health	Agriculture	Construction	Transport & Communication
1990	37.9	3,885.80	809.73	815.30	2,004.75	909.47
1991	38.6	1,956.37	962.69	712.28	1,388.38	814.32
1992	39.2	756.23	389.83	801.90	2,006.38	971.45
1993	46.2	11,048.65	4,815.82	6,073.60	7,823.32	6,825.16
1994	53.2	11,038.75	3,130.95	9,385.74	9,074.81	3,533.63
1995	60.1	16,245.22	5,534.92	12,523.18	14,087.75	8,962.07
1996	67.1	17,719.92	4,660.68	41,073.24	24,049.78	53,347.32
1997	67.3	19,500.80	5,108.52	58,380.08	51,265.63	44,775.87
1998	67.5	28,398.51	9,910.11	53,072.89	103,414.96	35,266.13
1999	67.7	54,153.22	20,661.08	279,737.57	78,469.16	52,450.79
2000	67.9	77,072.85	20,237.56	31,045.33	24,456.38	14,869.94
2001	68.1	66,595.75	40,947.15	41,683.01	42,494.26	200,217.57
2002	68.3	97,711.37	49,287.61	50,633.54	37,757.19	148,893.41
2003	68.5	99,971.54	51,339.01	15,224.67	34,239.99	45,809.19
2004	68.7	93,649.25	41,849.73	43,374.66	57,404.39	31,104.32
2005	76.0	121,757.36	81,855.28	83,609.86	91,749.60	41,182.69
2006	83.3	167,246.53	87,480.09	76,880.87	86,068.42	41,927.68
2007	90.6	239,420.43	130,062.81	97,494.75	214,177.82	96,524.38
2008	97.9	238,928.70	143,113.65	170,513.71	246,295.04	175,693.05
2009	105.2	193,221.39	127,108.21	49,234.64	176,941.30	197,568.70
2010	112.5	217,855.88	126,402.33	48,886.75	98,908.37	73,467.18
2011	116.3	375,495.99	259,201.82	92,414.08	439,653.70	29,412.59
2012	121.1	391,351.56	222,297.57	79,760.81	199,521.78	55,569.09
2013	126.2	461,984.70	212,976.22	107,907.84	252,288.29	50,668.39
2014	131.3	622,238.36	389,929.57	61,699.54	55,317.31	40,783.00

Source: Central Bank of Nigeria Bulletin and National bureau of statistics

Table 1 in the first column, shows the number of people living in poverty in Nigeria (figures are in millions), while the rest five columns shows the total

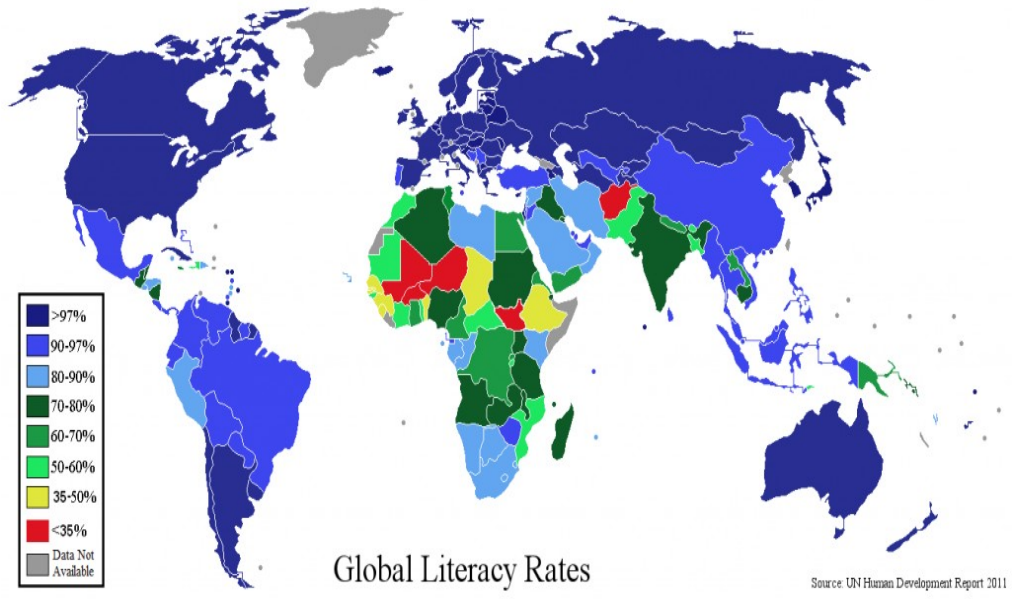
amounts of money spent on these sector on annual basis for 1990 to 2014 (figures are in million naira).

2.6 Government Sectoral activities

2.6.1 Education

Considering that almost 40% of entrepreneurs in Nigeria have secondary education, they will still need help to be able to have access to schools and further education. It also means that institutions should also focus on practical skills training as well. Most of these issues also call for a real investment in infrastructure, be it in education & schools, roads or the market economy. This would then lead to the creation of a great deal of jobs which would not only raise the income of the population, but also increase its human capital as people are able to work and improve their skills. From that, more human capital would mean more income and ultimately less poverty.

Figure 5: Global Literacy Rates

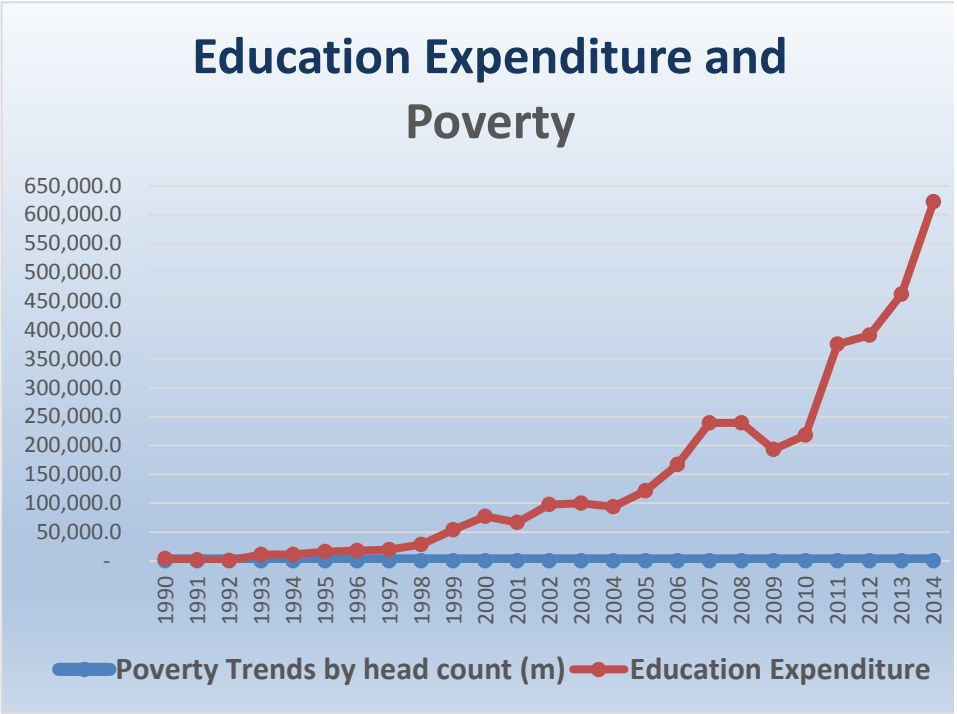


Source: UN Human Development Report (2011)

Figure 5 above shows that Nigeria is one of the countries in the world whose literacy rate is about 70 percent to 80 percent by the United Nation's rating.

As shown in Figure 6 below, this chart shows that from about 1998 to 2014, education expenditure had highly increased compared to between 1990 to about 1998. This government investment is expected to improve the education sector and increase the literacy rate in the country

Figure 6: Education Expenditure and Poverty rate (1990 to 2014)



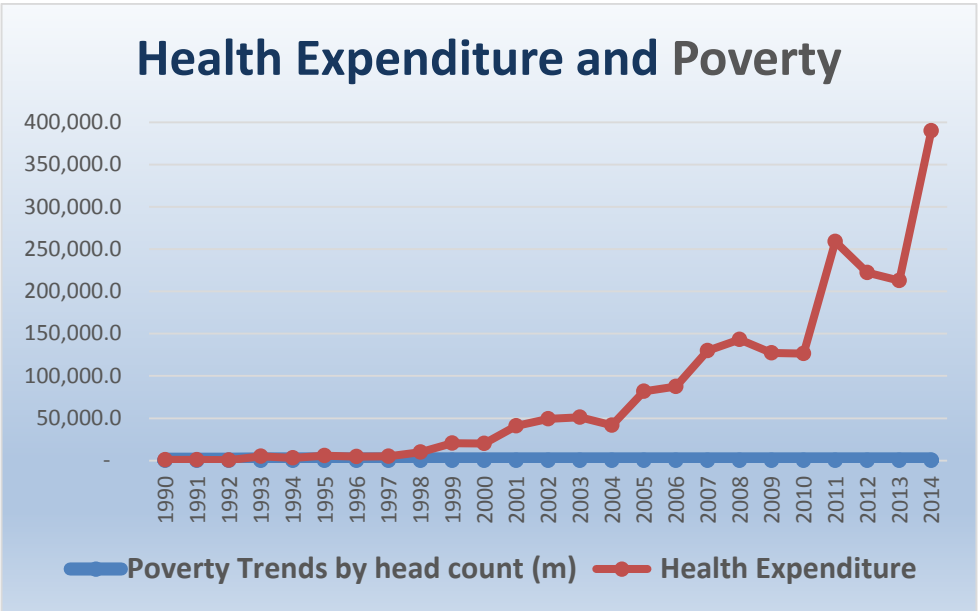
Source: Author's computation from CBN data

2.6.2 Health

Health is essential in any community as the well-being of the people is most important for their productivity. Knox (1979) stated that health has a strong influence on peoples earning capacity and productivity; it affects educational performance and also determines employment prospects; and it is also fundamental to people's ability to enjoy and appreciate all other aspects of life. Onokerhoraye (1976) who studied health and development stated that, lack of adequate health facilities in the country is one of the most significant development problems not just in Nigeria alone but in other parts of the developing world as well. However, this problem of inadequate health

facilities increases when inequalities in the distribution of the available health institutions and infrastructures persist. Although, the vast growth of the population of Nigeria still poses an issue of adequate provision and distribution of health facilities. Health in statistical terms has also explained a large percentage of the variation between peoples well-being. Reports of studies by Adams, Chime, Abu, and Aigomududu (2010) revealed that less than 1% of GDP had been allocated to health, and about 2% of the oil revenue was allocated to health sector in Nigeria between 1981 and 2006. Obviously, this is a low financial commitment which will result inadequacy in the health care provisions and services resources in Nigeria. It was revealed that only 3 out of 5 Nigerians have access to health care facilities.

Figure 7: Health Expenditure and Poverty rate (1990 to 2014)



Source: Author's computation from CBN data

Similar to figure 6, figure 7 also shows that from about 1998 to 2014, health expenditure had higher increased as compared to between 1990 to about 1998. This higher increased investment is also expected to improve the health sector and increase the human productivity rate in the country

2.6.3 Agriculture

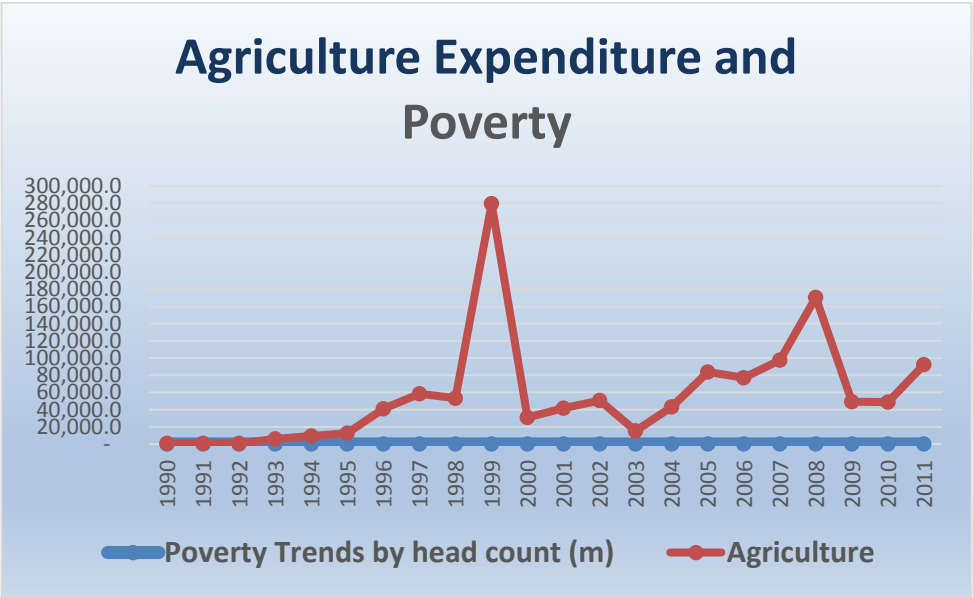
Nigeria is large country, with a population of over 180 million which makes it the most populous country in Africa. Nigeria benefits from a tropical climate with vegetation and diverse range of crops that grow. It should have been part of the world's biggest exporters of a variety of products, which would have to a large proportion of the people, reaping the fruits of its trade. This shows how important agriculture is to poverty reduction in Nigeria.

Although agriculture remains an important aspect in the country's economic development needs, it has also been faced with a lot of issues. Some studies have confirmed the obvious to everyone that people with larger farm land, those with access to loans and other necessary assets, as well as people who leave close to the local markets have all shown lower rate of poverty.[5] However, the integration of thousands of households into local markets and teaching more advanced agricultural techniques are also essential aspects to reducing poverty in Nigeria. This implies more government investment in basic infrastructure such as roads and cheap public transportation so that

[5] See Poverties website, http://www.poverties.org/poverty-in-nigeria.html

people are given the opportunity to move around and across to trade with others.

Figure 8: Agriculture Expenditure and Poverty rate (1990 to 2011)

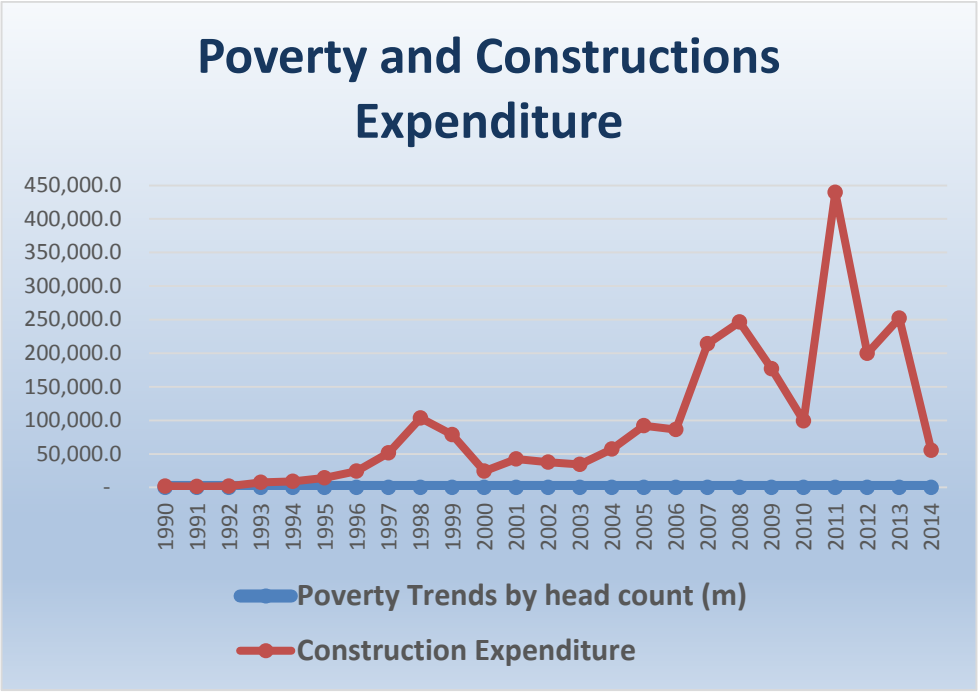


Source: Author's computation from CBN data

Figure 8 shows that in 1999 there was a drastic increase in government expenditure on the agriculture sector, then a drastic decrease in 2000. While it maintained a low and unstable expenditure until 2008 when an increase ensued and dropped again in 2009. From 2010, the expenditure increased all through to 2014 again. This shows an unstable growth in government investment on transportation and communications in Nigeria

2.6.4 Constructions

Figure 9: Constructions Expenditure and Poverty rate (1990 to 2014)



Source: Author's computation from CBN data

Figure 9 show that there was a slit increase in government expenditure on the agriculture sector 1997 and 1998, then a decrease in 2000. While it maintained a low and unstable expenditure until 2007 when an increase ensued and dropped again in 2009 and 2010. In 2011, the expenditure increased the highest and dropped again in 2012 then after a slit increase in 2013, in shows a drastic fall to 2014 again. This also shows a very unstable growth in government investment on transportation and communications in Nigeria.

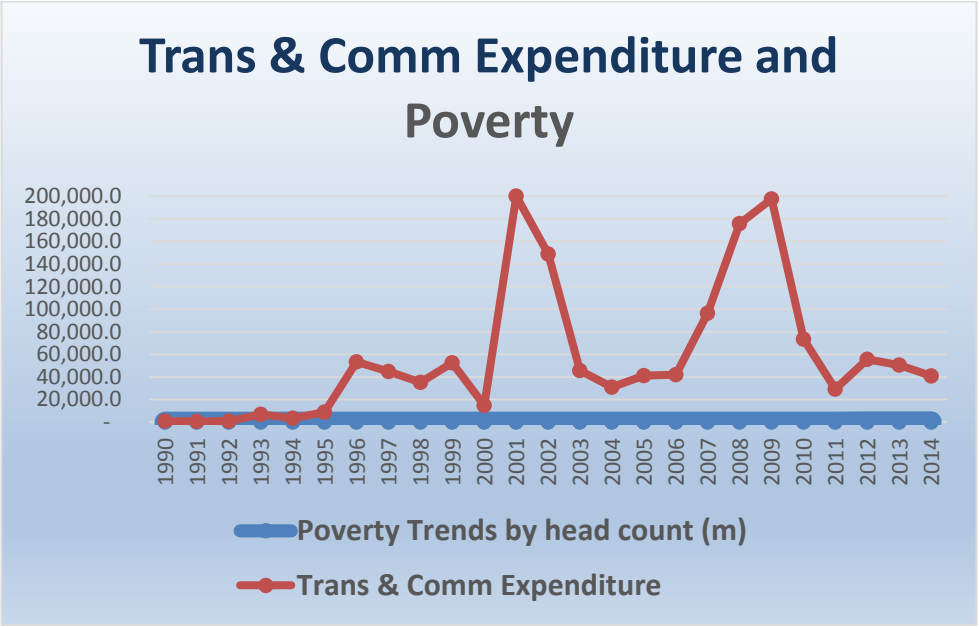
2.6.5 Transport and communication

The introduction of automobile, airplanes and other transportation means have increased and improved the rate of business and investment in today's global world. It has also increased the level of daily travels covering over one thousand kilometres and on another hand it has also eased vacation and other leisure trips around the world within a short period of time. This has led to speedy transportation and lower costs of transportation which has equally led to a wide range and variety of human activities. This has also reduced the world into a global village as development in transportation technology increases.

Communication is also another very important aspect of the development in this new world, Ndukwe (2004) in his study stated that in today's world, modern digital telecommunications networks are as necessary to economic growth and to attracting foreign investment as are programs dedicated to promoting transportation and other sectors of government. Furthermore, a reliable telecommunications networks can improve the productivity and efficiency of sectors of the economy and enhance the quality of life generally. Studies have shown that there is a positive relationship between telecommunication infrastructure development and economic growth. Other studies such as the World Bank (2003), (ITU) (2003), Noll (2000) and Sridhar (2003 - 2004) showed a direct correlation between telephone penetration and economic growth, as well as better living condition in the environment.

However, transport and communication are expected to improve marketing and distribution, build stronger interaction amongst entrepreneurs and improve business relationships; this means that higher government expenditure on transport and communication creates an enabling environment for businesses to strive through reduced cost of production and also the poor of the environment.

Figure 10: Transportation and Communications Expenditure and Poverty rate (1990 to 2014)



Source: Author's computation from CBN data

Figure 10 shows that in 2000 there was a drastic increase in government expenditure on transportation and communications sector, then a sudden decrease until 2007 when an increase prevailed till 2011, when then

expenditure decreased all through to 2014 again. This also shows an unstable growth in government investment on transportation and communications in Nigeria.

2.7 Factors that lead to Poverty increase

2.7.1 Inflation

Inflation can be defined as an increase in the money supply. It can also be seen as persistent increase in average price level of goods and services resulting in diminishing purchasing power of money. It is also when the volume of money in circulation is greater than the available goods and services so that there is a continuous tendency for average price level rise. Among other barriers, the high cost of business leads to high prices of cost and services available, this shows how important it is for government to stop or control the increase in price of goods and services by providing necessary infrastructures, subsiding cost of some country products and also regulating the market prices to avoid unnecessary exploitations by others.

2.7.2 Unemployment

Amongst the factors that most feed the cycle of poverty in Nigeria and other West African countries are mass unemployment and lack of productivity. Unemployment causes the huge human waste you are all familiar with, and includes issues of income, well-being and diseases that can all be attributed to this. A lack in productivity means a lack of supply in goods and services in the country.

A study of women entrepreneurs in Nigeria also revealed very interesting aspects that can help with poverty in Nigeria. For a majority of women, what drove them to entrepreneurship was mostly the ideal of gaining control of their lives and/or makes more money. But for a third of them, it was also because they had no other choice since no there was no job to be found around town. But the main discovery was about cultural differences in the way entrepreneurship is perceived.

2.7.3 Implementation

Implementation can simply be defined the process of practice, executing, or carrying out of a plan or a method for doing something. Implementation is an action that follows must or any preliminary thinking in order for to get something to actually happen. Implementation in this contest refers to the carrying out of public policy. Legislatures pass laws that are then carried out by public servants working in bureaucratic agencies. This process consists of rule-making, rule-administration and rule-adjudication. Factors impacting implementation include the legislative intent, the administrative capacity of the implementing bureaucracy, interest group activity and opposition, and presidential or executive support.

According to Parki and Kimiebi (2011), public policy implementation refers to the acts and process of converting a policy into reality or simply enforcing it. In their opinion, implementation is the process of transforming policy

mandates into actions, and policy goals into reality. Hence, policy implementation here is the action taken to accomplish the intents, objectives and desired outcomes of a policy. In this regard, public policy implementation is examined through the implementation level of the budget using data from 1994 to 2014. The level of budget approved by the legislature is compared with the actual amount of budget disbursed during the implementation of the budget. This gives an indication of the level of budget implementation. We then compare the trend in budget implementation with the trend in economic development (measured by Gross domestic product, GDP) and poverty reduction in Nigeria over the same period to reach conclusions regarding the relationship between poverty reduction and budget implementation.

2.7.4 Corruption

Nye (1982) defines corruption as the behaviour which deviates from the formal duties of a public role (elective or appointive) because of private-regarding (personal, close family, private clique) wealth or status gains; or violates rules against the exercise of certain types of private-regarding influence. Nevertheless, Hindess (2004) cautions that there is no universally-accepted definition of corruption because it is inevitably linked to subjective perceptions of what is in the public interest. Moreover, its actual incidence is difficult to determine empirically because its perpetrators are often adept at keeping it hidden or promoting its acceptance in public opinion. For this purpose, the annual data on corruption published by Transparency International is used to determine the trend in corruption perception in Nigeria.

This is compared with the level of budget implementation as well as economic growth and development (GDP) in order to reach conclusions regarding the relationship between corruption and the level of budget implementation in Nigeria.

Thanks to the exploration of its oil resources, Nigeria has been growing richer and richer, but despite being the largest economy in Africa, Transparency International (TI) had ranked Nigeria the 136th most corrupt country in the world and the 3rd most corrupt country in West Africa after Guinea and Guinea Bissau in its 2014 Transparency International Corruption Perception Index. Ranked 136th out of 177 countries with an index score of 27 calls for a major concern, given the Nigerian high unemployment rate, its means that entrepreneurship which is also a key factor for poverty reduction in the country but challenges to business creation such as corruption are pulling the development capability backwards.

Corruption to a greater extent remains the most important obstacle in today's Africa, if not nuisance, to economic and social development. It threatens the achievement of the MDGs (Millennium Development Goals) and the existence of the Nigerian state itself. Corruption in Nigeria affects ethnic groups in different ways, often creating privileged groups and excluded ones. So far, all attempts to tackle corruption in the country have failed for many reasons such as politics is mainly seen as the best way to becoming rich, as a consequence of this, the true political will to fight corruption has been lost

because the politicians' businesses will have to be affected. Another reason is the ethnic diversity in the country which contributes to the lack of national unity and opposition to the problem of corruption. It is so unfortunate that Nigeria equally have the financial resources to tackle this corruption and even put in place proper law enforcement agencies yet, all these have failed in the past years.

The government must have enough money to invest in all these sectors to help lift millions of Nigerians out of poverty without the need for external interventions. If money wastage is stopped, as well as corruption can be overcome, money could finally go to the country's infrastructure: hospitals, running water, education system, etc. Corruption remains the main cause of regular wastage of the country's resources, and therefore the main cause of poverty in Nigeria. On the bright side, since President Buhari's government came on board, efforts and assurance have been re-emphasised that the government is ready to tackle this issue.

Balisacan (2002) reveals that economic growth is not the sole variable for poverty reduction. He conducted correlation analysis study on Indonesia that aimed to find an appropriate approach to socioeconomic disparities requires a clear understanding of policy and institutional factors that account for differences in the evolution of growth and poverty in the various districts of Indonesia.

Furthermore it also seeks to understand how important government policies and programs are, as well as geographic attributes and local institutions, indirectly influencing poverty. He employs such explanatory variables including overall per capita income, relative price incentives, human capital, and access to infrastructure, technology, and finance to find determinants of poverty reduction. His research shows there is a strong positive correlation between district-level average expenditure and average welfare of the poor (the bottom 20 percent of the population based on ranking by per capita expenditure). The education variable shows a mixed direct effect on welfare of poor. The mean years of schooling appeared insignificant although it is significant if the variable is defined for the poor only. Adult literacy also appears not to have a direct impact on the welfare of the poor.

However, it exerts a significant influence on overall growth, suggesting that improvement in human capital reduces poverty principally via the growth process. Price incentive is said to have a positive and significant coefficient on welfare of the poor. The technology access variable is positive and significant, supporting the expectation that it matters to the incomes of the poor. The study also provides a surprising result which shows that the finance variable is insignificant. The roads variable does not appear to be significant, but it has a strong impact on overall growth. This is consistent with the observation (e.g., Hill 1996) that the public provision of roads has not been designed as a vehicle for achieving intra district (or province) redistribution but rather as a part of a development strategy for spurring economic growth.

The variable representing natural wealth is also not significant, although it affects overall growth significantly. This supports the observation of Tadjoeddin et al. (2001) that there is no strong correlation between natural resource endowment and community welfare, defined in terms of human development indicators.

There is an interesting variable which is used by both Fan, Shenggen et al (2004) and Siregar, Hermanto&Wahyuni, Dwi (2006), when they seek to use population growth, inflation, and dummy crisis as additional variables when they generate the model. They believe that population growth, inflation, and crisis would positively affect poverty. Winters et al (2004) examines relationship between trade liberalization and poverty. By accumulating and analyzing theories and previous studies related to this issue, they found that the evidence demonstrates no simple general conclusion about the relationship between trade liberalization and poverty although many theories support a strong and positive relationship. However, they conclude that there are many causes for optimism that trade liberalization will contribute positively to poverty reduction, the ultimate outcome depends on many factors, including its starting point, the precise trade reform measures undertaken, who the poor are, and how they sustain themselves.

Wilhem and Fiestas (2005) explore in their study that allocation of government budget is a key instrument for government to promote economic development and reduce absolute poverty. By analyzing “Operationalizing

Pro-Poor Growth" (OPPG) countries during 1980s and 1990s period, they reveal that government spending as a share of GDP and in per capita terms decline over the analyzed period, for example. In addition trends in sectors are mixed affecting growth and poverty reduction (education, health, infrastructure, and agriculture).

Fan and Rao (2003) explained poverty reduction and growth in their study by exploring three related issues: composition of government spending, determinant of government expenditure, and the impact of government expenditure to growth. They employed cross countries analysis involving 1980 to 1998 data from 43 developing countries across Asia, Africa, and Latin America. Rather than analysing the impact of total government expenditure and overall growth, the authors attempt to analyze the impact at the sector level of government spending and overall GDP. They estimate a production function with national GDP as the dependent variable, and labor, capital investment, and various government expenditures as independent variables.

Results show that the labor and capital coefficients are positive and statistically significant for all regions. For government expenditures on agriculture, coefficients are positive and statistically significant in Africa and Asia. For Latin America, the coefficient is insignificant although positive. For education expenditure, the coefficients are positive and statistically significant only in Asia. This indicates that continued education investment in Asia will

contribute greatly to GDP growth. Coefficients for Africa and Latin America are negative.

The coefficient for health expenditures is positive and statistically significant in Africa and Latin America. In Asia, the coefficient is not statistically significant. The coefficient for social security spending in all regions is statistically insignificant. Similar to social security, transportation and communication expenditures did not have a positive and statistically significant impact on economic growth. Defence expenditure had a very strong negative impact on economic growth in Africa and Latin America. Finally, structural adjustment programs increased GDP growth in Asia and Latin America but not in Africa.

Njong (2010) shows that probability of being poor decreases when education level increases. The author conducts the regression model to analyze the relationship between education level and poverty in Cameroon. The purpose of this study is to evaluate the impact of different levels of schooling on poverty in Cameroon. The inter-relationship between education and poverty can be understood in two ways; firstly, investment in education increases the skills and productivity of poor households. It enhances the wage level as well as the overall welfare of the population. Secondly, poverty may also constitute a major constraint to educational attainment.

Duggal (2007) asserts that how healthcare is financed is critical to healthcare system and poverty within society. He seeks to show this conclusion by capturing what has already happened in India. He found India's healthcare system is mostly privatized. In addition, more than 80% of health expenditure comes out of pocket, while 15% is covered by public finance. He believes that countries which have universal or near universal access to healthcare would have low level of poverty and equity in healthcare because the system decreases the health care cost.

Although government expenditure is expected to improve poverty rate, some other factors are recommended for studies, to determine other challenges of achieving this objective. In the course this, Sumarto et.al (2004) examines the impact of governance practices in on poverty reduction focusing on Indonesian. They employ bivariate and multivariate analysis to determine the relationship between the decrease in the number of poor people at district/city level and bureaucratic culture. They reveal that there is a clear indication that good governance affects districts' performance on poverty reduction. The districts which have less bureaucratic culture reduced poverty by 3.4% on average, while those districts with a very conducive one reduced poverty by around 15%.

Furthermore, Justino (2007) in his study looked at another dimension of what can possible lead to increased poverty, believes that there is two-way causality between conflict and poverty. On the one hand, conflict would positively

affect poverty and on the other hand poverty is one reason why a conflict exists. By analyzing and comparing studies of many scholars, the study concluded that prioritizing investment in education and health may signal government's commitment to peace by keeping the population content. Furthermore, increases in equal opportunities in the access of excluded groups to education may decrease social tensions.

Still in the aim of finding other factor that might affect the outcome of government expenditure on poverty reduction, Khan et.al (2009) went on to study the relationship between environment, population and poverty, and illustrated that human development's highlights on socio–economic and environmental attributes. He stated that urbanization, better health improves expectation of life, and demand for ground water. The part relevant for this study is the part of population where shows that an environment with a fast growing population, needs to be more conscious of the growth rate because it the can a negative effect on the outcome of what government is spending to provide the environment, the higher the population, the higher the consumption and demand, while if government does not increase expenditure according to the population growth, the impact of the expenditure will be in significant.

Jamieson, W et al study (2004) showed some indicators related to pro-poor tourism program with poverty reduction. They show that pro-poor tourism program intervenes with poverty at economic, social, environment, and visitor

aspects. Among those aspects, the tourism would affect poor people in economic aspect in the following ways: increase of employment, business creation such as vendor, goods and service production, and improvement of transportation, accommodation, and service facilities.

Omotosho (2014) highlights some of the reasons for the non-implementation of government programmes in Nigeria. According to him, there is a general perception that public servants are lazy, inaccessible, ineffective, inefficient, and above all, corrupt. This perception is adversely affecting the nation in several ways; it encourages bad governance, stifles growth and development, puts more pressure on citizens' meagre resources to get things done, and down- grades the country before the international community. This has led to government's failure to cater to citizen's welfare and provide the basic necessities of life, such as pipe-borne water, electricity, good roads, and so forth. However Nwabuzor (2005), in his own view, says that corruption is a major problem in many of the world's developing economies today. According to him, corruption is a dangerous threat to the legitimacy of the governments of some the developing nations themselves. Therefore, it is suggested that new urgent initiatives are needed to deal with the dangers posed by corruption in developing economies.

Looking at the case of corruption, Okeke (2004) noted that a number of special agencies have been created in Nigeria since 1998, to investigate allegations of corruption against pubic officials and to prosecute the cases

accordingly. The Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC) is charged with handling financial crimes and receiving petitions from the general public regarding cases of corruption by public servants respectively. They are to investigate such allegations and prosecute where necessary. The Commission has been "waging a total war on corruption". The Commission had prosecuted some former cabinet ministers, a former state governor and other top government officials but there is a lot more because these are just a little compared to the magnitude at which corruption operates in the country.

Although the literatures present conflicting or no evidence on the causal relationship between government expenditure and poverty trends, bi-directional relationships are likely to be observed in developing countries. That is, it is possible that government expenditure has a negative effect on reducing poverty in some cases, while it is also possible that government expenditure has a positive effect on reducing poverty in other cases. Nevertheless, where the presence of corruption is dominant and high as in Sub-Saharan Africa, it is likely to be one factor that influences the outcomes of the government expenditure.

CHAPTER THREE

3.0 Research Methodology and Measurement

3.1 Introduction

This chapter is concerned with the methods and procedures adopted in the course of the research. It will incorporate subheadings such as sample size/target, method of data collection, instrument of data collection, validity and reliability of instrument and method of data analysis.

3.2 Research Design

The research design adopted for this study is the descriptive research design. In designing this study, the type of data collected, nature of variables and technique of analyses were taken into consideration.

The population of this study is the federal government expenditures which include administrative expenditures (ADEX), economic services expenditures (ECEX), social and community services expenditures (SOCEX) and Transfers expenditures (TREX). However, in spite of the fiscal federalism practiced in the country (Nigeria), the study covers only federal government expenditures on education, health, agriculture, constructions and transportation and communications as its sample. The sample period is 50 years from 1965-2014.

3.3 Sources and Methods of Data Collection

The research design is non-experimental in nature but rely on secondary data collection from key agencies for analysis. This research undertakes a quantitative approach in observing the relationship between government expenditure and poverty trend in Nigeria and the research collected data for this study from secondary sources, which are further explained below.

3.3.1 Secondary Source of Data

In the aim to arrive at a strong outcome from this study and to get sufficient and reliable data for the quantitative analysis, the researcher found it more convenient to use a secondary source of data that involved key agencies publications from economic development planning offices, research and statistics agencies, and budget and finance agencies. This is also supplemented by data from desk research: review of journal articles, but the main data was collected from National Bureau of Statistics of Nigeria Annual reports, the Central Bank of Nigeria Bulletins and the World Bank online databank.

3.4 Instrument of data collection

This is the systematic approach to gather loose data to enable easy enter of data for computations and analysis. The main data collection instruments used for the research work is the Microsoft excel application, a table was created to collect all data on the variables to create a single dataset for the regression

analysis. The choice of using the regression analysis was to bring forth the secondary data to enable the researcher reach a justifiable and arguable conclusion, and it is also less costly and less time consuming.

3.5 Data Processing

This paper carried out time series multiple linear regression analysis method in order to see the relationship between government expenditure and poverty trend in Nigeria. According to

Mason (1996) and Johnson, (2010) regression analysis is a power analytic technique that enable researcher to determine the strength of relationship and also to determine how much impact that the independent variable has on the dependent variable which can be used to make predictions. The data were processed with statistical processing software (Excel, STATA and SPSS. After collecting the data, a couple of manipulations were made to the original data to help ensure uniformity of the data for analysis and avoid bias of the results since the data came in different forms:

Poverty trends: this is usually measured after every five years in Nigeria, this means that annual poverty trends are not readily avaibles from secondary. However, this study calculates estimated trends for the missing years using the figures from the avaible years.

Naira Conversion: The data for government expenditures from 1965 to 2005 appear in million naira ranges while the data from 2006 to 2014 where in billion naira ranges, this lead to the conversion of the data from 2006 to 2014 to million naira ranges to align with the preceding years.

Logarithm: In other to achieve a good and unbiased result from the regression analysis, all the government expenditures were converted into logarithm numbers, because the figures were too large to be regressed together with the other variables. The poverty trends and the population data was also converted for the same purpose since they also appeared in millions as per headcounts.

One year Lag: Since on normal circumstances, results or outcomes of any investment, assessments or measurements are realised or known at the end of its period, annual reports on poverty can only be obtained at the end of the investment years, therefore a one year lag on the government expenditures was applied to explain a more accurate measurement for the impact of the government expenditures on the annual reports on poverty.

3.6 Validity and Reliability of Instrument

For this study, the key measurements for the variables are the validity and relaibility of the source of the data used for the study, which are direct data from the country's statistics finanace and economic office.

i. Measurement of Government expenditure, 1965-2014

a. This is done by collection of secondary data from the budget office of the federation and central bank of Nigeria. The data will be presented in tabular form, after which, a statistical analysis method will be employed to interpret the level/trend of government expenditure. Charts will also be used in describing the data because of the descriptive nature of the research.

ii. Measurement of poverty trend, 1965-2014

a. This is also done by collection of secondary data from the national bureau of statistics databank on poverty which is the poverty headcount of persons below the national poverty lines, others prior researches and research institutions will consulted for additional data and comparing the trends of government budget expenditure and poverty trends over the above stated period.

- Both are conducted by using quantitative data collection methods and analysis, to take advantage of the strengths of the methods.

Based on the conceptual framework and previous studies on this, the following hypotheses are tested in this study:

Hypothesis 1(H1): There is a negative relationship between Total Government expenditure and poverty trend in Nigeria;

Hypothesis 2(H2): There is a negatively significant relationship between Government sectoral expenditure and poverty trend in Nigeria

3.7 Model Construction

This research model is simply linking directly, the relationship between government expenditure and poverty trend on the one hand and the sectoral government expenditure and poverty trend on the other hand, which will be derived from the four major categories of the government expenditure namely (Administrations, Social and Community Services, Economic Services and Transfers) the sectoral expenditures are education, health, agriculture, constructions and transportation and communications.

Prior to previous researches which have shown that variables such as the sectoral allocations have direct or indirect relationship with poverty trend, this research will consider defining poverty trend as a function of government sectoral expenditure and also some other strong determinants of poverty reduction such as, population headcount, inflation rate and GDP growth rate to minimize the bias in the analysis.

In this study, the equations differentiate the data utilized for analysis into two categories: (1) the relationship between overall government expenditure and poverty trend and (2) the relationship between government sectoral allocations/expenditure and the poverty trend as shown below.

It is necessary to put those variables into a model (regression equation), in other to illustrate the relationship between the total government expenditure

and poverty trend, this is to show the correlation between the variables. This study develops the regression equation as the following:

POV=f (TEXP, POP, INFLA, GDP) ……..……..... (1)

In an econometric format:

$POV_t = \beta_{0t} + \beta_1 TEXP_{t-1} + \beta_2 POP_{t-1} + \beta_3 INFLA_{t-1} + \beta_4 GDP_t + \varepsilon_t$ ……. (2)

Where:

POV is poverty trend

TEXP is government expenditure,

population headcount (POP), Inflation rate (INFLA) and GDP growth rate (GDP), β_0 is the constant term, 't' is the time trend, '-1' is a one year lag for the variable and 'ε' is the random error term. The first function shows the overall government expenditure in money terms (million naira) and its relationship with poverty trend.

In order to obtain the impact of the various sectoral allocations of government expenditure and poverty trend, this paper defines the model as the following:

POV = f (EDU, HEAL, AGRI, TRCM, POP, GDP, DUM)..... (3)

In an econometric format:

$POV_t = \beta_{0t} + \beta_1 EDU_{t-1} + \beta_2 HEAL_{t-2} + \beta_3 AGRI_{t-1} + \beta_5 TRCM_{t-1} + \beta_6 POP_{t-1} + \beta_8 GDP_t + \varepsilon_{t-1}$ …..... (4)

Where:

Education (EDU), health (HEAL), agricultural (AGRI), transport and communications (TRCM), population headcount (POP) and GDP growth rate (GDP)

β_0 is the constant term, 't' is the time trend, '-1' is a one year lag for the variable and 'ε' is the random error term. The second function enlightens us on the impact of some government sectoral allocations/expenditure and others variables on the poverty trend, showing how various key sectors or indicators relate with the trends of poverty in Nigeria.

This model was adapted from Gupta et al. (2001), given the fact that it has been frequently modified and used for various other similar researches of this nature.

In this regards, the hypothesis can be defined following the estimated regression analysis which will appear as follows;

Ho1: there is no negative relationship between total government expenditure and poverty trend

(Ho1: $\beta n \geq 0$)

Ha1: there is a negative relationship between total government expenditure (total or sector-based) and poverty trend.

(Ho2: $\beta n < 0$)

Ho2: there is no negatively significant relationship between Government sectoral expenditure and poverty trend in Nigeria

(Ho2: $\beta n \geq 0$)

Ha2: there is a negatively significant relationship between Government sectoral expenditure and poverty trend in Nigeria

(Ha2: $\beta n < 0$)

In reality, Government expenditures should have negative relationship with poverty trend. The commonly accepted rationale behind this hypothesis is that government expenditure is expected to aimed at enhancing economic and social development which should lead to poverty reduction. It is also supported by previous researches on the relationship and the impact of some sectors on poverty

3.8 Expected relationship

The expected coefficient of the independent variables (government expenditure, population, inflation and gdp growth rate) is unclear. For the government expenditure, it will depends on whether these expenditures are utilized on their planned programmes which will therefore leads to a positive impact on the reduction of poverty, but where they are diverted into private consumption, it then will lead to the holding of the government expenditure null hypothesis as true in the case of Nigeria).

Table 2: Summary of variables and their expected signs

Variables	Description	Expected Sign	Source
POV	Poverty trend by headcount in million	Negative	National Bureau of Statistics of Nigeria
EDU	Annual Government Education Expenditure in (million ₦)	Negative	Central Bank of Nigeria Statistical Bulletin
HEAL	Annual Government Health Expenditure in (million ₦)	Negative	Central Bank of Nigeria Statistical Bulletin

AGRI	Annual Government Agriculture Expenditure in (million ₦)	Negative	Central Bank of Nigeria Statistical Bulletin
CNST	Annual Government Construction Expenditure in (million ₦)	Negative	Central Bank of Nigeria Statistical Bulletin
TRCM	Annual Government Transport and Communications Expenditure in (million ₦)	Negative	Central Bank of Nigeria Statistical Bulletin
POP	Annual population by headcount in millions	Positive	National Bureau of Statistics of Nigeria
INFA	Annual inflation growth rate	Positive	Central Bank of Nigeria Statistical Bulletin
GDP	Annual growth rate	Negative	Central Bank of Nigeria Statistical Bulletin/World bank
TEXP	Total Government Expenditure	Negative	Central Bank of Nigeria Statistical Bulletin

CHAPTER FOUR

4.0 Data Analysis and Findings

4.1 Introduction

This chapter examines all the tests that were conducted on the data for the purpose of validation on all the variables, test for linearity, test for normality, test for multi-collinearity, test for stationarity or unit root test were conduct, after which a multiple regression analysis will be shown to find the relationship and impact of the government expenditure on poverty.

4.2 Testing of data for variables

A linearity problem usually exists where there isn't normal distribution amongs the independent variables. Amongst various metheds, Hamilton (1992), amongst other suggestions introduced a log transformation to fix the linearity problem which is also used in this study.

One of the assumptions of classical normal linear regression model is that the residual has to be normally distributed. Although normality is not required in order to obtain unbiased estimates of the regression coefficients but for valid hypothesis testing, it assures that the p-values for the t-tests and F-test will be valid. This study used the e-views to see whether the residual is normally

distributed or not. The result reveals that there is a partially normal distribution.

The other assumption of classical normal linear regression model is that there should be no collinearity among the independent variables, due to the primary concern that as the degree of multi-collinearity increases, the regression model estimates of the coefficients becomes unstable and the standard errors for the coefficients can be inflated. However, this study found multi-collinearity in the first model but after the correction, there is no multi-collinearity in the new model.

This test was carried out following the Engle-Granger approach rejection of the (unit root) null hypothesis $H_0 : a_1 = 0$ implies that the residuals are stationary and that the variables co-integrate. The result reveals that the variables are integrated. See table 11 in appendix for the result of the Engle-Granger co-integration test carried out on the residuals of the model**.**

The formulated hypothesis being tested is stated in null (Ho) as shown below;

Ho1: There is no negative relationship between total government expenditure and poverty trend in Nigeria,

Ho2: There is no negatively significant relationship between Government sectoral expenditure and poverty trend in Nigeria and

To test the above hypotheses, various analyses were employed using MS-Excel, STATA, E-views and SPSS as stated before. Tables 3 to 10 below show the stated results of these analyses.

4.3 Data Analysis

4.3.1 Poverty and Total Government Expenditure Analysis

Table 3: Correlation between TEXP and POV

	POV	TEXP	POP	INFLA	GDP
POV	1				
TEXP	0.730139	1			
POP	0.819322	0.861105	1		
INFLA	0.208817	0.180336	0.328989	1	
GDP	0.045938	0.274551	0.293442	0.203312	1

Table 3 shows that Government total expenditure is correlated with the poverty trend and the correlation is positive. We can see that the total government expenditure has a high mean on the poverty trend.

Table 4: Model Summary of Regression analysis of TEXP and POV

Dependent Variable: POV

Method: Least Squares

Date: 11/24/15 Time: 18:37

Sample: 1965 2014

Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.881	0.471	-10.213	0.000
LOG(TEXP(-1))	-0.069	0.064	-3.018	0.019
POP	2.647	0.301	13.115	0.000
INFLA	-0.002	0.001	0.098	0.013
GDP	-0.004	0.004	-1.590	0.057

R-squared	0.986	Mean dependent var	31.783
Adjusted R-squared	0.983	S.D. dependent var	22.180
S.E. of regression	0.427	Akaike info criterion	5.073

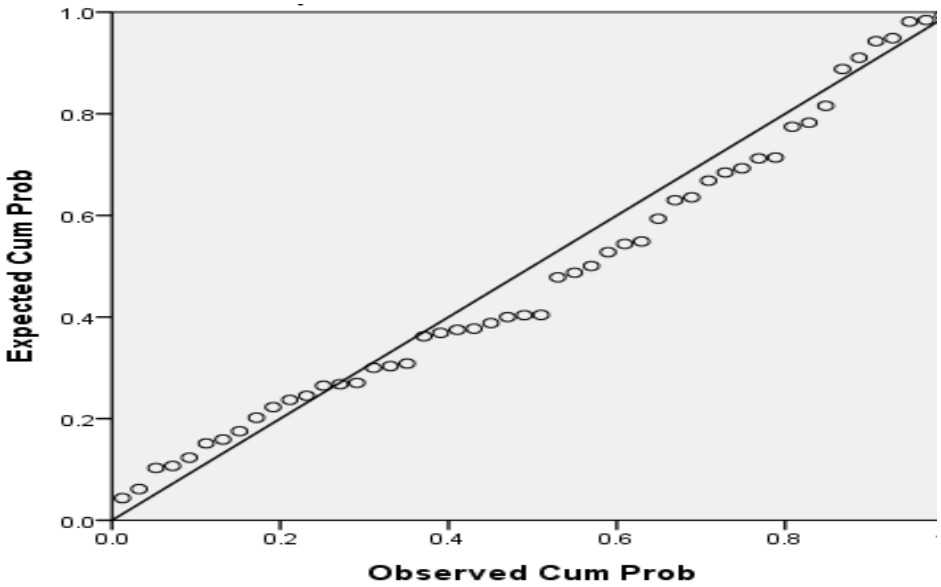
Sum squared resid	5,171.415	Schwarz criterion	4.751
Log likelihood	-124.671	Hannan-Quinn criter.	5.118
F-statistic	426.519	Durbin-Watson stat	0.747
Prob(F-statistic)	0.000		

In table 4, the "R^2" shows that Government total expenditure accounts for about 98% of the variance of poverty trend in Nigeria, although the "adjusted R^2" is intended to control for overestimation of the population R^2 resulting from small samples, high collinearity or small subject/variable ratios. This has been used in various researches in different areas and time. The "Standard Error of the Estimate" is the standard deviation of the residuals showing that the estimates of POV with this model will be wrong by about 0.05percent which is not a trivial amount. The mean square is 0.002, the F-ratio is at 426.519 indicating a good outcome due to its large size and the p-value is significant at less than 0.05.

Considering the p-value "Sig" of the t-test, we realize that all the variables contribute significantly to the model. This means that the independent variable explains the model. The coefficient of TEXP at -0.069 indicates a Negative relationship between the government's total expenditure and poverty trend. This indicates that for every additional unit in TEXP you can expect POV to decrease by an average of 0.07 percent.

Figure 11: Scatter Plot for TEXP and POV

Scatter Plot For Total Government Expenditure And Poverty Trends



The scatter plot shows the direction of the relationship between the government expenditure and poverty trend. From this plot, it is easy to see the straight line connecting to most of the dots and as it goes upward to the right side of the graph, it simply means that the two variable have a positive correlation. As government expenditure increases the poverty trends increases which indicates a positive correlation between the variables. However, this means that as government increases its spending, the level of poverty increases as well, nonetheless this is not a good outcome since the expenditure is expected to reduce poverty.

4.3.2 Poverty and Sectoral Government Expenditure and Other Variables Analysis

Table 5: Correlation between Sectoral Expenditures and Poverty trends

	POV	AGRI	EDU	GDP	HEAL	POV	TRCM
POV	1						
AGRI	0.642452	1					
EDU	0.744987	0.528624	1				
GDP	0.110397	0.07177	0.1406	1			
HEAL	0.745067	0.498864	0.98897	0.126916	1		
POP	0.770941	0.655493	0.861546	0.138969	0.838818	1	
TRCM	0.511368	0.533985	0.434667	0.117088	0.429845	0.625047	1

Table 7 shows that all five sectoral expenditures and population variables are correlated with the poverty trends except for Inflation rate and GDP rate and all variables correlations in the table are positive. Since the logarithm method was not applied on Inflation rate and GDP growth rate figures, we see that they have a higher mean on the poverty trends.

Table 6: Model Summary of Regression analysis of Sectoral Expenditures and Poverty trends

Dependent Variable: POV
Method: Least Squares
Date: 11/23/15 Time: 13:43

Sample (adjusted): 1965 - 2014
Included observations: 50 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-55.196	1.923	-28.705	0.000
LOG(EDU(-1))	-1.448	0.651	-2.224	0.032
LOG(HEAL(-2))	-1.609	0.547	-2.940	0.005
LOG(AGRI(-1))	-0.966	0.545	-1.772	0.084
LOG(TRCM)	1.597	0.573	2.785	0.008
POP	1.236	4.188	29.426	0.000
GDP	-0.036	0.053	-0.674	0.504
DUM	-10.133	1.131	-8.959	0.000

R-squared	0.994	Mean dependent var	48.885
Adjusted R-squared	0.993	S.D. dependent var	35.806
S.E. of regression	2.964	Akaike info criterion	5.156
Sum squared resid	368.883	Schwarz criterion	5.462
Log likelihood	-120.908	Hannan-Quinn criter.	5.273
F-statistic	1,015.817	Durbin-Watson stat	0.967
Prob(F-statistic)	0.000		

Table 8 above, shows the results of the regression analysis, the multiple regression estimates the coefficients of the equation involving six independent variables and a dummy variable that best predict the value of the dependent variable. The result here shows that R^2 (regression value) of the eight moderating factors is 99% at 5% level of significance. Meaning that, poverty trend is responsible for, by about 99% of the variation in government sectoral expenditures considering other some control variables in the Nigerian public

sector. The "adjusted R^2" as mentioned before is intended to "control for" overestimates of the population R^2 resulting from small samples, high collinearity or small subject/variable ratios.

The Standard Error of the Estimate is also the standard deviation of the residuals. As R^2 increases, the Standard Error of the Estimate is expected to decrease. This means that, as it may explain a better fit, the estimation error becomes lesser. On the average, our estimations of POV with this model will be wrong by about 2.96 which is also not a trivial amount given the scale of POV. The F value is as large as 1,015.81 and the significance Column “Sig” for F shows 0.000.

Considering the p-value “Prob” of the t-test for each independent variable, we realize that except for gdp growth rate, all other variables contribute significantly to the model. This highlights the difference between using a correlation to ask if there is bivariate relationship between the poverty trend and a single predictor (ignoring all other predictors) and using a multiple regression to ask if the predictor is related to the dependent variable after controlling for all the other predictors in the model.

Based on the results of this analysis, it could be concluded that EDU, HEAL, AGRI, TRCM, POP and GDP has significant influence on poverty reduction effectiveness in Nigeria. Therefore, the all null hypotheses **(Hoi, and Hoii**) are hereby rejected and all alternate hypotheses not rejected.

Figure 12: Fitted and Actual line of Scatter Plot and residuals for All variables and Poverty trends

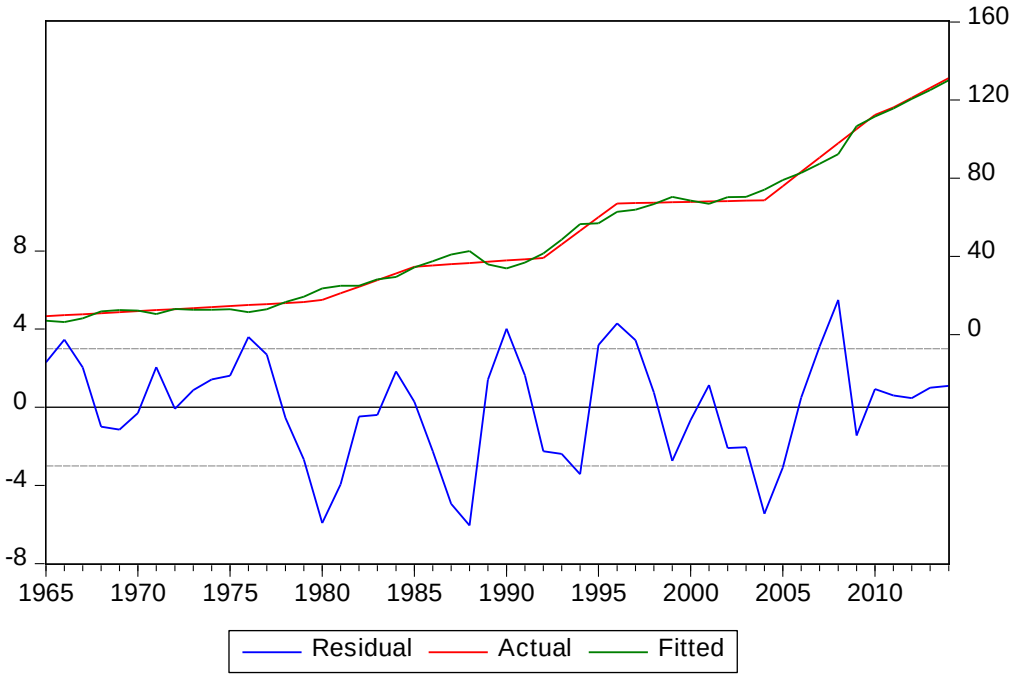


Figure 12 shows the scatter plot and fitted line and below is the residuals for the data. The plot shows the direction of the relationship between the government expenditure and poverty trend in which we can easily see the fitted line connecting to most of the points and as it goes upward to the right side of the gragh, it simply means that the variables have a positive correlation. Although, it show a positive relationship between the six variables but in the real sense, it is more or less a negative relationship for the sector expenditures and gdp because the interpretation here is that when government increase expenditure the poverty increases as well, nonetheless this is also not a good outcome since the expenditures and gdp growth are suppose to the reduce the poverty trend.

The residuals of the first model were non stationary which led to the introduction of dummy variable which was used to make the residuals stationary. The calls for the explanations of two periods where there were drastic decrease in government expenditure. Government had decreased expenditure between 1989 to 1993, and 2001 to around 2007 due to some changes in the economy; the constitution of the Third Republic was drafted in 1989, this was when General Ibrahim Badamasi Babangida was the military Head of State. He promised to terminate military rule by 1990 which was not successful until 1993. The lifting of the ban on political activity in the spring of 1989, and his government established two political parties. Gubernatorial and state legislative elections were conducted in December 1991, while the presidential election was postponed till 12 June 1993 – due to political unrest.

On 23 June 1993, he had the election annulled, and this threw the country into chaos which made him eventually resign the office on 23 August 1993 due to political pressure. Ernest Shonekan who assumed the office of the presidency as the Head of the Interim National Government was unable to manage the political turmoil which ensued in the post IBB months. He was then removed from office, by the then Minister of Defence, General Sani Abacha in November 1993 who tried to revive the country stability. This unrest and unstable government and governance through the period led to high corruption and misappropriation of funds to the major governmental sectors and reduction in government spending on economic and social infrastructure.

In September 2001, another unfortunate incident occur in Jos which was the capital of Plateau State in central Nigeria. The sudden eruption of violence between Christians and Muslims in a city made it a scene of mass killings and destructions, this was the first time a state where diverse communities and tribes had coexisted peacefully for years and which had prided itself on avoiding the inter-communal violence that had plagued neighbouring states. This led to the killing of hundreds of people and tens of thousands displaced in less than one week. The fear of this spreading through the country also a whole led to a serious security measures which had led to reallocation of more funds to defense and security budget and reduced allocation on other major sectors.

4.4 Summary of Analysis and interpretation

The regression shows that the coefficient for total government expenditure is -0.083 indicating that for every additional money in the annual expenditure is followed by a slight decrease in the number of people under the national poverty level. The scatter plot fitted line graphically shows the same information. If you move left or right along the x-axis by an amount that represents annual change in total government expenditure, the fitted line rises or falls by 0.08% which in turn suggests that changes in the total government expenditure are associated with changes in the poverty trends. However, the total government expenditure data are from 1965 to 2014. The relationship is only valid within this data range.

The regression in table 6 shows that total government expenditure has significantly negative effects on poverty such that 1 percent increase in total government expenditure leads to 0.08 percent decrease in poverty rate, at 1 percent level of significance. GDP growth rate also has a negative but mild insignificant effect on poverty, such that 1 percent increase in the GDP growth rate leads to 0.001 percent decline in poverty rate, at 1 percent level of significance.

The regression in table 8 shows that only GDP growth rate have insignificantly negative effects on poverty such that 50 percent increase in the GDP growth rate leads to about 0.04 percent decline in poverty, at 50 percent level of significance. Population has a strong positive effect on poverty, such that 1 percent increases in population leads to 2.84 percent increase in poverty rate, at 1 percent level of significance.

Although the effect is statistically significant, government expenditure on transportation and communications has no negative effects on poverty. Expenditure on education shows a significantly negative impact on poverty such that 1 percent increase in education expenditure leads to 1.45 percent decrease in poverty rate, at almost 5 percent level of significance. Expenditures on also has significantly negative impact on poverty such that 1 percent increase in health expenditure leads to 1.61 percent decrease, at 1 percent level of significance and agriculture expenditure has significantly

negative impact such that 1 percent increase in agriculture expenditure leads to about 0.97 percent decrease in poverty, at 5 percent level of significance.

4.5 Hypothesis interpretation

The formulated hypothesis being tested is stated in null (Ho) as. **Ho1**: There is no negative relationship between TEXP and POV in Nigeria and **Ho2:** There is no significantly negative relationship between Sectoral Expenditures and POV in Nigeria.

Hypothesis (1): The correlation between poverty trend and total government expenditures in Nigeria indicates a Negative coefficient and significant relationship as expected. This in the actual sense means that, as the total government expenditure increases, the poverty trends decreases which also translate to a positive impact on the poverty reduction in Nigeria. We therefore reject the null hypothesis.

Hypothesis (2): The correlation between poverty trend and various government sectoral expenditures indicates negative and significant relationship between poverty trend and education, health, and agriculture expenditures while transportation and communications expenditures indicates positive and yet significant relationship in Nigeria. The unstable increase of the expenditures on transportation and communications could be responsible for the unexpected outcome. However, five out of the six independent variables have their expected outcomes; therefore we could also reject the null hypothesis.

This does not yet fully explain why the Nigerian poverty rate has been increasing over the years, but it tells us that there is need to increase government expenditures on these government sectors to increase the level of poverty reduction in the country. Also, that there is the need to look at other factors such as population, inflation rate and GDP growth rate.

CHAPTER FIVE

5.0 Summary, Conclusions and Recommendations

5.1 Summary and Discussion

This study revealed a few results different from the some previous studies. The fact that these results defers from previous and well known researchers' findings, calls for some some further questioning and investigation to the stuides.

1. Firstly, previous studies investigated the relationship between government expenditures and economic growth in Nigeria by utilizing intermediary factors to develop the models, these factors included output and outcome of government expenditure which directly affected poverty rate. However, this study looked at the relationship from two angle; first the relationship between the total government expenditure and poverty trend and secondly the government selected expenditure utilising the intermediaries to develope their models.

2. Limitation to explain the causal relationship between government expenditure and poverty trends in Nigeria; Although the conceptual framework shows that the government expenditure has a negative causal

relationship with growth and poverty rate, this study only looks at the impact of these variables rather than a causality analysis. The result is limited to relationship analysis.

3. The challenges of data limitation occured while trying to collect poverty data for the rgression analysis. The limitation of series of data had an implication on the variable included in the model which forced the researcher to manulapulate an explainable way to cover for that limitation to achieve a good-fit model.

5.2 Conclusion

Based on the findings and discussion in the previous chapters, this study concludes in six important points and gave six recommendations stated below as the following:

1. This study found that the overall government expenditure overall have a positive relationship with poverty trend which is in-line with the expection and other findings from previous studies. This means that as overall government expenditure increases, the level of poverty in Nigeria decreases a little.

2. This study also compares the relationship between sectoral government expenditure and poverty trend in the presence of control variables

such as population and GDP growth rate to show that there are other factor that contribute to the negative outcome of the relationship between sectoral government expenditure and poverty trend.

3. Only the government expenditure in education, health and agriculture sectors have insignificantly negative relationship with poverty trends. Only transportation and communication has no negative yet significantly related with poverty in Nigeria.

4. Health expenditure show the most significant impact amongst the government expenditure that had negative relationship with poverty trend..

5. The population and economic growth used as the control variables had their expected significantly negative and positive relationship respectively with poverty. This shows that when population grows by 1%, it is accompanied with higher poverty rate by about 2.8%, while GDP growth rate shows that 1% increase is lead to about 0.04% decrease in poverty rate.

6. Corruption is one critical issue that should not be overlooked. Although due to lack of useable and reliable data on corruption, the model was estimated without corruption, nevertheless, it has been discussed briefly in this study to elaborate its crucial position in achieving the outcome of government spending.

5.3 Recommendations

This study provides six point of recommendations as the following:

1. Firstly, Nigeria should ensure that there is proper management of overall government budget in order to enhance productive capacity and accelerate the poverty reduction in Nigeria. There is also the need for increase in government spending on certain government sectoral allocation.

2. Like other studies have recommended, the Nigerian government should put more emphasis on investment in health, education and agriculture sectors as a persistent effort to reduce poverty since they have shown statistically positive impact on poverty reduction. But this should not stop the government from increasing expenditure on the other sectors of the government.

3. Expenditure on transportation and communication also showed significant but no positive impact on poverty. Therefore, the Nigerian government should also put more emphasis on investment in transportation and communication sectors as a persistent effort to reduce poverty.

4. To also see the effects of the government expenditure on poverty reduction, it is most important that government considers the growth in population of the Nigeria because as population increases, it has a strong negative effect on poverty since it increases the number of people mostly

living below the poverty line. Therefore government should develop a mean to controlling birth rate by providing adequate sensitization to families on family planning and its advantages. The positive relationship between population and poverty trends calls the attention of government to the rising population of Nigeria. Government should respond with population control policies.

The results also show that government should intensify efforts to grow the GDP of Nigeria. This is especially important as previous studies have shown that countries with high income have relatively slower population growth rates. Hence, increasing the income of the country may be a way of controlling the ultimate effect of reducing the poverty.

5. Inflation as a means for market prices increase poses a great challenges on the purchasing power of the common man, this implies pushing more people into the poor and making them unable to purchase even the basic needs if not resolved. Government should ensure that the market prices at regulated to avoid exploitations, deflation most be a key government focus point because the more people can purchase what they need, the more people in poverty will reduce.

6. The government should ensure that development function and bureaucratic system of the implementing policies and good governance in Nigeria are checked and improved. These are expected to reduce corruption

and improve proper implementation of government projects and programmes which should help in the reduction of poverty as well..

Finally, this study would like to proceed on further studies on what more factors that can affect the relationship between government relationship and poverty. This will explore more indicators that may not have been used in this and other studies.

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Appendix

Table 7: The effect of government expenditure on poverty reduction

Country	Author	Period	Method	Agriculture	Education	Health	Infrastructure
China	Fan & Hazell, 2001	1970-1997	Regression analysis (system of equations)	+	++		+
Cross-country (39)	Gomanee, Morrisey, Mosley and Verschoor, 2003	1980-1998	Regression analysis	(+)	+	+	
Ghana	Dabla-Norris & Matovu,2002	1999	Dynamic CGE		++		+
India	Fan, Hazell and Thorat, 1999	1970-1995	Regression analysis (system of equations)	+	+	+	++
Sub-Saharan Africa	Lofgren & Robinson, 2004	1998-2015	Dynamic CGE	++	+	+	+
Tanzania	Jung & Thorbecke, 2003	1992	CGE		+		
Uganda	Fan, Zhang & Rao, 2004	1992, 1995, 1999	Regression analysis (system of equations)	++	+	+	+
Vietnam	Fan, Huong & Long, 2004	1993-2000	Regression analysis (system of equations)	++	+		+
Zambia	Jung & Thorbecke, 2003	1995	CGE		+		

Notation: +, sector indicated has a significant poverty-reducing effect through the methodology stated; ++ sector indicated had the largest effect on poverty reduction (not available for all studies); (+), sector indicated had a non-significant positive effect on poverty through the methodology stated; -, sector indicated had a significant poverty-increasing effect through the methodology stated. Missing notation means that the study does not cover the sector.

Table 8: Summary of Data of Variables for Regression; Poverty trend, Government Sectoral Expenditures and Control Variables 1965 to 2014

Years	Poverty Trends by head count (m)	General administration	Education	Health	Agriculture	Construction	Transport & Communication	Population size, in millions	Inflation, Growth Rate (annual)	GDP Growth Rate (N'M)	Exp
1965	0.97	1.45	1.17	0.74	0.09	1.53	1.74	1.69	1.11	7.24	
1966	1.00	1.43	1.20	0.45	0.96	1.59	1.86	1.70	0.67	- 4.25	
1967	1.02	1.40	1.23	- 0.10	1.14	1.54	1.94	1.71	3.31	- 15.74	
1968	1.04	1.14	0.88	0.04	1.03	1.77	1.81	1.72	1.28	- 1.25	
1969	1.06	0.70	0.51	- 0.28	0.06	1.83	1.61	1.73	3.66	24.20	
1970	1.08	2.15	1.20	0.91	0.50	1.37	0.90	1.74	0.92	25.01	
1971	1.10	2.31	1.40	1.11	0.49	1.36	0.88	1.75	13.13	14.24	
1972	1.11	2.56	0.83	1.34	1.07	1.68	1.20	1.76	2.69	3.36	
1973	1.13	2.67	1.19	1.63	1.65	1.87	1.42	1.77	- 3.88	5.39	
1974	1.15	2.70	1.34	1.58	1.87	2.09	1.74	1.78	18.55	11.16	
1975	1.16	2.76	2.43	2.10	2.22	2.32	1.83	1.79	9.52	- 5.23	
1976	1.18	3.13	2.92	2.38	2.61	2.77	2.32	1.80	43.48	9.04	
1977	1.19	3.16	3.03	2.23	2.48	3.08	2.65	1.82	12.12	6.02	
1978	1.21	3.24	2.86	2.40	2.85	3.09	2.66	1.83	31.27	- 5.76	
1979	1.22	3.22	2.91	2.29	2.49	3.08	2.80	1.84	6.18	6.76	
1980	1.25	3.09	2.77	1.77	2.74	2.05	2.93	1.86	8.31	4.20	
1981	1.32	3.32	3.20	2.73	2.98	3.41	3.19	1.87	16.11	- 13.13	
1982	1.39	3.21	2.95	2.66	2.45	3.32	2.85	1.88	17.40	- 1.05	
1983	1.45	3.15	2.86	2.57	2.31	3.18	2.70	1.89	6.94	- 5.05	
1984	1.50	3.30	2.87	2.58	2.26	3.13	2.66	1.90	38.77	- 2.02	
1985	1.54	3.13	2.52	2.23	1.81	2.68	2.20	1.91	22.63	8.32	
1986	1.55	3.28	2.96	2.67	1.94	2.81	2.33	1.92	1.03	- 8.75	
1987	1.56	3.23	2.80	2.51	2.01	2.88	2.41	1.94	13.67	- 10.75	
1988	1.56	3.75	2.84	2.10	2.28	3.23	2.87	1.95	9.69	7.54	
1989	1.57	3.89	3.42	2.89	2.36	3.28	2.79	1.96	61.21	6.47	
1990	1.58	3.95	3.64	2.92	2.76	3.27	3.05	1.97	44.67	12.77	
1991	1.59	3.98	3.59	2.91	2.91	3.30	2.96	1.98	3.61	- 0.62	
1992	1.59	4.01	3.29	2.98	2.85	3.14	2.91	1.99	22.96	0.43	
1993	1.66	4.14	2.88	2.59	2.90	3.30	2.99	2.00	48.80	2.09	
1994	1.73	4.59	4.04	3.68	3.78	3.89	3.83	2.01	61.26	0.91	
1995	1.78	4.23	4.04	3.50	3.97	3.96	3.55	2.02	76.76	- 0.31	
1996	1.83	4.39	4.21	3.74	4.10	4.15	3.95	2.04	51.59	4.99	
1997	1.83	4.51	4.25	3.67	4.61	4.38	4.73	2.05	14.31	2.80	
1998	1.83	4.76	4.29	3.71	4.77	4.71	4.65	2.06	10.21	2.72	
1999	1.83	4.61	4.45	4.00	4.72	5.01	4.55	2.07	11.91	0.47	
2000	1.83	5.02	4.73	4.32	5.45	4.89	4.72	2.08	0.22	5.32	
2001	1.83	4.97	4.89	4.31	4.49	4.39	4.17	2.09	14.53	4.41	
2002	1.83	4.98	4.82	4.61	4.62	4.63	5.30	2.10	16.49	3.78	
2003	1.84	5.18	4.99	4.69	4.70	4.58	5.17	2.11	12.14	10.35	
2004	1.84	5.33	5.00	4.71	4.18	4.53	4.66	2.12	23.84	33.74	
2005	1.88	5.17	4.97	4.62	4.64	4.76	4.49	2.13	10.01	3.44	
2006	1.92	5.54	5.09	4.91	4.92	4.96	4.61	2.14	11.57	8.21	
2007	1.96	5.59	5.22	4.94	4.89	4.93	4.62	2.16	8.57	6.83	
2008	1.99	5.63	5.38	5.11	4.99	5.33	4.98	2.17	6.56	6.27	
2009	2.02	5.71	5.38	5.16	5.23	5.39	5.24	2.18	15.06	6.93	
2010	2.05	5.79	5.29	5.10	4.69	5.25	5.30	2.19	13.93	7.84	
2011	2.07	5.93	5.34	5.10	4.69	5.00	4.87	2.20	11.82	4.89	
2012	2.08	5.92	5.57	5.41	4.97	5.64	4.47	2.21	10.28	4.28	
2013	2.10	5.77	5.59	5.35	4.90	5.30	4.74	2.23	11.98	5.39	
2014	2.12	5.84	5.66	5.33	5.03	5.40	4.70	2.24	7.96	6.31	

Table 9: Unit Root Test result

Null Hypothesis: RES has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.448005	0.0139
Test critical values:	1% level	-3.574446	
	5% level	-2.923780	
	10% level	-2.599925	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RES)
Method: Least Squares
Date: 10/18/15 Time: 21:29
Sample (adjusted): 1967 2014
Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RES(-1)	-0.333994	0.096866	-3.448005	0.0012
D(RES(-1))	0.405603	0.137910	2.941084	0.0052
C	-0.000286	0.003507	-0.081425	0.9355

R-squared	0.252446	Mean dependent var	-0.000912
Adjusted R-squared	0.219221	S.D. dependent var	0.027468
S.E. of regression	0.024271	Akaike info criterion	-4.538617
Sum squared resid	0.026508	Schwarz criterion	-4.421667
Log likelihood	111.9268	Hannan-Quinn criter.	-4.494421
F-statistic	7.598152	Durbin-Watson stat	2.011920
Prob(F-statistic)	0.001435		

국문초록

정부지출과 빈곤 추세 간 관계에 대한 연구:

나이지리아 (1965-2014) 사례를 중심으로

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대부분의 개발도상국은 산업발전, 경제성장, 높은 생활수준에 대한 열망을 가지고 있다. 이러한 목적 달성을 위해 정부는 경제개발계획을 세우고 국가 예산을 투자하고 있다. 나이지리아 정부가 원유판매를 통한 많은 수익을 국가 예산을 통해 개발계획에 지출하고 있지만 높은 빈곤수준은 이러한 프로젝트들이 제대로 실행되고 있지 않음을 보여준다. 이와 같은 현실은 나이지리아 정부지출의 효과성에 대한 의문을 제기하게 한다.

이 연구는 나이지리아의 전체 정부지출 및 부문별 정부지출과 빈곤 수준 간 관계에 대해 조사하고자 한다. 1965 년부터 2014 년까지의 시계열 데이터를 분석한 결과 전체 정부 지출과 빈곤추세 간 음의 상관관계를 발견할 수 있었다. 인구와 GDP 성장률을 통제변수로 두고 교육, 보건, 농업, 교통, 통신 등의 부문별 정부지출과 빈곤간 관계를 분석한 결과 교육, 보건, 농업 부문 정부지출과 빈곤 간 음의 상관관계가 나타났다. 데이터의 분석은 다중회귀분석을 이용하였고,

데이터의 정상성과 타당성을 확인하기 위해 Wilhelm 과 Fiestas 모델과 ADF 공적분 검정을 활용하였다.

나이지리아의 빈곤율 감소와 시민 복지증진을 위한 정부 지출의 효과성을 저해하는 주요 요인으로는 인구, 인플레이션, 부패를 찾을 수 있었다. 이와 같은 결과를 바탕으로 본 연구는 교육, 보건, 농업과 같은 분야에 대한 적절하고 충분한 예산 배분을 이루어져야 함을 제안한다. 또한 인구성장률, 인플레이션에 대한 통제가 이루어져야 하며 부패 통제와 함께 바람직한 정부 프로그램 및 프로젝트 실행메커니즘에 대한 디자인이 필요하다.

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