IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 10, Issue 6 Ser. IV (Nov. – Dec 2019), PP 39-52
www.iosrjournals.org

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

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Abstract: *The study examines the relationship between total government expenditure and the effects of specific sectoral expenditures on the level of poverty in Nigeria using 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 analyzed using (OLS) multiple regression technique, 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 recommends proper and adequate allocation of funds to sectoral activities especially education, health and agriculture. Government should also focus on controlling the population growth, inflation and control of corruption of the country and designing a good implementation mechanism for government programmes and projects with law enforcement.*

Keywords: *government expenditure, poverty, corruption, budget implementation, gross domestic product*

Date of Submission: 02-12-2019 Date of acceptance: 18-12-2019

I. Introduction

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

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

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?

II. Literature Review

Poverty

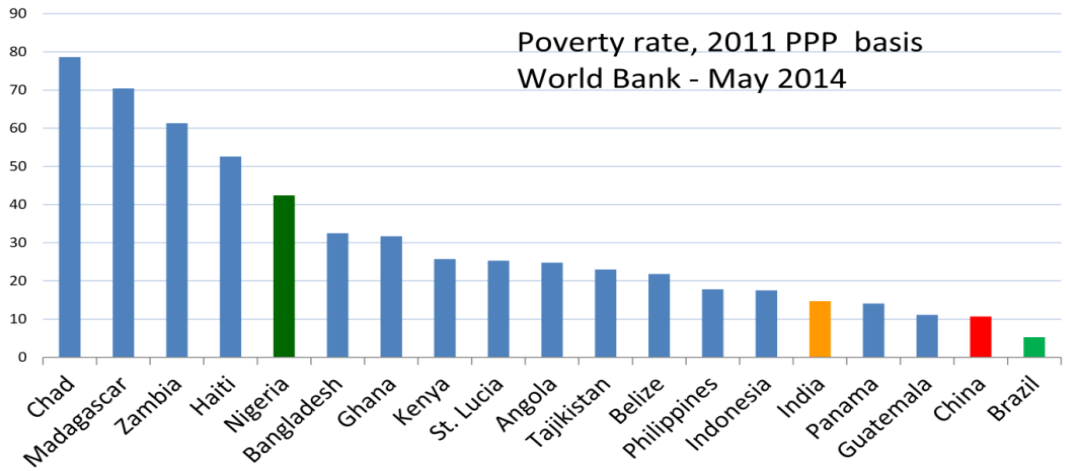
Poverty is a contested concept, the particular meaning of which depends on the ideological and political context within which it is used. However, in the broadest sense it can be generally understood as the lack of, or inability to achieve, a socially acceptable standard of living, or the possession 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 that 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).

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.

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. [1]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 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 favorable 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

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

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.

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.[2] 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.[3]

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. 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.

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;

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

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.

Factors that lead to Poverty increase

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.

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.

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-emphasized 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.

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 analyzing 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 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%.

Omotosho (2014) highlights some of the reasons for the non-implementation of government programs 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.

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

III. Methodology

This study 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.

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:

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

Where:

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

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.

Summary of Regression Output of Government Expenditures and Poverty

	-1	-2
VARIABLES	**Pov**	**Pov**
(Log –total government expenditure (lag(-1))	-0.069***	
	-3.018	
(Log -education expenditure (lag(-1))		-1.448**
		-2.224
(Log -health expenditure (lag(-2))		-1.609***
		-2.940
(Log -agriculture expenditure (lag(-1))		-0.966*
		-1.772
(Log -transport & construction expenditure)		1.597***
		2.785
Pop	2.647***	1.236***

	13.115	29.426
Gross domestic product	-0.004**	-0.036
	-1.590	-0.674
Inflation	-0.002***	
	0.098	
Dummy variable		10.133***
		-8.959
Constant	--3.881***	-55.196***
	-10.213	-28.705
Estimation method*	POISSON	
Observations after adjustments	50	50
R-squared	0.986	0.994
Adjusted R-squared	0.983	0.993
S.E. of regression	0.427	2.964
Sum squared resid	5,171.415	368.883

IV. Results and Discussions

The regression outputs 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.

Result 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.

Result also 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 increase 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.

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.

V. Summary, Conclusion and Recommendations

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.

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

The 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.

The study also compares the relationship between sectoral government expenditure and poverty trending 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.

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

Health expenditure show the most significant impact amongst the government expenditure that had negative relationshipwith poverty trend..

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.

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.

The study provides six point of recommendations as the following:

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.

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. 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. 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. 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. 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 programs which should help in the reduction of poverty as well.

Finally, this study would like to proceed on further studies on 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

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)	Total Expenditure
1965	0.97	1.45	1.17	0.74	0.09	1.53	1.74	1.69	1.11	7.24	**2.34**
1966	1.00	1.43	1.20	0.45	0.96	1.59	1.86	1.70	0.67	- 4.25	**2.37**
1967	1.02	1.40	1.23	- 0.10	1.14	1.54	1.94	1.71	3.31	- 15.74	**2.41**
1968	1.04	1.14	0.88	0.04	1.03	1.77	1.81	1.72	1.28	- 1.25	**2.41**
1969	1.06	0.70	0.51	- 0.28	0.06	1.83	1.61	1.73	3.66	24.20	**2.54**
1970	1.08	2.15	1.20	0.91	0.50	1.37	0.90	1.74	0.92	25.01	**2.75**
1971	1.10	2.31	1.40	1.11	0.49	1.36	0.88	1.75	13.13	14.24	**2.96**
1972	1.11	2.56	0.83	1.34	1.07	1.68	1.20	1.76	2.69	3.36	**3.00**
1973	1.13	2.67	1.19	1.63	1.65	1.87	1.42	1.77	- 3.88	5.39	**3.17**
1974	1.15	2.70	1.34	1.58	1.87	2.09	1.74	1.78	18.55	11.16	**3.18**
1975	1.16	2.76	2.43	2.10	2.22	2.32	1.83	1.79	9.52	- 5.23	**3.44**
1976	1.18	3.13	2.92	2.38	2.61	2.77	2.32	1.80	43.48	9.04	**3.77**
1977	1.19	3.16	3.03	2.23	2.48	3.08	2.65	1.82	12.12	6.02	**3.90**
1978	1.21	3.24	2.86	2.40	2.85	3.09	2.66	1.83	31.27	- 5.76	**3.95**
1979	1.22	3.22	2.91	2.29	2.49	3.08	2.80	1.84	6.18	6.76	**3.90**
1980	1.25	3.09	2.77	1.77	2.74	2.05	2.93	1.86	8.31	4.20	**3.87**
1981	1.32	3.32	3.20	2.73	2.98	3.41	3.19	1.87	16.11	- 13.13	**4.18**
1982	1.39	3.21	2.95	2.66	2.45	3.32	2.85	1.88	17.40	- 1.05	**4.06**
1983	1.45	3.15	2.86	2.57	2.31	3.18	2.70	1.89	6.94	- 5.05	**4.08**
1984	1.50	3.30	2.87	2.58	2.26	3.13	2.66	1.90	38.77	- 2.02	**3.98**
1985	1.54	3.13	2.52	2.23	1.81	2.68	2.20	1.91	22.63	8.32	**4.00**
1986	1.55	3.28	2.96	2.67	1.94	2.81	2.33	1.92	1.03	- 8.75	**4.12**
1987	1.56	3.23	2.80	2.51	2.01	2.88	2.41	1.94	13.67	- 10.75	**4.21**
1988	1.56	3.75	2.84	2.10	2.28	3.23	2.87	1.95	9.69	7.54	**4.34**
1989	1.57	3.89	3.42	2.89	2.36	3.28	2.79	1.96	61.21	6.47	**4.44**
1990	1.58	3.95	3.64	2.92	2.76	3.27	3.05	1.97	44.67	12.77	**4.61**
1991	1.59	3.98	3.59	2.91	2.91	3.30	2.96	1.98	3.61	- 0.62	**4.78**
1992	1.59	4.01	3.29	2.98	2.85	3.14	2.91	1.99	22.96	0.43	**4.82**
1993	1.66	4.14	2.88	2.59	2.90	3.30	2.99	2.00	48.80	2.09	**4.97**
1994	1.73	4.59	4.04	3.68	3.78	3.89	3.83	2.01	61.26	0.91	**5.28**
1995	1.78	4.23	4.04	3.50	3.97	3.96	3.55	2.02	76.76	- 0.31	**5.21**
1996	1.83	4.39	4.21	3.74	4.10	4.15	3.95	2.04	51.59	4.99	**5.40**
1997	1.83	4.51	4.25	3.67	4.61	4.38	4.73	2.05	14.31	2.80	**5.53**
1998	1.83	4.76	4.29	3.71	4.77	4.71	4.65	2.06	10.21	2.72	**5.63**
1999	1.83	4.61	4.45	4.00	4.72	5.01	4.55	2.07	11.91	0.47	**5.69**
2000	1.83	5.02	4.73	4.32	5.45	4.89	4.72	2.08	0.22	5.32	**5.98**
2001	1.83	4.97	4.89	4.31	4.49	4.39	4.17	2.09	14.53	4.41	**5.85**
2002	1.83	4.98	4.82	4.61	4.62	4.63	5.30	2.10	16.49	3.78	**6.01**
2003	1.84	5.18	4.99	4.69	4.70	4.58	5.17	2.11	12.14	10.35	**6.01**
2004	1.84	5.33	5.00	4.71	4.18	4.53	4.66	2.12	23.84	33.74	**6.09**
2005	1.88	5.17	4.97	4.62	4.64	4.76	4.49	2.13	10.01	3.44	**6.14**
2006	1.92	5.54	5.09	4.91	4.92	4.96	4.61	2.14	11.57	8.21	**6.24**
2007	1.96	5.59	5.22	4.94	4.89	4.93	4.62	2.16	8.57	6.83	**6.29**
2008	1.99	5.63	5.38	5.11	4.99	5.33	4.98	2.17	6.56	6.27	**6.37**
2009	2.02	5.71	5.38	5.16	5.23	5.39	5.24	2.18	15.06	6.93	**6.49**
2010	2.05	5.79	5.29	5.10	4.69	5.25	5.30	2.19	13.93	7.84	**6.52**
2011	2.07	5.93	5.34	5.10	4.69	5.00	4.87	2.20	11.82	4.89	**6.62**
2012	2.08	5.92	5.57	5.41	4.97	5.64	4.47	2.21	10.28	4.28	**6.65**
2013	2.10	5.77	5.59	5.35	4.90	5.30	4.74	2.23	11.98	5.39	**6.66**
2014	2.12	5.84	5.66	5.33	5.03	5.40	4.70	2.24	7.96	6.31	**6.71**

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		

Nuhu Yahaya "Relationship between Government Expenditure and Poverty: A Study of Nigeria (1965-2014)" IOSR Journal of Economics and Finance (IOSR-JEF), vol. 10, no. 6, 2019, pp. 39-52.