DETERMINANT OF MULTIDIMENSIONAL POVERTY INDEX OF NIGER STATE, NIGERIA

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ABSTRACT

Employing Alkire and Foster's multidimensional framework, this paper aims to investigate the monetary and the multidimensional poverty measures of households in Niger State, Nigeria. Interestingly, the results show about 13 per cent of the non-poor in terms of monetary measure are found to be multidimensional poor. Hence, this paper suggests that the multidimensional measure of poverty should be complemented with monetary measure. Next, the results of the logit and ordered logit models mainly indicate higher education results in a better well-being of the households with respect to monetary and non-monetary measures of poverty. In the context of the multidimensional index, the results imply poverty is apparent in essential living standard and health among the households as spelled out by inadequate access to portable drinking water, poor sanitary facilities, electricity supply, primitive cooking fuel as well as limited access to improved health facilities.

Keywords: Monetary Poverty, Multidimensional Poverty, Alkire and Foster, Logit; Nigeria

INTRODUCTION

Poverty hinders the economic development and it promotes absence of economic prospect among households; Ogbeide and Agu (2015) suggest inequality fosters the absence of opportunities among the households. Poverty is regarded as a universal diseasewhich negatively affects Human Development Index (HDI); lessening people's lifespan and schooling level as well as promoting high fertility rate (Mariyanti & Mahfdz, 2016). World Bank (2015a) defines absolute poverty as living on or below $1.90 per day, World Bank (2015b) states 9.6 per cent (%) of the world's population living in severe poverty in 2015. In Sub-Sahara Africa region, about 35.2% of her population lives in absolute poverty in 2015 and approximately, 70% of the Nigeria population lives in extreme poverty while in Niger State alone, about 61.2% of her population lives in absolute poverty (World Bank, 2017)).

The multidimensional poverty index (MPI) is a global measure of severe poverty that supplements the income-based measures of poverty by considering the multiple deprivations face by people at the same time. The MPI recognizes deprivation within health, education and living standards, and reveals the amount of people that are multidimensional poor and the rate of deprivations face by household (Oxford Poverty &Human Development Initiative, 2016).The MPI covers an aggregate 102 countries collectively with 75% of humankind and 30% of this amount indicates 1.6 billion people are recognized as multidimensional poor (World Bank,2017).It is noteworthy that about 55% of Nigerian are multidimensional poor with17.8% are tended to multiple deprivations (Dauda, 2016); in this vein, Alkire, Jindra, Robles and Vaz (2016)suggest African countries at large(54%) live in multidimensional poverty.

The MPI focuses on three dimensions namely education, health and standard of living and consists of ten indicators. While the education dimension comprises year of schooling and school attendance; health dimension consists of child mortality and nutrition; last but not least, the standard of living dimensions covers electricity, sanitation, water, floor, cooking fuel and assets. Table 1 presents the trends Multidimensional Poverty Index in Nigeria between 2003 and 2016.

Table 1: Trends in Multidimensional Poverty Index in Nigeria(2003 -2016)

Year	H (Incidence)*	A (Intensity)**	MPI (H x A)
2003	63. 6%	57.90%	0.368
2008	54.70%	57.30%	0.313
2013	54.40%	57.20%	0.311
2016	53.30%	56.80%	0.303

Note: * refers to the percentage of poor people or head count ratio.
** refers to the average percentage of poor people deprived.
Source: Oxford Poverty and Human Development Initiative (2016)

Table 1 shows that as at 2003, 63.6% Nigeria residents are multidimensional poor experiencing MPI of 0.368, i.e. countrywide, the larger proportion of residents of the country are deprived of more than one third (33.33% or 0.33) of the three dimensions or ten indicators of poverty, while as at 2008, 2013 and 2016, the MPI experienced were 0.313, 0.311 and 0.303in that order which implied that Nigeria residents were not multidimensional poor but having high openness to multiple deprivations, that is, havingmore than 20% and less than 33.33%.

One of the noteworthy features of MPI is it reveals the interrelated deprivations experience by members of a household through information about the combine distribution of deprivations linked to the MDGs, which demonstrate the intensity and the components of numerous features of poverty simultaneously (Alkire & Santos, 2010). Hence….

LITERATURE REVIEW

During mid-1970, the measurement approach of basic needs along with others for example social exclusion and capability approach were mandated for focusing at the real satisfaction of basic needs which led to the determination of a list of basic needs accompanied by minimum levels of satisfaction (Alkire et al. 2015), which was refers to as the direct method of poverty classification. Complementary to the income method, actually, the direct method measures human deprivation based on the shortfalls from minimum points of basic needs rather than using income as a agent of basic needs satisfaction. This is based on the argument that, even though an improvement in purchasing power lets the poor to favourably accomplish their basic needs, the market for some basic needs may not at all times exist. Certainly, a lot of basic needs are public amenities (Allen, 2015) elementary education for example. Owing to this, a lot of studies since 1980s have confirmed that income is not a substitute to non-monetary deprivations for the identification of the poor.

Appropriately, empirical analysts have awaken to introduce into poverty studies a number of non-monetary measures of deprivations, complementing these multidimensional assessment with monetary measures to establish a better general picture of poverty. As such, according to Alkire et al. (2015) various methods to measure poverty from the multidimensional point of view were developed over the years, this include among others: the dashboard approach with MDGs as a well-known example; the composite indices approach with Human Development Index (HDI), Gender Empowerment Index (GEI) and Human Poverty Index (HPI) as an examples; multivariate statistics with set of weighted indicators and deprivation scores and; fuzzy sets which statistically identify the poor draw on less normative judgement.

To choose a specific methodology, various criteria can be employed. While empirical researchers might employ measures that use data from diverse sources, policy makers might prefer measures that yield a single simply comparative figure. However, while base on the uni-dimensional structure, the undertaking of ascertaining the poor is normally realised through a poverty line, based on a multidimensional framework, the deprivation cut-offs identify who is deprived and in which dimensions, and the whole poverty cut-off among dimensions identifies the poor. A good example of this counting approach is the Alkire-Foster Methodology (AFM).

The Alkire-Foster counting approach is one of the recently developed counting methods and was adopted by the UNDP in 2010 (Alkire & Santos, 2010). With the supported of Oxford Poverty and Human Development Initiative, UNDP employed the method to build up the Multidimensional Poverty Index (MPI), that replaced its HPI which was in use since 1997. The MPI complements monetary poverty measurement with statistics on join deprivation faced at the same time by individuals (Dotter & Klasen, 2014). It categorises deprivations in the similar three dimensions like the Human Development Index (education, health and standard of living), and identifies the number of people that are poor multi-dimennsionally (i.e. deprived of at minimum one third of the dimensions) alongside the degree of deprivations experienced by the poor therefore tellingly the poverty incidence and intensity in a particular region in a particular time (Nawar, 2014). MPI can as well be decomposed either by dimension or groupings (for example, region, and ethnicity among others) with practical implications for policy (Gabel and Zhang, 2017).

Determinants of Poverty

Poverty, welfare of the household and its determinants constitutes a main and vast area of study for many years in both developing and developed countries. The determinants of poverty and household welfare that is mostly studied consists of gender of the head of household, age of household, marital status, households heads living together, household headed by different couples, characteristics of household – household size, ratio of dependency, geographical factors – urban, rural and provisional dummies among others (Biyase & Zwane, 2017).

The level of education of the household head as a poverty determinant has mostly been observed to be the major contributor to severe poverty incidence (Edoumiekumo, Karimo, and Tombofa, 2013). Explicitly, this study have confirmed that a household head whose highest attainment in educational was at primary school stage, secondary school stage, tertiary stage were significantly prone to non-poor than as compare to those with no schooling.

In addition, the size of the household is also a significant demographic variable that has an effect on poverty. As confirmed by Khatun (2015), a household with many members possess a larger number of dependents and are prone to be poor compare with the smaller ones. Also confirmed by Khatun (2015) is the relationship between age of the household head and poverty, which poverty affects mainly people who are either above or under productive ages. Commonly, people that are young have low income due to their early involvement in the labour market begins with little earning and less hours of work. As the individual age progresses, there is a continuing achievement in education, work experience as well as labour network which simultaneously lead to increase in income.

Rasak, Norshahidi, Yousof and Ibrahim (2014) in their studied of determinants of poverty confirmed that women headed households are most likely to be poor than the male headed households. Due to gender discrimination, women particularly those in the rural areas lacks education and asset which limit their access to better employment, shelter among others expose them to poverty.

METHODOLOGY

The population of the study constitute the households that are Small and Medium size Enterprises (SMEs) operators/owners in Niger State of Nigeria, the choice was due to the fact that majority of its operators engages in the business in the name of making a living or to meet up with their basic necessities of life(Tshuma & Jari, 2013).Thus, the total number of households operating SMEs in Niger State of Nigeria is 978,598 (Small and Medium Enterprise Development Agency of Nigeria, 2013).

The study applies cluster sampling and convenience sampling technique. For the cluster sampling, eight Local Government Areas (LGAs) with the highest poverty rate were chosen out twenty five LGAs. Data were collected from 520 households selected through a convenience sampling.

Since the population (households SMEs owners) under study are numerous, obtaining a sample from it becomes necessary. Thus, Yamane (1967) proffers an easy formula for determination of sample size. Therefore, the Yamane statistical formula is:

$$n = \frac{N}{1 + N\,(e)^2} = \frac{978{,}598}{1 + 978{,}598\,(0.05)^2} = 399.84$$

Where, n = sample size, N = population of the study (total number of household operating SMEs in Niger State), e = error estimates at 5% (0.05).

This therefore, 399.84 or approximately 400 households were chosen as sample size.

The study used largely primary data; the data was source via a well structure questionnaire, hence being easy to administer, consistency in answers and simple for data management (Acharya, 2010). This questionnaire was used to source information on the three dimensions along with the ten indicators therein of the multidimensional poverty. Out of 520 questionnaires distributed, 432 were returned.

Model Specification

The MPI being an index developed to measure acute poverty is well-matched with an approach advanced by Alkire & Foster (2011) for the multidimensional poverty measurement in the developing countries. It is characterised by a flexible construct which can be easily modified to other specifications as compare to long establish measures like Foster, Greer, & Thorbecke (1984).

The MPI classify an individual being deprived on the basis of household achievements and employs ten indicators representing the three dimensions which reflect the HDI. The cut-off for indicators' deprivation are well known as $z_i$in order that a person ί is regarded as deprived if her achievement in a given indicator $x_i$is below the cut-off, explicitly, $x_i < z_i$.

The weights of each indicator are defined; the MPI has three dimensions which are equally weighted, in order that each dimension gets 1/3 weight. Indicators contained in each dimension are as well equally weighted. Therefore, every indicator contained in education and health dimension gets a 1/6 weight and that of living standard gets a 1/18 weight. At this juncture we perceive the indicator ί weight to bew_i, with:

$$\sum_{i=1}^{d} wi = 1$$

The computation of a deprivation score for each person is by summing up the weighted number of deprivations, which makes the score of deprivation for each person to be between 0 and 1. The score of an individual is 1 if is deprived in the entire indicators. An individual that is not deprived in all indicators gets a score of 0. Formally:

$$c_i = w_1 I_1 + w_2 I_2 + \ldots + w_d I_d$$

where $I_1 = 1$ if an individual is deprived in indicator ί and $I_1 = 0$ otherwise.

The second cut-off is that, a person is considered poor if $c_i \geq k$. In the words of MPI, a person is considered as poor if he/she face a deprivation score equal to or higher than 1/3. For persons facing deprivation score below the poverty cut-off, even though is more than zero, this is substituted by a "0", which is known as censoring in poverty measurement. To establish a distinction between the original deprivation score and that of censored, $c_i(k)$ notation is being use for the censored score. Explicitly, if $c_i \geq k$, in that case, $c_i(k) = c_i$, in contrast if $c_i < k$, in this case, $c_i(k) = 0$. The deprivation score for the poor is $c_i(k)$.

The MPI computation combines two main elements of information: the proportion or ratio of people who face multiple deprivations and the intensity or strength of their deprivation. Officially, the number one component is known as Multidimensional headcount ratio (H):

$$H = \frac{q}{n}$$

where q is the number of people that are multidimensional poor while n is the total population.
The subsequent component is termed the intensity of poverty (A). This signifies the average score of multidimensional poor people which is express as:

$$A = \frac{\sum^{n}_{i=1} c_i(k)}{q}$$

Here $c_i(k)$ is the censored deprivation score of person i and q is the number of those that are multidimensional poor. However, the MPI is the outcome (product) of the two components:
MPI = H *X*A.

Selection of Dimensions, Indicators and Cut-offs

In line with the related previous studies and existing data, the three dimensions considered in this paper include: education, health and living standard. After which ten indicators is selected couple with the cut-off point for every indicator as shown in Table 2.

Table 2: The Dimensions, Indicators, Deprivation Thresholds and Weights of the Global MPI

Dimension	Indicator	Deprived if…	Weight
Education	Years of Schooling	No household member has completed five years of schooling.	0.167.
	Child School Attendance	Any school-aged child is not attending school up to class 8.	0.167.
Health	Child Mortality	Any child has died in the family.	0.167.
	Nutrition	Any adult or child for whom there is nutritional information is malnourished.	0.167.
Living Standard	Electricity	The household has no electricity.	0.056.
	Sanitation	The household's sanitation facility is not improved (according to MDG guidelines), or it is improved but shared with other households.	0.056.
	Drinking Water	The household does not have access to safe drinking water (according to MDG guidelines) or safe drinking water is more than a 30-minute walk from home, roundtrip.	0.056.
	Flooring	The household has a dirt, sand or dung floor.	0.056.
	Cooking Fuel	The household cooks with dung, wood or charcoal.	0.056.
	Assets	The household does not own more than one radio, TV, telephone, bike, motorbike or refrigerator and does not own a car or truck.	0.056.

Education is a vital instrument that changes individual wellbeing positively. Education and destitution are inversely linked, the higher the education level of the people, the lesser the number of poor individuals as education imparts skills and knowledge which is reassuring higher wages. Also, education increases people's income, and facilitates the fulfilment of essential necessities and enhances the standard of living (Awan, Malik, Sarwar & Waqas, 2011). In this dimension, the two indicators selected were year of schooling and school attendance. The dimension of health as well plays a vital role in influencing the wellbeing of individual. The daily human activities to some extent depend on the condition of health. Two indicators selected under this dimension were nutrition and child mortality

The living standard dimension consists of many indicators and reveals the condition under which persons live. An aggregate of six indicators are selected under this dimension which include: electricity, sanitation, drinking water, cooking fuel, flooring and assets.

Empirical Model for Determinants of Poverty

The model of limited dependent variable is used since the dependent variable in the model is a limited variable. The determinants of measuring poverty for a poverty categories is examine using logit model. That is, the reason a household should be classified as poor/non-poor in monetary poverty and multidimensional poverty. Ordered logit model is also employ to look at the marginal effects of different characteristics of household on the outcome of their poverty. This is the reason for an individual's face one poverty measurement only, whereas others the two poverty measurement.

The identities of the logit and ordered logit models reads:

$$\Pr(y_i^{LM} = 1) = \frac{e^{\alpha_1 CH_i + e_i}}{1 + e^{\alpha_1 CH_i + e_i}} \quad (1)$$

$$\Pr(y_i^{OLM} = 0) = \frac{e^{\alpha_1 CH_i + e_i}}{1 + e^{\alpha_1 CH_i + e_i}} \quad (2)$$

Where:

y_i^{LM} = a category of poverty for each of the two measurement of poverty: 1 = poor, 0 = non-poor;
y_i^{OLM} = the poverty experience: 0 = non-poor in two of the poverty measurements; 1 = poor in monetary measurement; 2 = poor in the two measurement of poverty;
e_i = error term;
^{j} = household identifier (1……, 220,270);

CH_i = household characteristics vector including gender, marital status, level of education, number of child and household size;
Equation 1 is the logit model with binary response:
Y = {0, 1}. These problems is solve with logit model

$$\text{In}\frac{p}{1-p} = \alpha_1 CH_i \; ; \; p = Pr(y = 1)$$

The estimated probability is

$$p = \frac{1}{(1 + e^{(\alpha_1 CH_i)})}$$

Equation 2 is a model of ordered response with three outcomes y = {0, 1, 2}. Ordered logit if frequently conceptualized as latent variable model. Assume latent variable y*is determine by

$y^* = x_\beta + e, e \mid x \sim$ Normal (0, 1)

where $_\beta$is k x 1 coefficient vector, and for reason to be seen, vector x does not contain a constant.

We identify the estimated parameters by the estimation of maximum likelihood. The coefficient estimated cannot be directly interpreted but the symbol has the same meaning like those that estimated by ordinary least square (OLS). A negative sign signifies that probabilities choice shift to lower categories when there is increase in the explanatory variables.

RESULT AND DISCUSSION

Estimation of Poverty at Local Government Level

Table 3 shows index of headcount ratio for the eight Local Government Areas of Niger state, Nigeria being the focus areas as stated in the methodology. The average poverty indexes of the two measurements in 2018 are 67.25% (for monetary poverty) and 59.25% (for multidimensional poverty). The study area being a developing economy, a little difference (i.e. 8%) occurs in the result of both monetary and multidimensional measurement. Munya LGA recorded the highest rate of monetary poverty having 85% and that of multidimensional poverty is established in Lavun LGA (81%), whereas the least rate of monetary poverty is recorded in Bida LGA having 55% and that of multidimensional poverty is established in Tafa LGA (28%). The LGA that recorded the highest percentage point dissimilarities in the poverty result between income and multidimensional poverty is found in Munya having a difference of 30%.

Table 3: Headcount Ratio of Monetary and Multidimensional poverty (%)

Local Government Areas	Monetary poverty	Multidimensional poverty
Lavun	83	81
Gurara	63	49
Bosso	63	75
Tafa	58	28
Agaie	70	60
Rigau	61	65
Bida	55	57
Munya	85	58
Average	67.25	59.25

Determinants of Multidimensional Poverty and its Policy Implication

Figure 4 depicts the percentage of person that is experience the cut-off for every indicator within the three dimensions. For electricity, the cot-off is any household that has no stable electricity, 100% of the households are deprived in electricity, the same realised in other indicators of living standard dimension of cooking fuel, sanitation and drinking water having deprivation percentage of over 70% and none is deprived of flooring and assets. This outcome indicates that almost all the households in Nigeria have no access to stable electricity, modern

cooking fuel, improved sanitation and portable drinking water. Though Nigerian government has been seriously committed to fixed power supply in the last nine years, but despite huge resources invested in it, it has not yield fruitful result. For health, 59% of the households suffer severe undernourishment and 46% of the household experience loss of two or more household members in the three years preceding the survey. The donor agencies and individual couple with government have initiated many health programs targeting improve health for all, though the result seems very slow. For education, only 18% of households were deprived of having a member 10 years and above that have not complete five years of schooling, and also 18% of the household's child not attending school to the age he/she will finish class six. This figure depicts that only a few of households were deprived of education dimension, this is as a result of free basic education for the first nine years of schooling initiated by the Nigerian government.

Figure 4: Deprivation percentage on various indicators

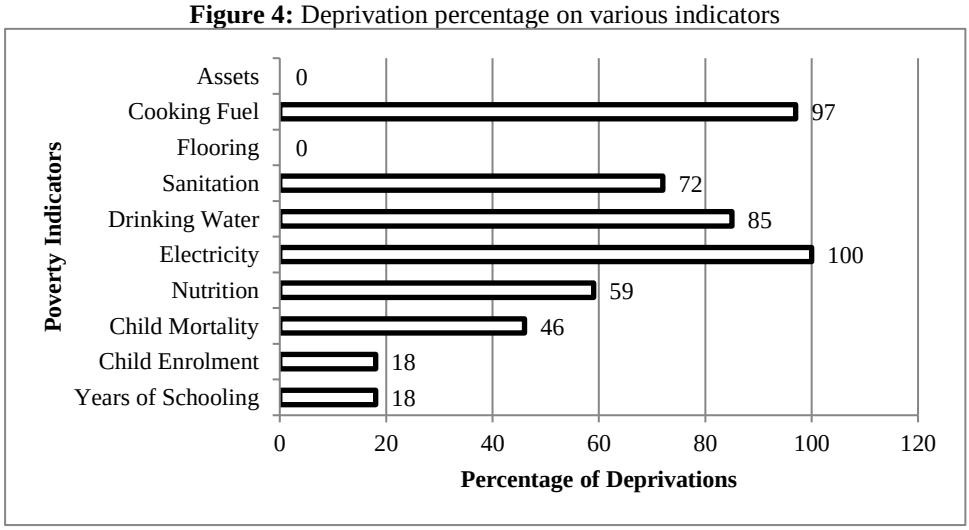

Figure 5 shows each dimension contribution to the entire deprivation faced by those categorised as multidimensional poor (cut-off point, above k=0.33). It exhibits the aggregate level of the dimensions contribution to multidimensional poverty. Standard of living makes the utmost contribution in the entire deprivations experienced by the multidimensional poor. It replicates the very poor state of the general infrastructural facilities in all the knock and crannies of the country. The succeeding contributor is health; this indicates the poor state of health facilities in the country. To facilitate the reduction of multidimensional poverty, government couple with other stakeholders should stage a giant stride on general infrastructural development particularly electricity which is the major drivers of multidimensional poverty.

Figure 5: Poverty Drivers of Multidimensional Poor

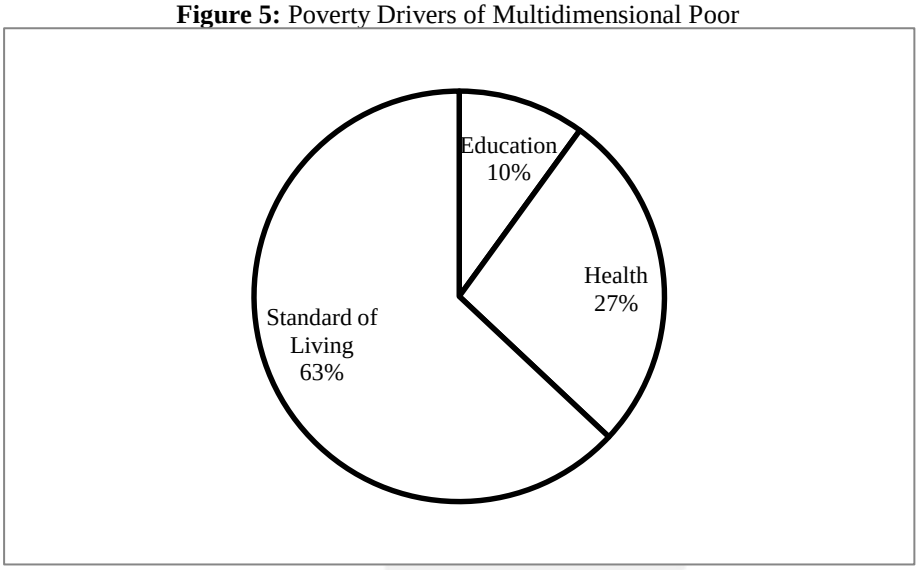

Table 4 depicts the contribution of every single dimension in the entire multiple deprivation faced by LGA with the highest (Lavun) and lowest (Tafa) multidimensional poor. For Lavun LGA, standard of living contributed the highest deprivation experienced by multidimensional poverty having 59.49%, while that of education and health is somewhat equal and lower having about 20%. For Tafa LGA, standard of living still contributed the highest (81.2%) then followed by health (17.09%). However, to reduce the multidimensional poverty level, government should concentrate more on general infrastructural development and little on health in both LGAs, then also little on education in only Lavun LGA.

Table 4: Contribution of Each Dimension (%) in Tafa and Lavun LGAs

Dimension	Tafa LGA	Lavun LGA
Education	1.71	19.76
Health	17.09	20.75
Standard of Living	81.2	59.49

Empirical Results

The analysis of logit and ordered logit models are projected by the estimation of the maximum likelihood with robust standard errors. The logit model estimation results are shown in Table 5 and 6. Table 5 depicts the poverty determinants estimation results for both the monetary and multidimensional measures. The Table 6 shows the summary of the partial effects (dy/dx) of variations in the household's probability of being poor or non-poor while Table 7 shows the ordered logit model results estimation. Last but not least, Table 8 gives the summary of the marginal effects (dy/dx) of explanatory variables on the ordered logit poverty experiences.

Table 5: Estimated Results of Logit Regression of Poverty Determinants

	Monetary Poverty		Multidimensional Poverty	
	Coefficient	Robust S.E.	Coefficient	Robust S.E.
Household Characteristics				
Gender (1=male; 2=female)	0.669**	0.304	0.113	0.298
Marital status of household (1=single; 2=Married; 3=divorce; 4= separated; 5=widow)	0.070*	0.146	-0.159	0.133
Level of education (1=no school; 2=primary education incomplete; 3=primary education complete; 4=secondary education incomplete; 5=secondary education complete; 6=diploma/NCE; 7=degree/HND; 8=masters; 9=PhD)	-0.428*	-0.089	-0.814***	0.131
Number of child (1=0-3; 2=4-8; 3=9-13; 4=14 and above)	0.523*	0.267	0.526*	0.308
Household size (1=1-3; 2=4-6; 3=7-10; 4=11-14; 5=15 and above)	-0.205	0.206	-0.003	0.209
Constant	1.309	0.838	3.857***	0.989
Wald Chi-Square	60.1		60.73	
Prob Chi2	0.001		0.001	
Log Pseudo Likelihood	-217.91317		-195.51144	
Pseudo R2	0.1635		0.2919	
Number of observation	432		432	

Note: *, **, *** statistical significance at the 10%, 5% and 1% level, respectively

Based on Table 5, the logit analysis results indicate each and every one of the family characteristics variables of gender, marital status, level of education, number of child and household size. The negative coefficient associated with educational level variable signifies that a higher attainment of educational level by the head of the household

result in a greater probability of being non poor. That is, the likelihood of being monetary and multidimensional poor will reduce by 0.07% and 0.12%, in that order, if the household head moves a step further in educational attainment like from primary completion to secondary completion (Table 6). The marginal effect of educational attainment is much larger in multidimensional poverty as compare with monetary poverty. These result established the assumption of the earlier findings such as Awan, Malik, Sarwar and Waqas (2011). Conversely, household with larger number of children experience a higher degree of likelihood of being poor in both monetary and multidimensional measurement of poverty, the likelihood of being monetary and multidimensional poor hope to increase by 0.09% and 0.08%, if the number of child is increase by one.

Table 6: Estimated result of Partial Effect (dy/dx) of Poverty Determinants (%)

	Monetary Poverty	Multidimensional Poverty
Household Characteristics		
Gender (1=male; 2=female)	0.115	0.0173
Marital status of household (1=single; 2=Married; 3=divorce; 4= separated; 5=widow	0.012	-0.024
Level of education (1=no school; 2=primary education incomplete; 3=primary education complete; 4=secondary education incomplete; 5=secondary education complete; 6=diploma/NCE; 7=degree/HND; 8=masters; 9=PhD)	-0.074	-0.124
Number of child (1=0-3; 2=4-8; 3=9-13; 4=14 and above)	0.090	0.081
Household size (1=1-3; 2=4-6; 3=7-10; 4=11-14; 5=15 and above)	-0.035	-0.001

Based on Table 7, the determinants for the various layers of poverty will be discussed in this sub-section. Sometimes, people face only monetary poverty measurement whereas others face poverty in both the monetary and multidimensional measurement of poverty. The ordered analysis of poverty experience uses to verify the estimation logit model results in terms of consistency and robustness. The following are the order of poverty experience: 0= no experience in either of the poverty measurement; 1= experience monetary poverty; 2= experience both monetary and multidimensional poverty. A household with higher level of attainment in education likely not to be poor in either of the category of poverty, the likelihood of not being poor in either of the categories of poverty increases by 0.09% with a step forward in educational attainment (Table 8). Household with a larger number of children likely to be poor in the two categories of poverty, the likelihood of not being poor in the two categories of poverty reduces by 0.07% with an additional one more children to the household.

Table 7: Estimated Results of Ordered Logit Model of Poverty Experience

	Coefficient	Robust S.E.
Household Characteristics		
Gender (1=male; 2=female)	0.567**	0.266
Marital status of household (1=single; 2=Married; 3=divorce; 4= separated; 5=widow	0.004	0.11
Level of education (1=no school; 2=primary education incomplete; 3=primary education complete; 4=secondary education incomplete; 5=secondary education complete; 6=diploma/NCE; 7=degree/HND; 8=masters; 9=PhD)	-0.564***	0.881
Number of child (1=0-3; 2=4-8; 3=9-13; 4=14 and above)	0.453*	0.248
Household size (1=1-3; 2=4-6; 3=7-10; 4=11-14; 5=15 and above)	-0.156	0.181

Table 8: Estimated Results of Ordered Logit Model of Poverty Experience

	Y=0	Y=1	Y=2
Household Characteristics			
Gender (1=male; 2=female)	-0.091	-0.01	0.101
Marital status of household (1=single; 2=Married; 3=divorce; 4= separated; 5=widow	-0.001	-0.001	0.001
Level of education (1=no school; 2=primary education incomplete; 3=primary education complete; 4=secondary education incomplete; 5=secondary education complete; 6=diploma/NCE; 7=degree/HND; 8=masters; 9=PhD)	0.087	0.001	-0.097
Number of child (1=0-3; 2=4-8; 3=9-13; 4=14 and above)	-0.07	-0.001	-0.078
Household size (1=1-3; 2=4-6; 3=7-10; 4=11-14; 5=15 and above)	0.024	0.003	-0.027

CONCLUSION

This study determines to assess non-income multidimensional poverty in Niger State of Nigeria using an approach advanced by Alkire and Foster which constitute novelty in the literature. It investigates three dimensions of deprivations: education, health and standard of living with ten indicators therein. The study discovers that about 60% of the population are multidimensional poor. Living standard is established as the main contributor to multidimensional poverty in Nigeria. The paper also looks at the link between income and multidimensional poverty. The study discovered that there exists 8% point difference in the headcount ration of poverty by using the two measurements. Despite the existence of little differences between the two measurements which is as a result of Nigeria being a developing economy, complementing income measurement with that multidimensional one explain clearly the multiple deprivations face by the poor.About 13.0% of the households that monetary poverty measurement consider them to be non-poor are multidimensional poor. Therefore, income approach of uni-dimensional poverty measurement is not sufficient measurement of poverty.

Employing the model of logit and ordered logit estimations found that the key determinants of poverty are gender, educational level of household head, marital status, number of child and household size. The influence of the variables is more in multidimensional poverty as compare to monetary poverty.

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