

FISCAL FEDERALISM AND MULTIDIMENSIONAL POVERTY REDUCTION IN NIGERIA: A CROSS-STATE ANALYSIS

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ABSTRACT

This study is a cross-sectional analysis that explores the significance of fiscal federalism in the poverty reduction efforts of the government of Federal Republic of Nigeria across 36 states and Federal Capital Territory (FCT). The descriptive analysis showed that the percentage of those who were multi-dimensional-poor have increased between 2014 and 2016 as such surge is recorded in the 23 States of the federation, Yobe State recorded the highest percent of population who were multi-dimensionally poor in 2014 followed by Kebbi State. In 2016 however, more than 63 percent of population from Yobe State were suffering from multi-dimensional poverty, the highest in the federation followed by Zamfara state. The study found that Lagos State had lowest number of populace suffering from multi-dimensional poverty index which is less than 2 percent in 2014 with only marginal increase in 2016. The findings from the study is consistent with the theory of decentralization as fiscal federalism is negatively correlated with the poverty index which indicates that the higher the level of sub-national expenditure, the lower the level of poverty across the state of the federation. Apart from being consistent and contrary to the expectation however, the estimated result reveals that 1% increase in the sub-national expenditures as a result of increase in revenue allocation from central government would lead to 0% reduction in the poverty level in the Nigeria despite change in the fiscal allocation to sub-nationals. The policy implication of this is that Nigerian fiscal federalism lifted zero number of people out of multi-dimension poverty, this may be attributed to the wide spread of endemic corruption among the politicians, the usual policy somersault and lack of effective policy implementation mechanism and accountability that would have monitored the implementation of developmental program and agenda of sub-nationals after the revenue has been allocated from the centre.

Keywords: Fiscal federalism; multidimensional poverty; cross-sectional analysis

1. Introduction

Nigeria is classified as a democratic country; one of top eight producers of crude oil and the most populous country in Africa with a population of about 170 million people. This represents about 20% of the population of the entire African continent but about seventh populous country in the world. However, 17 years into democracy of this on-going fourth republic cum the vast resources in the country have not removed the country from one of the poorest economies in the world. The high incidence of poverty has been identified as one of the major challenges as the country recorded 68% and 84.5% lived below \$1.25 per day and \$2 per day respectively in 2010 (OPHI, 2014). The percentage of poor population in Nigeria has been greater than 50% for more than 10 years with surges over 60%. In 1980, a little less than 30% of Nigerian was living below the poverty line. As the standards of living worldwide have been increasing, there is no real positive change in Nigerians' living standard. Poverty is generally defined as the presence of deprivation of economic, social and other standards of well-being (World Bank, 2001; OECD, 2001) with characteristics such as low income, voicelessness, powerless, vulnerability and exposure to risk. Hence, the concept of poverty has gone beyond income and consumption poverty to multidimensional poverty. According to the most recent report from the UNDP Human Development Report (2014), Nigeria's Human Development Index (HDI) value for 2014 is 0.514 which positions the country at 152 out of 187 countries and territories. The percentage of people living in multi-dimensional poverty have recently increased from 24% in 2014 to 30.3% in 2015 with rural areas having 32.4% in 2014 but 41.6% in 2015 while urban areas had 7% in 2014 but 13.2 in 2015 (OPHI, 2014; 2015). Those in destitute have also increased from 26.6% in 2014 to 34.6% in 2015.

Although the notion of community-driven development which embraces the view that poverty is local and that poverty reduction requires involvement at the local level is becoming popular as fiscal decentralization has been globally adopted as the solution to high incidence of poverty. Fiscal federalism tenets which have increasingly gained prominence since 1990s whether by choice or by external pressure refers to a restructuring of authority so that there is a system of co-responsibility among institutions of governance at the central, regional and local levels according to the principle of subsidiarity. It is this principle that ensures that functions and finances are transferred to the lowest institutional level i.e. state and local governments. Fiscal

decentralization is the practical implementation of the principles of fiscal federalism (Ewetan, 2015) no doubt is now in vogue regardless of inconclusiveness in the extant empirical literature on fiscal decentralization and poverty reduction and growth nexus, as more than 80% of the seventy-five developing countries are currently involved in the devolution of policy responsibilities from the central government towards sub-national government by the beginning of millennium (Garman et al., 2001) with respect to expenditure and revenue collection with varying degree of commitment and success. The developed countries also witnessed rapid adoption of fiscal decentralization.

Some have argued that poor and less developed countries are prone to corruption and elites captured local interest groups and distort and divert resources to their selfish interest (Ramirez et al., 2016). One of the reasons for the increase in the interest for the implementation of fiscal decentralization is the quest for improved efficiency in the delivery of basic social services such as health, education, pipe borne water, sanitation and roads especially in reaching out to the poor people (European Commission, 2007) as the proximity of policy makers to the target groups reduces information and transaction costs of identifying the poor and helps in designing potentially successful ‘capacity improving’ and ‘safety net’ policies (Rao, 1998). In an economy with significant inter-community (regional/local) variations in preferences (like Nigeria), and when there are no significant economies of scale and scope, decentralized provision of public services can enhance efficiency in the provision of these services and result in welfare gains (Oates, 1999). Also, Oates (1999) argued that intergovernmental competition which would result in innovation in the provision of public services and the mechanism of exercising choice by the citizen voters either through ‘exit’ or ‘voice’ helps to reveal the preferences of the citizen for these public services as this improves both efficiency and accountability in the provision of public services. It is also important to note that effective implementation of poverty reduction policies depends upon the extent of involvement and capacity of local government institutions as the ‘closer to the people’ the government is, theoretically, such government should be able to provide services more efficiently and effectively than the central government. Yet, some international studies conducted in selected developing countries establish that the relationship between decentralization and poverty reduction is still relatively ambiguous as it is generally considered in some studies that the usefulness of decentralization as a tool for poverty reduction

varies remarkably between poor countries and emerging economies while essence of decentralization may take many different forms in different countries at different times

However, the recent evidence from Nigeria showed that there has been increase in the high rate of incidence of poverty as a result of the increase in the number of citizens that are suffering from destitution despite this implementation of pro-poor policy. Numerous studies have examined the impact of fiscal decentralization on economic growth but few studies have empirically examined the link between fiscal decentralization and rural poverty in Nigeria and other countries and they have produced mixed (Martinez-Vazquez, 2016) results after measuring poverty with either headcount ratio or number of population below the international poverty line. Beside, this study is germane as no known study has attempted to consider the multifaceted nature of poverty in their measurement of poverty in Nigeria. Hence, the sole objective of this paper is to examine the role played by the fiscal decentralization as a policy in alleviating rural poverty in Nigeria which is one of the most decentralized developing nations of the world (Rooden, 2003) that has majority of its populace residing in the rural areas.

This paper is structured into five sections. Section one is comprised of introduction while Multidimensional Nature of Poverty and State of Poverty in Nigeria is contained in the section two. Literature review is examined in section three while methodology and estimation technique is in section four and the study is wrapped up with section five which contains interpretation, results and conclusion.

2. Evolution of Nigeria's Federalism and Overview of the Poverty Profile

The evolution of the Nigeria's fiscal federalism emanated from historical, economic, political, constitutional, social and cultural factors and it has been a central feature of intergovernmental relations in Nigeria. As noted in the study of Ekpo, (2003), the construction of stable and acceptable revenue formula has been the subject of many commissions and committees since 1914. The federal structure process was not a smooth one after the amalgamation of northern and southern protectorate by Fredrick Lord Lugard in 1914 during pre-independence period. In the pre-independent era, the existing sub-national government and Lagos colony were fiscally independent because of a unified fiscal system but a centralized budgeting system was introduced in 1926. The regionalism introduced in 1946 marked the beginning of a decentralized

fiscal structure. The pre-independence period witnessed four revenue commissions. The Sydney Phillipson Commission of 1946 was the first commission

The country gained independence on 1st October 1960 and became a republic in 1963. Several restructuring exercise were witnessed between 1967 and 1996 and these led to federation of 36 states comprising of 774 Local Government Areas and the Federal Capital Territory (FCT), Abuja. The states have been regrouped into six geopolitical zone – North-Central zone, North-East zone, North-West zone, South-East zone, South-West zone and South-South zone. It is important to take an historical view of the process on how the country arrived at the present situation. The issue of fiscal federalism in Nigeria has engaged various commissions and committees since the colonial days and it has continued to generate controversies at present in the demand for resource control by some states.

The poverty profile of Nigeria has been categorized as underdeveloped in the 1960s and early 1970s. With huge agricultural potential in Nigeria, out of over 84 million hectares of arable land only 40 percent is cultivated as about 80 percent of the population has annual income of less than \$200.00 UNDP, (1998). This implies that poverty in Nigeria is still synonymous with gross underdevelopment and insecurity and it can only be reduced through the process of rapid and judicious socio-economic development (Muhammad, 2012). The county is one of the poorest and most unequal countries in the world, with over 800 million or 64 percent of her population living below poverty line and the situation has been increasing over decades. A notable aspect of poverty in Nigeria is that the poor and hungry have concentrated and remained high in rural areas, remote communities and among female-headed households without basic services and these cut across the six geo-political zones, with prevalence ranging from approximate 46.9 percent in the south west to 74.3 percent in North West and North East, (Opejobi, 2016). These basic services include roads, potable water supply and safe sanitation, access to health and education. The poor households in Nigeria are characterized by lack in basic education, residing in rural areas, engaging in [subsistence] farming and having large household size with most adult members as well as the households head unemployed, (World Bank,1996). All these have resulted in high level of malnutrition which has manifested in the country as 37 percent of

children who are under five year old were stunted, 29 percent underweight, 18 percent wasted and overall, only 10 percent of children aged 6-23 month are fed appropriately based on recommended infant and young children feeding practices, As at 2016, the level of youth unemployment is 42 percent thus, reinforcing poverty rate, helplessness and despair and this made the youths easily target for crime and terrorism coupled with the fact that over 10 million children of school age are out of school with no knowledge and skill with higher percentage residing in the north.

The Nigeria economy is currently in a recession coupled with the drastic reduction in the government revenues by 33 percent which has further led to the contraction of the gross domestic product (GDP) by 0.36 percent in the first three months of 2016, has made the Nigeria macroeconomic environment vulnerable which is affecting investor confidence in the domestic economy. With over 80 million Nigeria living in poverty and affected in one way or the other by the current humanitarian crisis, the available report indicates that there are over 3.3 million internally displaced persons [IDPs] in Nigeria, the report indicated that the unprecedented rise in IDPs was caused by increased number of boko haram attack, heavy-handed counter insurgency operation and ongoing inter-communal violence. This number of IDPs in Nigeria is the largest in African, ranking behind Syria and Columbia with 6.5 million and 5.7million IDPs respectively on a global scale, IDMC report [2015]. This persistent increase in the number of IDPs has not only accelerated poverty and unemployment rate but also responsible for the food insecurity because IDPs in the North Eastern Nigeria are predominantly farmers. The resultant effect of food shortage in the country is the recent hike in the prices of goods in commodity market. Recent increase in the kidnapping and forcefully demanding money as ransom are another side effect of poverty as this gradually becomes normal business. Multi level government system has been theoretically recognized as solution to both in security and poverty. Local government is the closest government to the people and thus, this proximity enables the government to have informational advantage over state and federal government on local causal factor of insecurity and poverty and it is in better position to provide and implement policies towards finding lasting solution to their menace.

3. Multidimensionality of Poverty and Achievement of Poverty Reduction Efforts in Nigeria

In Nigeria like other developing countries most estimates of the incidence and depth of poverty have been limited to poverty line threshold of income and consumption. There is paucity of empirical analysis taking into consideration the multidimensional approach to poverty in Nigeria. The concept of Poverty is increasingly being perceived as a multidimensional phenomenon in the sense that other than income or consumption which has been extensively studied in the past literature as the consumption or income level of a person falls below a certain threshold necessary to meet basic needs. In addition to that access to education, health, shelter and social involvement are recently part of the most important dimension of poverty. This is because poverty can never be referred to as lack of one thing but arrived at from many interlocking factors that are clustered in poor people's experience and life.

With the growing interest on the multidimensional nature of poverty, the greater focus has been shifted on the basic needs of nutrition, shelter, health, education, safe water and sanitation as contained in the Millennium Development Goals. Attentions have equally been directed to wider area such as security, social inclusion, access to public provided goods and common property resources, self respect among others. Studies that take these factors into consideration are few in Nigeria. Globally, the recent approaches to poverty have been documented in the literature and summarily covered Basic-Need, Capability, Social Inclusion as well as Community Dimension Approach. The poverty reduction efforts implemented so far in Nigeria have not yielded the expected results in relation to the Multidimensional nature of poverty as there is direct relationship between the total number of population and population suffering from abject poverty as shown in the Figure 1 and 2.

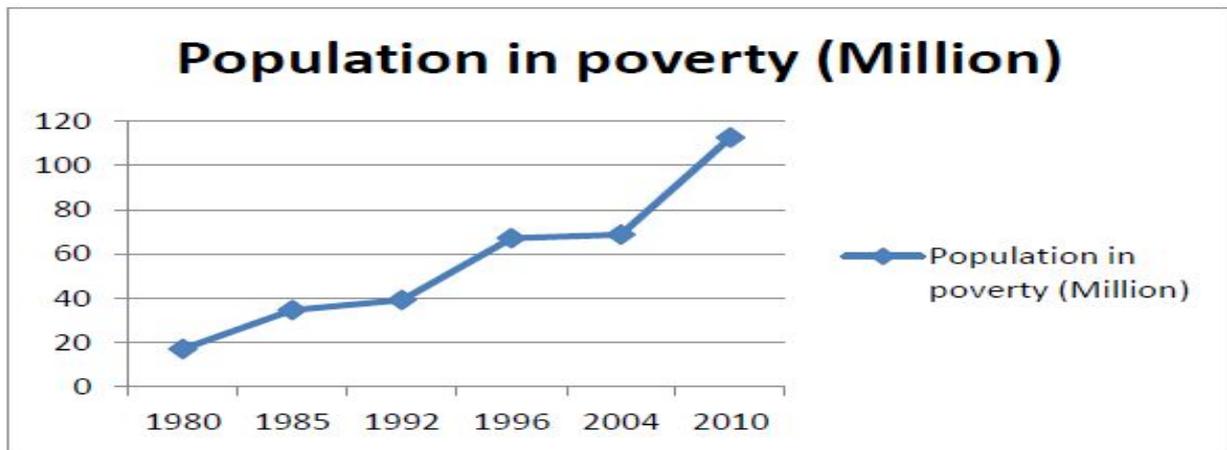


Figure 1: Trend of population in poverty in Nigeria (1980-2010)

Source: Nigeria Poverty Profile (2012)

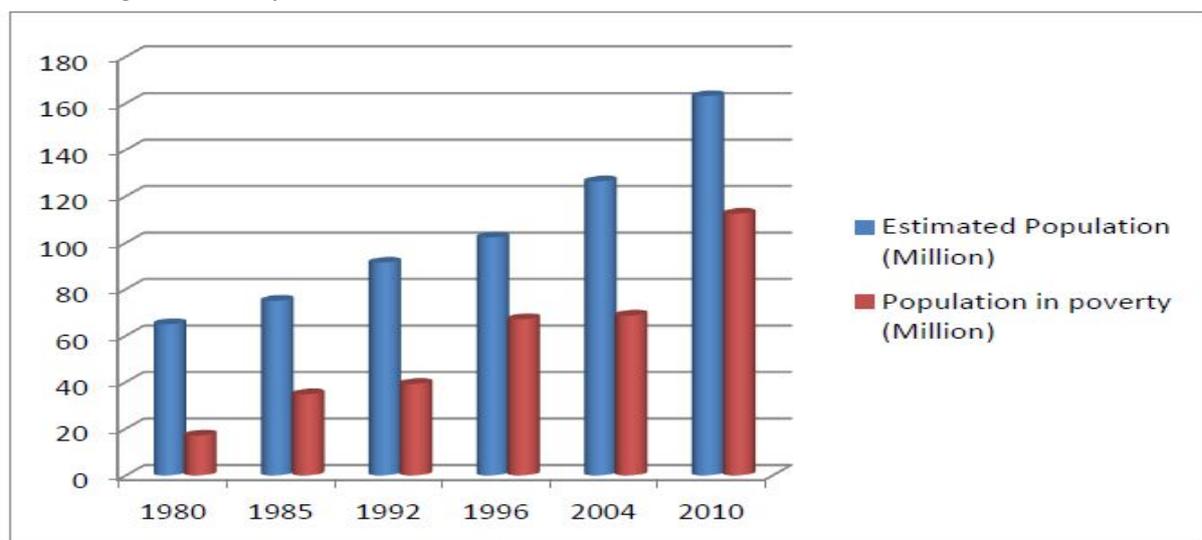


Figure 2: Estimated population and population in poverty in Nigeria (1980-2010)

Source: Nigeria Poverty Profile (2012)

The incidence of poverty in both the rural and urban localities in Nigeria is an issue which has generated and attracted policies and programmes targeting the poor such Poverty Alleviation Programme (PAP) introduced in early year of 2000; National Poverty Eradication Programme (NAPEP) introduced in 2001; National Economic Empowerment and Development Strategies (NEEDS) I and II; NEEDS I covered 2003-2007 and NEEDS II succeeded NEEDS I in 2008 and was to designed as a continuation of the vision, mission and strategies of NEEDS I with the same

goals of poverty reduction, employment generation, wealth creation and value reorientation in the process of realizing the eight MDGs by 2015, Seven-Point Agenda (2007-2010) such as power and security, food security, wealth creation, transport sector, land reforms security and education was also implemented.

In addition, the economic transformation blueprint of Nigerian Vision 20: 2020 produced in the year 2009 aimed at 2020 that will have a large, strong, diversified, sustained and competitive economy that will be one of the top 20 economies in the world was put in place; Transformation Agenda (2011-2015) based and drew its inspiration from vision 20:2020 together with Subsidy Reinvestment and Empowerment Programme (SURE-P) (2012-2015) which was a 3-4 year programme as supposed and a subset of the Transformation Agenda designed to mitigate the immediate impact of the fuel subsidy removal and promote the pace of economic growth through investments in some critically needed infrastructure. In addition, Graduate Internship Scheme (GIS) and You-Win programmes were also implemented to provide the unemployed graduates youths with funds and job apprenticeship opportunities that will further expose them to skill and experience that would make them economically independent implemented during the same period. With reference to current administration, N-Power programme (2015 till date) has introduced and designed to provide young graduates and non-graduates with the skills, tools, and livelihood to enable them advance from youth unemployment to employment, entrepreneurship and innovation by targeting critical needs in education, agriculture, technology, creative, construction and artisanal industries in the midst of drastic reduction of dwindling oil revenue recently facing the country will make the achievement of such policy of poverty reduction and alleviation a miracle.

Despite the fact that these brand labeled policies in form of programmes and strategies have the welfare of the citizens as the main policy agenda, these policies are unwittingly populist in nature and also owing to lack of relevant data, understanding and political will such policies and programmes have ended up benefiting the few rich politicians at the expense of the poor majority. The greatest challenge of the programmes towards alleviating poverty are their ad-hoc nature, lack of understanding of the multidimensionality of the nature and problem of poverty as

well as inability to identify the right target. In order to capture the multidimensionality of poverty in Nigeria, OPHI, (2015) reveals its latest statistics on the measure of acute and severe poverty in Nigeria as shown in Table 2.1. This study therefore, aims to unveil to the average degree fiscal decentralization processes have contributed to the amelioration or otherwise the poverty levels in Nigeria.

Table 1: Deprivation threshold of those who are both MPI poor and destitute

Dimension	Indicator	Definition	Related to	Relative Weight
Education	Year of schooling	Deprived if no household member has completed 5 years of schooling	MDG2	1/6
	Child school Attendance	Deprived if any school-aged child child is attending school up to the age at which they should finish class 6		1/6
Health	Child Mortality	Deprived if two or more children have died in the household		1/6
	Nutrition	Deprived if severe undernourishment of any adult or any child		1/6
Living Standard	Electricity	Deprived if the household has no electricity		1/18
	Improved Sanitation	Deprived if there is no facility (open defecation)		1/18
	Safe Drinking Water	Deprived if household does not have access to safe drinking water, or safe water in more than a 45-minute walk		1/18
	Flooring	Deprived if the household has a dirt, sand or dung floor		1/18
	Cooking Fuel	Deprived if the household cooks with dung or wood (coal/lignite/charcoal are now non-deprived)		1/18
	Assets	Deprived if the household has no assets (radio, mobile phone e.t.c) and no car		1/18

Source: OPHI (2016)

Figure I shows the percentage of people who are suffering from multidimensional poverty using 10 indicators of poverty to measure poverty in three dimensions: education, health and living standard in Nigeria as shown in table 1. The figure shows the percentage of the population that is deprived from each sector while non-poor people deprivations were not included. As shown under the living standard, more than 50% of the populations are deprived of the cooking fuel and more 35% are deprived of electricity and sanitation in Nigeria. Also, more than 30% of the population is deprived of drinking water and floor while about 18% are deprived of assets in Nigeria.

The figure shows that 29% and 31% are deprived of nutrition and child mortality in the health sector

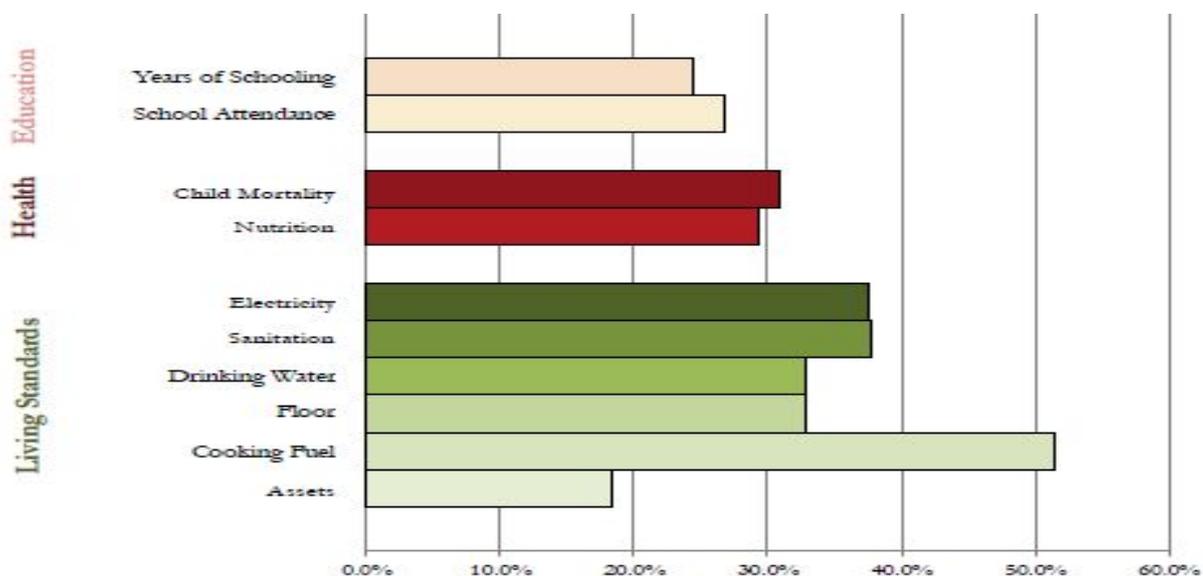


Figure 3: Percentage of the population who are MPI poor and deprived in each sector
 Source: OPHI (2016)

4. Review of Past Literature: Issues and Discussion

Decentralization is not a policy goal *per se*, but instead a national strategy pursued in order to reorganize the operation of the public sector and make it more efficient and accountable to the needs and preferences of the population (Sepulveda and Martinez-Vazquez, 2010). The bulk of the current literature on decentralization and poverty nexus consist of conceptual studies or policy/consultant reports commonly supplemented by anecdotal evidence and/or descriptive case studies, and even working papers published in peer-reviewed academic journals. The recommendation and conclusion from such studies are qualitative and may be diminished and subjective in nature. A common feature shared by many of these studies is the lack of meaningful and rigorous empirical research evidence on whether the decentralization is pro-poor or anti-poor policy. The experience over the years is that fiscal decentralization has the potential to affect political stability, equity in the redistribution of resources, public services delivery and macroeconomic stability, yet there is inconclusive result on decentralization reform and poverty

reduction nexus which centered on the trade-off between the benefits of bringing government closer to the people and the detriment of entrusting poverty reduction to weak and unaccountable local government that are captured by the politics of the local elites for their selfish interest.

For example, in earlier studies, positive impact was found by Crook and Manor (1998) on decentralization on poverty reduction in developing countries and also in a case country study such as Bardhan and Mookherjee (2003) in India while later studies found negative effect such as Sepulveda and Martinez-Vazquez (2011) which employed panel data and West and Wong (1995) for China. The inconclusiveness may not only be the function of scant studies on this subject matter as poorly designed fiscal decentralization reforms can retard economic growth and thereby enhance high level of poverty against a well-designed decentralization reforms which can guarantee overall efficiency, economic development as well as drastic poverty reduction. Also, differences in how decentralization is measured can result in widely differing values of the decentralization variable (Liu et al., 2012; Voigt and Blume 2012) cited in (Martinez-Vazquez, 2016). No single measure of fiscal decentralization can capture all multiple dimensions that decentralization offers, even composite measures of decentralization which may be attractive and useful in some contexts can also fall short when measuring the impact of decentralization on specific policy outcomes (Martinez-Vazquez and Timofeev, 2010; Liu et al., 2012). Therefore, according to Martinez-Vazquez, (2016), aggregating those distinct dimensions of decentralization into a single indicator inevitably leads to a loss of information and advocates for the distinct aspects of decentralization to enter the regression equation separately. The effects of decentralization on poverty depend to a large extent on the form and type of decentralization, while deconcentration transfers responsibilities to field and subordinate units of government and the field unit which has no distinct legal existence, as a matter of fact, it remains under hierarchical authority of the central government but the devolution refers to a transfer of competencies from the central government to distinct legal entities (Jutting et al., 2004). Besides, there continues to be a dearth of comparable data beyond the two institutional sources of OECD and GFS which in themselves are problematic by not capturing the potential dimensions and multifaceted nature of decentralization pose a very significant challenge and limitation to the empirical work. Another issue which is still calling for more research work is

the endogeneity problems that could arise due to the simultaneous bias that may arise as a result of omitted variables on both decentralization and seemingly exogenous variables. Recent few papers which have adequately taken this issue of reversal causality into consideration with the use of system-GMM estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998) which some researchers skeptical on its ability because exclusion restriction may not met are Filippetti and Sacchi, (2016), Kyriacou et al. (2015), Strumpf and Oberholzer-Gee (2002) while Akai and Sakata (2002), Iimi, (2005); Gemmell et al., (2013) and Adefeso (2014) have employed instrumental variables, however, the appropriate time-variant exogenous instrument has constituted a potential challenge. So, the issue of endogeneity in the measurement of decentralization still constitutes a major setback to the validity of the growing empirical literature.

Acknowledging strongly that there is still need of much further work to be conducted in this area, the existing empirical studies on the fiscal decentralization and poverty reduction nexus are summarized as follows:

Table 2: Summary of studies on Fiscal Decentralization and Poverty Reduction Nexus

Authors	Country	Period of Study	Data & Econometric Methods	Remarks and Conclusion
Neyapti (2006)	37 Countries	Three Decades (1970s-1990s)	Panel Random Effect; Cross-section Analysis	Revenue decentralization increases income inequality but, with good governance, it reduces it.
Braathen (2008)	Tanzania	Primary and Secondary	Descriptive	The study found that fiscal decentralization reforms have been in tandem with poverty reduction at sub-national level in Tanzania
Skira (2006)	165 countries	Five years interval data (Secondary)	Panel Data	The study found that fiscal decentralization only has the potential to reduce poverty
Jette (2005)	Bolivia	Secondary	Simple Regression Model	After the study had control for demographic data, national per capital income and other sensitive variables, the study concluded that decentralization... generally appears to be positively associated with pro-poor public

				spending
Jutting et al. (2004)	19 developing countries	Secondary		...an unambiguous link between decentralization and poverty reduction cannot be established. In some of the poorest countries characterized by weak institutions and political conflicts, decentralization could actually make matters worse
Banwo (2012)	Nigeria	Secondary	OLS Regression model	... contrary to existing evaluation of the fiscal decentralization-poverty nexus elsewhere, the fiscal decentralization structure is marred by several irregularities (due to weak institution) and thus presents an opportunity for exploitation by subnational bureaucrats and elites. The fiscal decentralization seems to possess a potential to worsen the poverty situation in Nigeria as fiscal decentralization expenditure leads to 0.6% increase in poverty while fiscal decentralization of revenue account for a significant 29.5% reduction in poverty.
Martinez-Vazquez (2011)	Developed and developing countries	Secondary	Both fixed and random effect	The regression results displayed a positive but insignificant influence on poverty with fixed, whereas using the random effects, fiscal decentralization has a positive and significant effect towards poverty. Poverty increases by 0.465% for a unit percent increase in fiscal decentralization
Von-Braun and Grote (2000)	50 developing countries			Positive association between the share of subnational expenditures and poverty reduction
Sepulveda & Martinez (2011)	56 countries (on inequality) and 65 countries (on poverty)	1971-2000 (inequality) 1976-2000 (Poverty)	Instrumental Variable (IV)	Fiscal Decentralization appears to also help reduce income inequality only if the general government represents a significant share of the economy (twenty percent or more). Fiscal Decentralization appears to reduce poverty as long as the share of sub-national expenditures is not greater than one third of total government expenditures.
Tselios et al. (2012)	102 Regions in the European Union	1995-2000	Panel Fixed Effect; and GMM	Fiscal decentralization lowers interpersonal income inequality
Sacchi &	23 OECD	1971-2000	Panel Fixed	Higher tax decentralization increases

Salotti (2014)	countries		Effect; panel FGLS; IV	household income inequality
Robalino et al. (2002)	Low and High Income countries	Secondary	Panel Data	It was evident that higher fiscal decentralization led to improved health outcomes(lower mortality rates), particularly in environments with strong political right and high levels of ethno-linguistic fractionalization

Source: Author’s own compilation (2017)

The following studies such as Altman and Lalander (2003); Vanzyl et al. (1995) Gnimadi et al. (2003), Bossuyt and Gould (2000); Ellis et al. (2002) and others are either least empirical or non-quantitative or descriptive studies and therefore, this study opined that the robustness of their findings are largely unreliable.

5. Sources of Data and Econometric Analysis

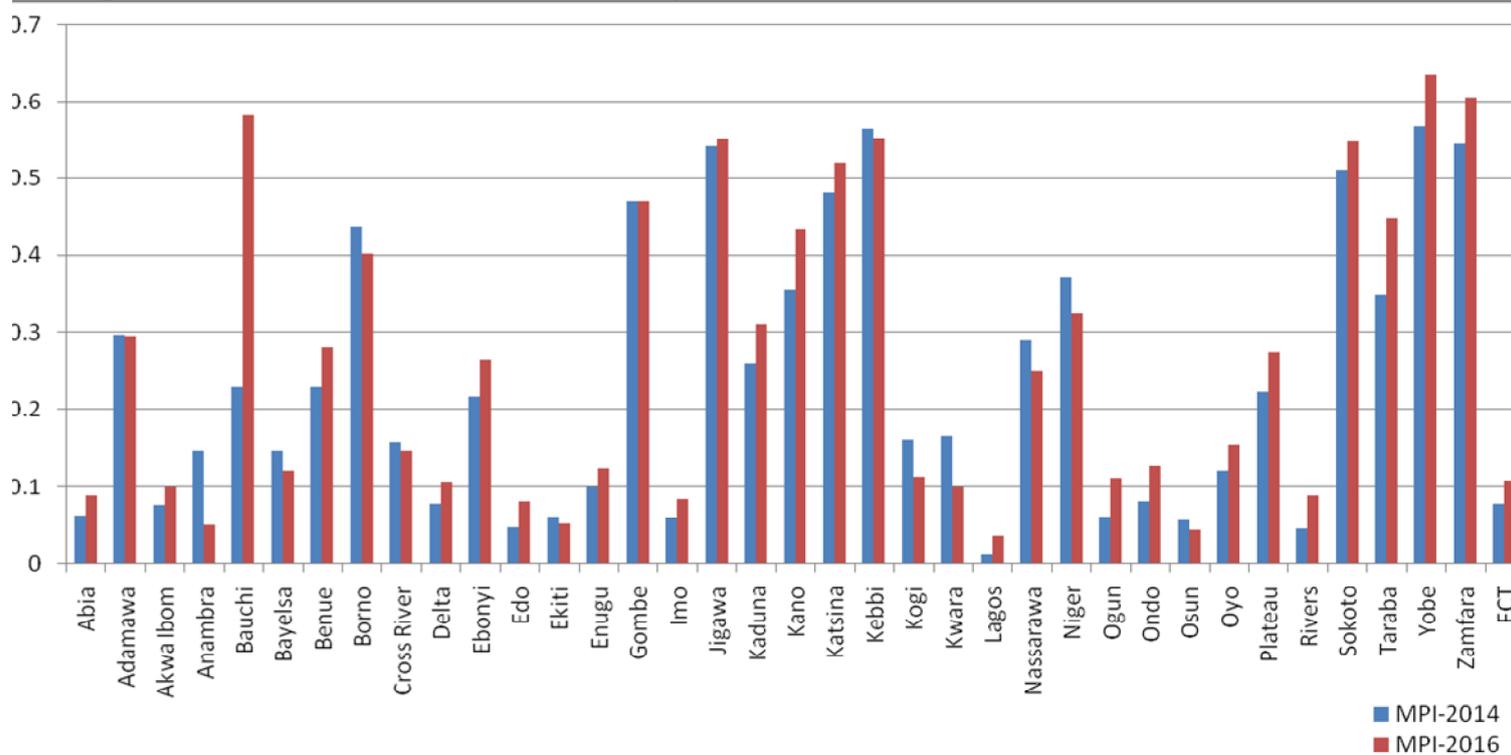
The study is a cross sectional analysis. The data were gathered from 36 states and Federal Capital Territory (FCT) for 2014. Multidimensional Poverty Index (MPI) which takes into consideration multiple deprivations of basic necessities of life was sourced from OPHI (2015) and adopted to measure the extent of poverty across 36 states and FCT. Multidimensional Poverty Index (MPI) across States level was employed as the dependent variables for the study. Economic growth (LOY), access to education (LOE), access to health (LOH), internally generated revenue (LOS), transfer from federal government (LOT), loan and grant (LOR) and population (LPOP) across states of the federation were sourced from various bulletin, magazines and annual reports from 2010 to2014. Their averages were employed for the analysis. There are different measures of fiscal decentralization (FD), there is however a consensus among public finance expert that an operational measure of fiscal decentralization which is the share of decentralized expenditures (EFD) and revenues (RFD) of states and local governments in the country’s total fiscal activities. However, this study adopted FDE simply because it is the nature and pattern of expenditure of sub-nationals that determine the level of poverty reduction. It is the fiscal expenses that of the local and state governments that determine the real impact of government activities on the poor. The data on expenditure decentralization (EFD) was sourced and calculated from Statistical Bulletin published by Central Bank of Nigeria (CBN). Thus, the models of interest are specified in a linear-log form as follows:

$$\begin{aligned}
 MPI_i = & \delta_0 + \delta_1 EFD_i + \delta_2 LOH_i + \delta_3 LOY_i + \delta_4 LOE_i + \\
 & \delta_5 LPOP_i + \delta_6 LOR_i + \delta_7 LOS_i + \delta_8 LOR_i + \varepsilon_i \dots \dots \dots (1)
 \end{aligned}$$

5.1 Empirical Results

The fiscal federalism is measure as fiscal decentralization (FD) which is the ratio of the summation of both the local and state government expenditure to total expenditure in Nigeria. The relative comparison of Multidimensional Poverty Index (MPI) across state of the federation in Nigeria between 2014 and 2016 was depicted in fig. 1 which showed that on the average, the percentage of those suffering from the multi-dimensional poverty have increased between 2014 and 2016 as such surge is recorded in the 23 States of the federation. In 2014 those suffering from Multi-dimensional poverty ranged from about 0.51 percent to 0.57 percent in Jigawa State; Kebbi State; Sokoto State; Yobe and Zamfara State. Yobe State recorded the highest percent in 2014 followed by Kebbi State. In 2016 however, more than 63 percent of population from Yobe State were suffering from multi-dimensional poverty, the highest in the federation followed by Zamfara state. The study found that Lagos State had lowest number of populace suffering from multi-dimensional poverty index which is less than 2 percent in 2014 with only marginal increase in 2016. Only 13 States of the federation had MPI that is less than 10 percent in 2014 but reduced to 9 states in 2016 and these States are as follows: Abia; Akwa Ibom; Anambra; Edo; Ekiti; Imo; Lagos; Osun and River.

Fig. 1: The state of Multi-dimensional Poverty across States of the Federation



Source: Author's own calculation (2017)

The estimated impact of fiscal federalism in all the states of the federation on the poverty is summarized in the Table 3. Fiscal federalism arrangement in Nigeria has a negative relationship with the poverty index which is consistent with the theory of decentralization. This negative association indicates that the higher the level of sub-national expenditure, the lower the level of poverty across the state of the federation. As shown in the Table, this result is robust, regardless of the inclusion of other control variables, the estimated impact of fiscal federalism arrangement remain negative and statistically significant. However, apart from being consistent with the theory, the estimated result reveals that 1% increase in the sub-national expenditures as a result of increase in revenue allocation from central government would only lead to 0% reduction in the poverty level in the Nigeria. Banwo (2004) find similar results for Nigeria. There are several justifications that explain this 0% reduction in poverty level despite change in the fiscal allocation to sub-nationals. Nigerian fiscal federalism lifted zero number of people out of multi-dimension poverty, this may be attributed to the wide spread of endemic corruption among the

politicians, the usual policy summersault and lack of effective policy implementation mechanism and accountability that would cross-check the implementation of developmental program and agenda of sub-nationals after the revenue has been allocated from the centre.

The public service delivery in the area of access to health (LOH) and education (LOE) were negatively correlated with poverty index which is in-line with the theoretical expectation as 10% increase in access to health facilities would insignificantly reduce the proportion of people in poverty by 2% as it has been reported that 97% of citizens have no access to health, malaria is a risk for 97% of population in Nigeria, the remaining 3% live in the malaria free highland. The maternal mortality rate in Nigeria is 814 deaths/100,000 lives births especially in 2015. Also, 1% increase in access to education would significantly reduce the proportion of people in poverty by 5%. This is too low as 10.5millions children are out of schools and it accounts for 47% of the world’s population of out of school (The Nation (2016)). Also, 1% increase in the transfer from federal government (LOT) would significantly reduce the population in the multi-dimensional poverty by 61% as the internally generated revenue (IGR), population (LPOP), loan and grant (LOR), state growth (LOE) increased the level of multi-dimensional poverty index but not significant.

Table 3: Cross-Sectional Estimates
Dependent Variable: MPI

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C	0.29669*** (0.03057)	0.455654** (0.211982)	1.155987** (0.533249)	1.171059** (0.532302)	1.479062*** (0.514036)	1.896770*** (0.450429)	1.296702 (0.786977)	1.376461* (0.780335)
EFD_t	-0.0095*** (0.00262)	-0.008075** (0.002901)	-0.007762** (0.002864)	-0.01000*** (0.003550)	-0.008976** (0.003342)	-0.00917*** (0.002827)	-0.00927*** (0.002836)	-0.00997*** (0.002856)
LOH_t		-0.020187 (0.025587)	-0.011726 (0.025871)	-0.01629*** (0.026171)	-0.018402 (0.024442)	-0.014287 (0.002827)	-0.016871 (0.020937)	-0.021966 (0.021074)
LOT_t			-0.074824 (0.052432)	-0.102126* (0.058271)	-0.045464 (0.059561)	-0.159273** (0.059745)	-0.156093** (0.059985)	-0.612396** (0.059493)

LOS_i				0.039036 (0.036682)	0.085344** (0.039574)	0.054310 (0.034595)	0.048368 (0.035260)	0.041906 (0.035215)
LOE_i					-0.140634** (0.060285)	-0.162849** (0.051367)	-0.15845*** (0.051706)	-0.05066*** (0.051466)
LOY_i						0.094677** (0.026728)	0.091632*** (0.026990)	0.088059 (0.026823)
LPOP_i							0.097499 (0.104730)	0.062130 (0.10714)
LOR_i								0.33269 (0.02595)
R-Square	0.275632	0.289570	0.333365	0.357614	0.459116	0.626495	0.638112	0.659558
Adj. R-Sq	0.254936	0.245168	0.268852	0.271963	0.365860	0.546459	0.544289	0.554807
F-Stat.	13.317***	6.521569***	5.167410***	4.175228***	4.923179***	7.827604***	6.801238***	6.296422***

Source: Author's Computation (2017)

Robust standard errors in parentheses

***p<0.01, **p<0.05, *p<0.1

Firstly, the composition of state government expenditures may explain the zero impact it has on poverty level in Nigeria as most of these state governments revenue generally go to recurrent expenditure at the expense of capital expenditure. Also the institutional weakness which has manifested itself in the mode of inter-governmental fiscal relation in the country may encourage corruption, less accountability and inefficiency in the policy making processes may lead to zero impact of poverty level. Lack of local government autonomy in self-governance, control of resources and decision making may be attributed to this estimated result on the impact of fiscal federalism on multi-dimensional poverty reduction in Nigeria.

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