CHILD POVERTY IN NIGERIA: A MULTIDIMENSIONAL APPROACH

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ABSTRACT
This study focused on the topic of child poverty in Nigeria and other concerns associated to poverty. A significant socioeconomic issue that exists in Nigeria is poverty. It has prevented many children from reaching their full potential. The lives of children in Nigeria today are less fortunate than those of a previous generation. However, this study examined the incidence and intensity of multidimensional child poverty across geographical regions, urban/rural areas, gender and Dimensions in Nigeria using the Alkire Foster Method of measuring multidimensional poverty. Using data from the Living Standard Measurement Survey (LSMS) 2018/2019, the study constructed an n x d dimensional matrix of achievement X consisting of Four dimensions of deprivation which was captured by 8 indicators. Dimensions of deprivations employed to compute multidimensional child poverty include consumption, Education, Health and Living standard. The result of our findings revealed that the incidence of poverty or the

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proportion of children who are multidimensional poor in at least one dimension of deprivation stands at 65 percent. Furthermore the intensity of poverty or the average deprivation experienced by the poor stood at 44%. This implies that that about every three in five children suffers from some form of deprivation that is at least as much 44% of all the deprivation considered in this study. The value is also statistically significant at the 5% level. This finding suggest that the SDG policy objective of eradiating Global poverty is still a long way off in Nigeria and more efforts are required to eliminate all forms of child deprivations through social inclusive policies that cater for the welfare of children regardless of social status. The study recommends that short term measures like school feeding programmes be expanded to reach children in rural areas as well as long term measures which involve policies to accelerate economic growth and provide employment and incomes to households.

1. INTRODUCTION

Although it is a worldwide issue, the SSA region has particularly high levels of child poverty (Landiyanto, 2018; Ogwumike & Ozughalu, 2018). One of the most significant aspects of poverty is child poverty, which has caught the attention of development specialists and policymakers all around the world. Child poverty has continued to dominate analysis and discussions of poverty, as stated by Chen and Corak (2008). These justifications might affect how important child poverty is in analyses of poverty. First, the prevalence of poverty makes it difficult for kids to exercise their fundamental human rights. Extreme or severe poverty that lasts for an extended period of time hinders children's development and harms their chances of achieving the fullest possible happiness in life, including the roles that are expected of them as they get older in their families, communities, and societies (Gordon, Nandy, Pantazi, Pemberton & Townsend, 2003). Second, as children rely heavily on their local environment to achieve their basic requirements, they are more susceptible to poverty regardless of time and place. They entirely rely on the allocation of resources by their parents or guardians in the framework of the community and family context because they are not yet economically independent actors (Roelen & Gassmann, 2008). Furthermore, when they have unmet requirements, children are helpless and unable to work to improve their living conditions or effectively support themselves (Best, 1987; Dieker, 2013). Others influence their lives and fortunes. On the other hand, some individuals may, to some extent, fall into poverty as a result of

their own actions, which may be brought on by a lack of education, laziness, or a refusal to work (Robinson, 2011). These folks can improve their financial situation and even escape poverty by working more and developing their talents, among other things. Hence, children, unlike the adults, are innocent in sliding into poverty and powerless to escape poverty, and if we do concur that the poor deserve priority, then it is safe to say that poor children deserve even a greater priority and their plights should always be at the forefront. Third, as they grow up in poverty, the children are confined in the chain of the phenomenon and are very likely to continue in the poverty trap in their adulthood; hence it is stated that poverty usually exhibits itself in the form of a vicious cycle, making children to be confined in it from birth onwards (Roelen, Gassmann & Neuborg, 2010). Fourth, relative to adult, poverty affects children differently. This is predicated on the fact that children's basic needs are distinct from those of adults. For example, children's dietary and protection needs are distinct from those of adults, as well as their educational requirements (Roelen & Gassmann, 2008; Roelen, et al., 2010). Hence, children-focused poverty approach is capable of pinpointing those fundamental needs that are specifically very essential for children to develop and attain their full potentials (Roelen & Gassmann, 2008).

Child poverty has several adverse effects on children. It is an obstacle inhibiting children's development, their participation in the society, access to proper health care, education and other basic services. Children living with child poverty are more probable to live in to reside in unhealthy housing without adequate sanitation and clean water (Roelen, Gassman & De Neubourg 2012; Bima & Marlina, 2017; Rizky, Wahyu, Arfyanto, Cubis, Hermanus, Marshan, Wanda, Ksmawardhani & Toyamah., 2017). Also, it tends to prolong the poverty cycle and it triggers inter-generational transmission. Child poverty lowers the prospect of children to successfully function in adulthood. Poor children are more probable to have lesser adult success relative to non-poor children owing to deprivations experienced during their childhoods (Ratcliffe & McKernan, 2010). Poor children are more likely to become poor adults and are more probable to have children that are poor in the future (Moore, 2005; Bird, 2007) since poor parents are usually incapable of creating opportunities for their children to break away from the shackles of poverty (Townsend, 1979, Landiyanto, 2018). Based on the background, this study examines the multidimensional approach of child poverty in Nigeria.

1.1 Statement of the Problem

In Nigeria, early education programmes, which include creches, nurseries, and kindergarten, were attended by 7.2 million children in 2018 (68.3% of all children) (Statista, 2022). The Human Capital Index (HCI) data show that the average years of schooling in Nigeria are 8.2 years, despite the fact that a child is supposed to have completed 12 years of education by the time they turn 18 (six in elementary, three in junior high, and three in senior high). When broken down by gender, this equates to 8.7 years for boys and 7.6 years for girls, giving boys an advantage of more than one year in education. According to the figures, enrollment and attendance are slowly improving. Males and females between the ages of 5 and 14 who were enrolled in school in 2018 had attendance rates of 78.4% and 78.7%, respectively (World Bank, 2019). These increased from 67.9% of women and 71% of men in 2013. Additionally, the results point to a narrowing of the gender disparity, at least nationwide. However, between 2013 and 2018, there was also a slight reversal in overall improvement that may have been brought on by declining average wages. The enrollment picture for secondary schools is somewhat gloomier. Primary enrollment rates were 87.1%, junior secondary enrollment rates were 67.6%, and senior secondary enrollment rates were

63% as of 2018. These figures imply that dropout rates were still substantial. The gender gaps in enrolment remained at a consistent 3% to 4% between males and females at all three school levels.

Due of extended school closings, the COVID-19 epidemic is anticipated to have impaired educational outcomes for many Nigerian children. Between March 2020 and October 2020, schools in Nigeria were closed, which amounted to a loss of instruction of more than 180 days, or two terms or semesters. Most of the time, virtual or hybrid classes were not an option, therefore many students were unable to participate in any educational activities at this time. For instance, virtual learning was not possible at public schools, which serve 81% of secondary school students in Nigeria, since neither instructors nor students had access to the internet, computers, or e-learning abilities (Index Mundi, 2019). According to a World Bank survey of Nigerian households in April–May 2020, the pandemic restricted access to education for more than one third of the surveyed households with children (World Bank, 2020a). By October 2020, when some schools were set to reopen, 45% of school aged household members between 5–18 years old had not engaged in any education or learning activities since March 2020 (World Bank, 2020b). The drop in attendance was larger in urban areas (25 percentage points lower) than in rural areas (12 percentage points lower) (World Bank, 2020b).

Development economists' focus has recently shifted to the investigation of multidimensional child poverty (Dirksen, et al., 2021) (Fonta, Yameogo & Fonta, 2020; Lawson, Angemi & Kasirye, 2020). The basis for that emphasis is the knowledge that children are society's most vulnerable segment and are responsible for a significant portion of the global incidence of poverty. Statistics from a joint UNDP and OPHI study (2019) show that out of 1.3 billion individuals who are multidimensionally poor, 663 million of them are children, with 428 million (32.3%) of them being under the age of 10. Additionally, 63.5% of children in the SSA are multidimensionally poor, the region having the greatest incidence of this worldwide.

Nigeria is one of the topmost countries in SSA where child poverty is prevalent. Majority of the country’s children encounters challenges like lack of access to safe drinking water and education, poor health facilities, lack to social insecurity, food among others (Olagunju, Ogunniyi & Olafadewa, 2018). This situation is more pronounced in rural areas where the majority of children who resides in rural areas are without access to basic resources for survival relative to their counterparts in developed nations. Most often they drink water from hazardous and unknown sources, they lack access to toilet facilities as well as medical care and they reside in houses with crowded rooms, they do not attend school and have no access to learning and information facilities (Gordon, et al., 2003).

Furthermore, poverty among resource-poor people has been conceptualised to reflect a state of deprivation which is manifested not just in monetary deprivation, but also in the lack of basic amenities that make up living standards, such as access to water and sanitation, cooking fuels and lighting. Based on the 2018/19 Nigerian Living Standard Survey (NLSS) of NBS, official monetary poverty in 2019 was measured at 40.1%—meaning that 82.9 million Nigerians had real per capita expenditure below the poverty line of Naira 137,430 per year (or Naira 376.50 per day) and were therefore considered poor (National Bureau of Statistics, 2019). However, this estimate excludes Borno State, which could not be fully surveyed due to security challenges in the region. In terms of child monetary poverty, 47.4% of children under the age of 18 are estimated to live

below the national poverty line: 22.9% of children in urban areas and 59.5% of children in rural areas. These estimates are based on the Monetary Child Poverty Analysis produced by the Ministry of Finance, Budget and National Planning (MFBNP) and the NBS (UNICEF, 2021a). However, this study examines the multidimensional approach of child poverty in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Review

The status of children who are in want or extreme poverty is referred to as child poverty. This holds true for kids from low-income households or orphans who are reared without much assistance from the state (Butty, 2012). Children are considered to be impoverished if they fall below the country's minimal acceptable norm. These requirements are lower in underdeveloped nations, and when paired with the higher orphan rates, the repercussions are more severe (Butty, 2012). Most nations define children as "people under the age of eighteen," despite the fact that puberty is thought to mark the biological beginning of the shift from childhood to adulthood.

Brück and Kebede (2013) state that multidimensional poverty allows measuring poverty using different variables. For instance, assessing poverty through literacy or tangible assets could be a more reasonable method that could also capture long-term poverty. Multidimensional poverty measures can be used to create a more comprehensive picture to reveal who is poor and how they are poor, that is, the range of different disadvantages they experience. The evaluation of well-being for analysis of poverty is generally categorized into two major methods which are welfarist and the non-welfarist methods (Ravallion, 1994).

2.1.1 Welfarist Approach

This approach is strongly rooted in classical microeconomics. Generally in economics, utility or welfare is an essential ingredient in accounting for an individual’s well-being and behaviour. This approach views poverty as a lack of control over commodities which is usually measured by low consumption or income (Duclos & Araar, 2006). As noted by Ravallion (1994), poverty exists in a particular society when one or more persons are unable to achieve a material well-being level regarded to constitute a tolerable minimum by the society standards. This poverty view which is largely measured in monetary terms is the beginning point of most poverty analysis (Haughton & Khandkler, 2009). In line with this view, child poverty is conceptualized as a headcount of children resident in families with low resources (when denoted in terms of money metric) that falls way below a particular level, viewed as grossly inadequate to obtain goods needed for human sustenance (Noble, Wright & Cluver,, 2007).

It is important to differentiate two poverty concepts (absolute and relative) that have its bearing on the welfarist approach. In the absolute concept, poverty is viewed separately of any reference group. The absolute concept is hinged on the requirements of the poor and not that of the non-poor signifying that it supposedly exists independently of any reference group and does not rely on the society’s living standard (Barnes, Noble, Wright & Dowes., 2009). Noble, et al., (2007) observed that absolute poverty does not vary concerning the society current living standard, or overtime or in respect to the needs of various social groups. It is usually conceptualized with regards to the basic subsistence and the concept has over time been referred to as subsistence poverty. On the other hand, the relative concept of poverty is viewed with respect to a reference group, usually the

expenditure or income position of others in society. People are regarded as poor if they do not have sufficient resources needed to participate fully in the society or put differently to partake in activities that are common in their society of residence (Barneset al., 2009). Townsend (1979) opined that relative poverty is experienced when people do not have the adequate resources to acquire the right diets, partake in usual activities and possess the basic amenities and conditions which are basic or at least generally approved or encouraged in the societies they reside in.

2.1.2 Non-Welfarist Approach

There are two main non-welfarist methods: the capability approach and the basic-needs approach. The latter concentrates on the need to accomplish some fundamental multidimensional outcomes that can be examined and monitored quite easily. These outcomes are generally (implicitly or explicitly) connected with the notion of functionings, a notion largely pioneered by the influential writings of Amartya Sen. In Sen's view, functionings is seen to be a well-being constitutive element. One enjoys life if the individual has adequate functionings levels. The functioning approach generally would not try to reduce these multidimensional constituents into a sole dimension like happiness or utility (Wasswa, 2015). Happiness or utility is regarded as a reductive functionings aggregate that in its nature are multidimensional. Usually, the functioning method concentrates rather on the achievement of various separate and specific outcomes like the delight in the consumption of a particular kind of commodity such as maintaining healthy living, shelter, literate and socially empowered among others. The functioning method is closely related to the famous basic need method and the two are usually hard to differentiate in practice. However, it is pertinent to note that functionings and basic needs are not synonymous (Wasswa, 2015). Basic needs refer to the physical inputs that are generally needed for people to sufficiently attain functionings. Thus basic needs are normally conceptualized in terms of means instead of outcomes. Basic needs can be explained in terms of having access to minimum basic things like water, food, shelter which are essential to avert ill-health, malnutrition among others (Duclos & Araar, 2006).

The capability method advocated and pioneered in the last three decades by the writings of Amartya Sen (1980, 1985, 1992, 1999) and Foster and Amartya (1997), comprehensively evaluated the utility and income focus of neoclassical economist and suggests that well-being should be understood as multidimensional and regarded in the space of capabilities. The capability method is conceptualized by the capacity to attain functionings. Sen (1992) noted that the capability to function characterize the different mixture of functionings that is achievable by the individual. Thus capability is a set of functionings vectors revealing the individual's freedom to lead one kind of life or another. In view of this, recent studies on inequality and poverty have shifted to a wider multidimensional conceptualization where poverty is placed within a wider scope of domains of non-economic deprivation connected with poverty in the traditional sense (Summer, 2004; Baschieri & Falkingham, 2007).

2.2 Measuring Child Poverty and Deprivation

This sub-section discusses the major types of child poverty measurement in literature which includes traditional approach, AF approach and the Bristol approach

2.2.1 Monetary or Traditional Child Poverty Measurement Approach

In the influential work of Amartya Sen in 1976 on "Poverty: An Ordinal Approach to Measurement", he outlined two major issues that poverty assessment must tackle: First is poor

identification in the aggregate population while the second is developing a numerical poverty measure. Sen's two-step method of aggregation and classification has been utilized as the standard conceptual poverty measurement framework (Alkire & Foster, 2011b). The monetary method (which happens to be the most frequently used poverty measure) classifies the poor (generally a household is utilized as the unit of analysis) by conceptualizing an income poverty line with respect to the number of resources that are essential to obtain fundamental goods and services baskets. It views child poverty as children residing in families in which household income *xi* fall significantly below the least level of subsistence or a corresponding poverty depth measure *z*. The method depends majorly on the presumption of a robust nexus between low consumption/income of the household and the children well-being and their development opportunities (Noble, et al., 2006). When the poverty line is established, a measure (s) is required to be chosen for computing the profile of child poverty. In this regard, the Foster-Greer-Thorbecke (FGT) poverty assessment developed by Foster, et al., (1984) is the most frequently employed.

2.2.2 The Bristol Deprivation Approach

This method developed by a team of researchers from the Bristol's University Townsend Centre for International Poverty Research has been extensively utilized to produce the maiden internationally child poverty comparable estimates across a huge number of developing nations (Gordon, et al., 2003). They contributed significantly to the literature on child poverty by suggesting a method of aligning child poverty assessments with children's rights as enshrined in the CRC and to apply as much as data permits, child poverty indicators and cut-offs that are in tandem with the adopted definition of Copenhagen World Summit for Social Development of 1995. This approach is appropriate for tracking specific children's rights in agreement with WFFC and CRC. This method develops a series of basic requirements that should be accessible to a child and changes them into sets of deprivations when access is unavailable. Some of these basic needs are health care facilities, food, clean drinking water, education, sanitation facilities, shelter and information. In assessing the deprivations, a distinct deprivation count is introduced for each deprivation dimension.

In the study of Gordon, et al., (2003), a range of deprivation was utilized to develop operational conceptualizations of child deprivation for all the seven dimensions. In each dimension, the range goes thus: no, mild, moderate, severe and extreme deprivation (Roelen & Gassmann, 2008). The poverty line or cut-off line was pegged at the severe deprivation stage: a child that is unable to attain that level was deemed deprived in that particular dimension. The aggregation or identification approach of the study demands that information of all dimensions is accessible for each child (Roelen & Gassmann, 2008). The child is seen as living in absolute poverty if the child experiences two or more severe deprivations. Table 2.1 provides a snapshot of the conceptualizations utilized in measuring multidimensional child poverty.

Table 2.1: Bristol's Approach of Multiple Child Deprivation Definition

Deprivation	Mild	Moderate	Severe	Extreme
Food	A bland diet of poor nutritional content	Occasionally going hungry	Malnutrition	Starvation
Clean drinking water	Not having access to adequate water because of insufficient money	Lack of water access by households where they live but communal water supply available 200 metres of their residence or	Long trek to the source of water (usually longer than 15 minutes or more than 200m trek). Unreliable	Lack of water access

Deprivation	Mild	Moderate	Severe	Extreme
		not more than 15 minutes walk	drinking water (for instance open water)	
Sanitation facilities	Sharing amenitieswith neighbours or another household	Sanitation amenities located outside dwellings	Lack of sanitation amenities in or close to the dwelling	Lack of access to sanitation amenities
Health	Occasional lack of medical care access owing to inadequate resources	Insufficient medical attention	Lack of access to diseases immunization. Having access to only non-professional health care available when ill	Lack of medical care
Shelter	Living in households with more than one person per room	Few dwelling facilities, No access to heating, structural issues, having more than 3 persons per room	Lack of in house facilities, no permanent structure, no flooring, no privacy, having only one or two rooms. 5 persons or more staying in a room	No shelter – Roofless
Education	Poor teaching owing to insufficient resources	Attended primary but did not attend secondary	Children aged 7 or more yet to obtain either primary or secondary education	Stopped from learning
Information	Inability to afford newspaper or books	Can afford radio but cannot afford television	Lack of access to newspapers, books, television or radio	Restrained from having information access
Basic social services	Education and health facilities available but not in good conditions	Insufficient education and health amenities nearby (at least within 1 hour from residence)	Limited education and health amenities and may only be partially available after about a day's travel	Lack of access to education or health amenities

Source: Adapted from Gordon et al. (2003)

While it is important to note that the measure of child poverty in the Bristol's approach improves upon the traditional approach, however, it failed to explain the breadth, severity or depth of child poverty dimensions (Alkire & Roche, 2012). Furthermore, the headcount cannot be split by dimension in a bid to reveal the child poverty components across age group, spatial locations, and gender among others. Due to these shortfalls, the next sub-section presents the AF approach which is an innovative and new method to multidimensional poverty measurement that enhances upon the two previous approaches presented.

2.2.3 The Alkire-Foster (AF) Approach

A study by Bourguignon and Chakravarty (2003) presented a structure for measuring multidimensional poverty that involves both an identification function for calculating the number of poor and also a measure of poverty that mixes that information into a statistic to summarize the degree of overall poverty. Axioms are similar to those utilized in the unidimensional case guarantee that poverty reflected in the measure can be broken by subgroup which is in tandem with the identification function. The easiest summary measure is then the number of dimensions that the household or an individual is deprived. This is simply termed the accounting approach by Atkinson (2003). Further, Atkinson (2003) differentiates between the intersection and union methods, the former count the poor as solely those deprived in all the dimensions while the latter are those that are deprived in any of the dimension. Both methods are easily understood and contain important features like being appropriate to ordinal variables. On the other hand, they could be very inefficient at splitting the non-poor from the poor with the latter inclined to recognize implausibly huge numbers as poor from those that are not poor while the former appears to capture minute minorities (Alkire & Foster, 2011b). For instance, in a study conducted for Uganda by Levine, Muwonge & Batana. (2014) that employed three dimensions (health, education and living

standards) developed ten barometers to pinpoints the poor in the country, the union methods reported that 99% of the country's population was poor while the intersection methods found 1%. A related values range was found by Alkire and Roche (2012) and this is widespread in various other studies in the literature.

Given the two existing extreme measure for ascertaining the multidimensionally poor, Alkire and Foster (2007, 2011a) suggested a new identification technique: the dual cutoff and counting methods which contain the two extremes and also permit intermediate options. The AF approach utilizes a dual cutoff to categorize the poor. For every dimension, a deprivation cutoff pinpoints individuals that are deprived in that particular dimension. Further, the multidimensional case contains a second cutoff referred to as the poverty cutoff (k), which presents the least number of dimensions that an individual must be deprived before they are regarded poor. Hence, the AF measures are responsive to the combined achievements distribution across dimensions (Alkire & Foster, 2011a).

2.3 Theoretical Literature Review

2.3.1 Classical Theory of Poverty

The theories of distribution and value were also included in this theory, which was developed in the eighteenth and nineteenth centuries and was influenced by the famous writings of Adam Smith and David Ricardo. The costs incurred in creating the good were seen as totally determining its value. The distribution is also explained by the cost description found in traditional economics. According to its original agricultural expression, in which landlords collect rent, employees receive pay, and a capitalist tenant farmer reaps returns from their investments (Davis & Sanchez-Martinez, 2015). The reasons for the various income flows that go to the various sectors involved (which are how these payments are distributed) were not looked at.

According to the traditional theory, market transaction outcomes are efficient, and as a result, salaries appropriately reflect an individual's production. Therefore, poverty is mostly seen as the result of bad individual decisions (poor individuals lack self-discipline, for example), which has a detrimental impact on production, even though it is acknowledged that pure variations in fundamental genetics are also potential causes of poverty. According to what is said below, persons may fall into a "poverty or welfare trap" as a result of making poor decisions. To combat poverty beyond a minimum level, the intervention of the government is usually seen negatively as a "source of economic inefficiency"; by producing misaligned incentives between people suffering from poverty and the entire society as welfare programmes as viewed to reinforce or potentially cause poverty (through welfare reliance). At most, the government is expected to intercede whenever poor people require supportive activities or threats to rectify unfavourable economic incentives (Davis & Sanchez-Martinez, 2015). Under this view, the bulk of the policy prescriptions concentrates on attempts to improve the productivity of poor people to enter the labour force as soon as they can (although it is recognized that some people – sick people, older people and the young people cannot partake and will require alternative support).

2.3.2 Neoclassical Theory of Poverty

The 1890 publication of Alfred Marshall's Principles of Economics marks the most important development in the emergence of neoclassical economics. Marshall defined price as the point where the supply and demand curves converge. Marshall's key contribution was the inclusion of

many market "periods," as he generalised the demand and supply price explanations to all time horizons by treating supply and demand as stable functions. He claims that over a longer period of time, it was simpler for supply to vary and that this led to it becoming a more significant price driver.

Neoclassical theory emphasises the role that unequal beginning endowments of skills, talents, and capital play in generating poverty in a market-based competitive economic system. Neoclassical theory builds on the classical tradition. According to Davis (2007), market failures like moral hazard, unfavourable selection, externalities, and information asymmetry are all thought to exacerbate poverty. Since impoverished people are more vulnerable to shocks to their wellbeing (such as illness, family dissolution, and recessions), uncertainty may have a significant impact on the development of poverty. Neoclassical theorists have the same pessimism about the role of government as classical tradition, despite the possibility that interventions aimed at addressing market failings may occasionally be required.

For instance, microfinance or microcredit institutions are viewed as potentially beneficial from a purely economic perspective. This is predicated on the fact that these unions could conquer the moral hazard risk involved in lending to poor people when faced with income fluctuations or wish to establish a micro-enterprise. Moral hazard otherwise engenders a high social cost and/or inadequate credit availability. The poor decisions as critiqued by classical thinker could sometimes be rationalized as information challenges which could be solved partly through “small-scale policies” designed at shifting incentives (Banerjee & Duflo, 2011).

Under the Second Welfare Theorem of welfare theory – following which a Pareto-efficient allocation could be achieved post-relocation given that it is optimally conducted – reallocation strategies intended at lowering inequality could be efficiency-neutral. Nonetheless, similar to the classical belief, neoclassical economists usually concur that in most practical conditions, the aim of full income equality, for example, may not be accomplished without suffering excessive cost in efficiency terms. Existing welfare economists support the Kaldor–Hicks criterion: Public policy is validated if it generates benefits above losses so that it is constantly viable for winners from the policy to compensate losers (using the second welfare theorem) although this compensation do not usually happen (Jung & Smith, 2007).

Hinged on the idea that interpersonal utility assessment was unsuitable and on the Kaldor-Hicks principle (which emphasize the normative view that public policy should be worried about efficiency maximization and not equality), some adherents of the neoclassical school do not see poverty reduction as an overriding economic goal; poverty alleviation was hence seen as useful only if it improved resources allocation efficiency among the population. In this aspect, it differs with classical thinkers and early neoclassical theorists like Marshall and Keynes. They maintained that it was suitable to evaluate individuals’ utilities and there exists a diminishing marginal utility across income, indicating that an additional income unit was more important to an individual who is poor than a wealthy one, showing that utility is enhanced through redistribution.

2.4 Empirical Review

Akinyetun, Alausa, Odeyemi, and Ahoton (2021) used social exclusion theory and combined qualitative and quantitative methods to analyse the scope of multidimensional poverty in Nigeria,

paying particular focus on Oto/Ijanikin, a semi-urban suburb of Lagos State. While secondary data on the prevalence of multidimensional poverty in Nigeria were sourced, primary data were collected directly from the study region. We come to the conclusion that multidimensional poverty is pervasive in Nigeria by focusing on indicators including healthcare, energy, education, clean water, and housing. As a result, we advocate for social inclusion as a solution. Similar to this, Mohammed and Ab-Rahim (2021) used Alkire and Foster methods to create a multidimensional poverty index for households in Nigeria. Data from 432 families were gathered via a questionnaire, and logit regression was used to analyse the factors that contribute to multidimensional poverty. The findings indicate that the households are multidimensionally poor, specifically in the area of living standards, to the tune of 37%. Additionally, the findings demonstrate that, in contrast to the high child population, higher education results promote household well-being. Ogunniyi, Mistura, Mavrotas, Kehinde, Kabir, and Olusegun (2020) reexamined the discussion on the causes of child poverty in Nigeria by using a multidimensional poverty approach and the data from the 2013 Demographic Health Survey. The empirical findings show that the poverty measurements get smaller the more dimensions are used. Most kids lack access to at least one of their most basic needs. According to the child poverty indicators, the majority of Nigeria's under-five children are not receiving the standard of living that is considered to be adequate. Rural areas and the country's north are where the issue is more widespread.

Wang and Man (2019) utilized the Foster-Greer-Thorbecke approach and Chinese General Social Survey data to investigate China's child income poverty. They assessed the poverty gap, headcount and poverty severity indexes of the children and they reported that the level of child poverty in China was high and the child poverty incidence worsened for children residing in rural regions. The study further confirmed that a huge difference exists among diverse children groups by rural/urban status as well as along ethnic lines. Kamal, Harouni, Basakha and Alamdari (2019) found that there is a significant disparity among the various Iran provinces with regards to multidimensional child poverty index with provinces nearer to the borders having a high degree of child poverty than those situated in the country's central area. In a related study in Zimbabwe, Musiwa (2019) estimates the degree and risk patterns of multidimensional child poverty in using Bristol approach, 2015 DHS and fourteen deprivation measures. The study revealed that 78%, 46%, 44%, 40%, 30% and 13% were deprived severely in early childhood development (ECD), water, healthcare, sanitation, shelter and nutrition respectively. The study further reported no significant disparity in deprivation risk in nutrition and healthcare between children that are deprived and undeprived, there are risk disparities in shelter, sanitation, ECD, water deprivation between the children that are deprived and undeprived.

Mahrt, Rossi, Salvucci and Tarp (2018) applied AF approach and a nationally representative micro-level data to estimate multidimensional child poverty in Mozambique. The study found that 46.3% of children in the country are multidimensionally poor and on the average, they suffer 45.7% of the weighted indicators. In the same vein, Kim and Nandy (2018) relied on the Korean micro-level data to evaluate multidimensional child poverty and the study reported that the population of children in poverty is about 10% of the country's child population. Lastly, Wasswa (2015) in a pioneer study on multidimensional child poverty in Uganda employed the Alkire-Foster (AF) approach and the study found that multidimensional child poverty is more prevalent among children residing in rural areas as well as in the Eastern and Northern regions. The study further reported that between 2002 and 2010 the country witnessed a significant decline in multidimensional child poverty which was largely influenced by household-linked variables like

access to clean drinking water, enhanced consumption patterns of households as well as sanitation facilities and not by child-specific variables like child labour, literacy or schooling.

3. RESEARCH METHODS

3.1 Theoretical Framework

Economists and non-economists alike have continued to make effort to provide overwhelming understanding of poverty and its drivers. While sociologists and psychologists attempt to explain the dynamics of poverty in the context of group behavior and the state of human mind respectively, economists have focused on income distribution, individual endowment, market system, macroeconomic dynamics and governance structure. The classical economic tradition holds that poverty is a consequence of earning differentials arising from differences in individual marginal productivity of labour. On the other hand, the Keynesian liberalist approach explains poverty as a consequence of macroeconomic forces, which are completely beyond the control of individual economic agents. The neoclassical theory of poverty explains poverty in the context of individual endowment and market failure. This approach has been adjudged to be more diverse (see Formby, Hoover & Kim, 2001; Freeman, 2003; Formby, Hoover, Kim, 2004). This study is anchored on the neoclassical theoretical framework.

According to the neoclassical framework, individuals have unequal initial endowments of capital and skill which determine individual productivity in a market economy. Given the assumption that market economy is perfectly competitive, the neoclassical theorists hold that post-exchange outcome will be pareto optimal. This pareto optimal outcome or final endowment does not in any way suggest equality: individuals with small capital endowment, poor skill and low capabilities may be scaled at a very low level of income distribution. In the view of Formby, et al., (2004), differences in the combination of individual of intelligence, education and environment account for most of the variation in the distribution of personal earnings. In other words, income distribution and ownership of assets is not only contingent on factor returns but also on initial endowment. This implies that the educational attainment, income and access to basic social infrastructure by parents may also influence the poverty status of children.

Although there is possibility of poverty prevalence under poverty-efficient allocations, the neoclassical economists believe that welfare outcome is worsened by market failure. Market failure accentuated by adverse selection, moral hazard and externalities may aggravate poverty (Davis & Sanchez-Martinez, 2015). In terms of measurement or expression of poverty, the neoclassical framework holds that monetary metrics such as consumption level of households could be a veritable measure of poverty. Another neoclassical explanation of poverty views asset scarcity as another key expression of poverty. Since a household that owns an adequate stock of asset is less likely to be substantially affected by the risk of negative income shock, the likelihood of child poverty among such household is limited. In this regard, the probability of becoming poor is higher for households with undiversified income. Ulimwengu (2008) also claims that poverty episode is more likely to be lengthened for households with little or no income diversification. In the view of Banerjee and Duflo (2011), asset endowment includes endowment of social capital such as health facilities, education investment, sanitary conditions and access to clean water. In other words, inability to have access to social assets may also accentuate poverty and its persistence.

In this regard, Akire and Foster (2011a) argued that the use of unidirectional income approach to poverty assessment may be inappropriate. They contended that poverty is a multidimensional phenomenon. According to Angulo (2016), head count of poor population in the context of multidimensional poverty could be expressed as:

$$M_0 = \frac{1}{nd} \sum_{i=1}^{K} \sum_{j=1}^{d} w_j . g_{ij}^0 \left(1 - \frac{x_{ij}}{z_j} \right)^{\rho} \qquad 3.1$$

Where n = population size, x_{ij} = j^{th} dimension for i^{th} household, z_j = deprivation threshold for j^{th} dimension, d = the number of deprivation that identifies a household as poor, g_{ij}^0 = the function of dimension j for each household. With appropriate weight assigned to each dimension, Akire-Foster counting methodology uses dual cut off threshold to demarcate the poor from nonpoor. Once the poor are demarcated from the nonpoor, the determinants of poverty could be ascertained. For example, in a study of socio-economic determinants of multidimensional poverty in rural West Bengal, Roy, Ray and Haldar (2019) estimated the determinants of poverty as follows:

$$Y_p = X\beta + \varepsilon \qquad 3.2$$

Roy, Ray and Harder, (2019) computed the poverty index using Akire-Foster counting approach. Applying the cut-off threshold, Y_p was taken to be 1 if an individual is poor and 0 if otherwise. X is 1 x N matric of socioeconomic factors and β is 1 X N vector of coefficients. Equation 3.2 was estimated using probit regression technique. The use of binary choice model approach (such as probit, logit, tobit, etc) is predominant in the study of determinants of multidimensional poverty. The regression of Y on X is a conditional probability of the event Y occurring (i.e. that is, one being poor which takes the value 1). This implies that the conditional probabilities are expected to lie between 0 and 1. Coulombe and McKay (2016) observe that if ordinary least square (OLS) is utilized for estimating Equation 3.2, conditional probabilities are more likely to lie outside the (0,1) range. In addition, since linear estimation relies on normality assumptions and binary choice models are non-normal, the error term of binary choice model would more likely be heteroskedastic. In other words, the use of OLS would tend to bias the standard errors thereby making inferences from the t-statistics invalid.

Overall, using binary choice model such as probit model, the neoclassical proposition that poverty could be driven by factors traceable to individual endowments, individual attributes, social endowments and the dynamics of the market economy could be examined.

3.2 Model Specification

As noted by Alkire and Foster (2011a), poverty is a multifaceted phenomenon. Thus, to achieve a holistic understanding of its incidence among children, we propose to adopt a multidimensional approach to its study. A number of approaches to measuring multidimensional poverty has been developed and experimented in several countries. Some of the approaches to multidimensional poverty include the composite indices approach, dashboard approach, the dominance approach, Venn diagrams, statistical approaches, the axiomatic approach and fuzzy sets (Tsui, 2002; Atkinson, 2003). In this study, we would utilize Alkire-Foster (AF) approach to multi-dimensional poverty developed by Alkire and Foster (2011a). As noted by Alkire, et al., (2015), the AF methodology, draws together the axiomatic and counting approaches explicitly while building

upon insights from other methodologies too. The AF method is a flexible technique for measuring poverty or well-being (Angulo, et al., 2013) and it can integrate different indicators and dimensions to create measures specific to particular contexts. We set up the computational framework as follows.

Suppose there are ***n*** number of children in Nigeria whose wellbeing are evaluated by ***d*** indicators. Suppose the welfare achievement of child ***i*** in indicator ***j*** is denoted as $\Pi_{ij} \epsilon R$ for all $i = 1,\ldots n$ and $j = 1,\ldots,d$. To collectively assess the achievements of the i^{th} child in all the indicators, we assign a relative weight, w_j, to each indicator such that $0 < w_j < 1$ and

$\sum_{j=1}^{d} w_j = 1$. Notice that the weight assigned to each indicator of deprivation is relative to other indicators of deprivation. The total number of poor children is given as:

$$q = \sum_{i=1}^{n} w_j \theta_k (y, z) \qquad 3.3$$

Where

q is the summation of poor children identified using dual cutoff procedure indicated as $\theta_k(y_i;z)$ *and*$yi = (y_{i1},\ldots yi_j,\ldots y_{id})$ denotes the profile of i^{th} child achievement in all the d indicators. *z s defined as the minimum achievement threshold required in order to be non deprieved and* θ_k *is the identification that maps y to z.*

As noted by Alkire and Robles (2015), a child is classified as being multidimensionally poor based on two cut-off procedures. The first deprivation cut-off for indicator j is denoted as z, such that vector z summarizes the deprivation cutoff. Suppose the welfare achievement of n children in d indicators are denoted as matrix X with n x d dimension. The i^{th} child is considered deprived in a j^{th} indicator if $x_{ij} < z_{ij}$, otherwise the i^{th} child is not considered deprived. Then we can assign deprivation status score $g_{ij} = 1$ and $g_{ij} = 0$ for the deprived and nondeprived respectively.

The second deprivation cutoff is denoted as *k.k* represents the number of deprivations a child must have before he is considered to be multidimensionally poor. As noted by Alkire and Robles (2015), the second cutoff can use the union or intersection approach. In union approach, a child is considered poor if he is deprived in at least one dimension. In this case, the value of $k = 1$. On the other hand, intersection approach identifies a child as being poor only if one is deprived in all the indicators (that is, when $k = d$). In this study, we define the value of k to lie within the range $0 < k \leq 1$. Overall score c_i would be computed for each child such that:

$$c_i = \sum_{j=1}^{d} w_j g_{ij} \qquad 0 \leq c_i \leq 1 \qquad 3.4$$

Based on this cutoff, a child is classified as poor if $c_i \geq k$, otherwise, he is considered to be nonpoor.

Multidimensional Headcount Ratio (H): H refers to the ratio of the child population that is poor. It indicates the incidence of multidimensional poverty in the child population. Mathematically, H is computed as:

$$H = \frac{q}{n} \quad and \quad 0 < H < 1 \qquad 3.5$$

Where q is number of people who are dimensionally poor and n is the total population of children

The use of multidimensional headcount ratio as the measure of multidimensional poverty has come under serious attack. As observed by Bourguignon and Chakravarty (2003), it is a partial index of poverty. It violates the dimensional monotonicity property: the ratio remains unchanged should a poor child become deprived in a new dimension or in a dimension in which he was not previously deprived. It also violates the decomposability property. To mitigate these drawbacks, H is adjusted. H is adjusted by multiplying it with the intensity or breath of multidimensional poverty (A). Poverty intensity refers to mean deprivation score across the population of poor children. Suppose the deprivation score $c_i(k)$ denotes the share of deprivation experienced by an i^{th} poor child. The intensity of poverty (A) is defined as:

$$A = \sum_{i=1}^{n} \frac{c_i(k)}{q} \qquad 3.6$$

Thus, the adjusted headcount poverty ratio (M_0) is given as:

$$M_0(X;z) = H \text{ X } A = \frac{1}{n}\sum_{i=1}^{n} c_i(k) = \frac{1}{n}\sum_{i=1}^{n}\sum_{j=1}^{n} w_j g_{ij} \qquad 3.7$$

Since A is sensitive to changes in depravity, Mo is also sensitive to changes in the state of poverty. M_0 also exhibits both dimensional monotonicity and decomposability properties. To compute the M_0, we first obtain the intensity of poverty (A).

To construct child MPI, we adopt Akire and Foster (2011a) table of indicators and weight. The weight is applied in aggregating variables within a dimension, across dimensions as well as across the population of children. The weight is applied based on the four dimensions (namely Consumption, education, health and living standard) and ten indicators. Each of the three dimensions is assigned equal weight of 1/3. Similarly, weight assigned to a dimension is further shared equally among the indicators. Thus, each indicator in health and education dimension is assigned 1/6 while each indicator in living standard dimension is assigned 1/18. The indicators as proposed by Akire and Foster (2011a) are based on SDG guideline.

4. ANALYSIS OF DATA, PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Descriptive Statistics

Table 4.1 Distribution of Children by Gender

Gender	Frequency	Percentage	Cumulative
Male	16,606	51.74	51.74
Female	15,488	48.26	100.00
Total	32,094	100.00	

Source: Authors Computation using data from LSMS 2018/2019

The observations in table 4.1 comprises of a total number of 32, 094 children aged between 0 and 14 years. The distribution of male and female in the observation is almost evenly distributed with male children accounting for 16,606 observations or 51.74 percent and female accounting for 15,488 observation or 48.26% of the total observations utilized in the study.

Table 4.2 Distribution of children by Zone

	North Central	North East	North West	South East	South South	South West
Male	3,299	2,770	4,196	2,036	2,266	2,039
Female	3,041	2,590	3,800	1,960	2,172	1,925
Total	6,340	5,560	7,990	3,996	4,436	3,964

Source: Authors Computation using data from LSMS 2018/2019

Table 4.2 shows the distribution of observations across geographical zones in Nigeria. The table shows that North west has the highest number of observations at 7996 this was followed by the North central with 6240 number observations with the south east having the least number of children surveyed at 3996 observations.

Table 4.3 Distribution of children by place of Residence

	Frequency	Percentage
Urban	9,760	30.41
Rural	22,334	69.59
Total	32,094	100.00

Source: Authors Computation using data from LSMS 2018/2019

Table 4.3 gives a breakdown of observations across urban and rural areas in Nigeria. Of the total 32,094 observations of children utilized, 22,334 or 69.5% of them reside in the rural area compared to about 9760 or 30% who reside in urban areas. This implies that observations from the rural areas is twice as much as those from the urban area

4.2 Discussion of Findings

Table 4.4 Deprivation table

Domain	Indicator	Weight	Deprived %	Deprived in
Consumption				
	Per capita consumption	0.25	49.03 %	
Health				
	Difficulty is carrying out basic tasks	0.25	3.4 %	
Living Standard				
	electricity	.06	42. 5 %	
	Toilet facility	.06	45. 2 %	
	cooking_fuel	.06	75.09 %	
	hous_des	.06	49.23%	
Education				
	educ_yr	.13	18.7 %	
	Read_nd_write	.13	28.8 %	

Source: Authors Computation using data from LSMS 2018/2019

Table 4.4 shows the number of dimensions, indicators, weights and the percentage of the total population of children who are deprived in each particular indicator. A total of 32, 094

observations across the six geographical zones was utilized for the study. Furthermore, to measure multidimensional child poverty in Nigeria, The study employed four dimensions of deprivations which were captured by eight indicators. The dimensions of deprivations include Consumption, Health, Living standard and Education. The choice of the indicators are such that they are an improvement on previous works on multidimensional child poverty such as Ferrone, et al., (2019) and Fonta, et al., (2020) who failed to capture deprivations in consumption as a key dimension in studying multidimensional child poverty. Furthermore, the dimensions were chosen so as to capture the basic minimum necessary for a child to live a fulfilled life. This is in line with the works of Alkire, et al., (2015).

In terms of the consumption dimension, the indicator employed is the per capita consumption expenditure of the children surveyed. According to the National Bureau of statistics (NBS) 2019, persons with annual Per capita consumption expenditure less than 137,440 Nigeria is considered to be living below the poverty line. In line with this, Children in households with annual per capita consumption expenditure less than 137,440 are considered to be deprived in consumption. Of the 32,097 children surveyed, a total of 49.03 % or 13,323 children were found to be deprived in consumption.

For deprivations in Health, a dummy variable that takes the value 1 if the child is able to complete basic tasks like walking, climbing stairs, seeing objects, hearing, running and understanding instruction, and 0 otherwise was employed as the only indicator. A total of 3.4% or 1,123 children were found to be deprived in health.

In terms of the educational, the study constructed two indicators to capture deprivations in education. Firstly, a dummy variable that takes the value 1 if the child is above 8 years and cannot read and write in English and 0 otherwise was constructed as an indicator of deprivations in education. 28.8% of the children surveyed or 9,908 children above 8 years were not able to read and write in English. Secondly, another dummy variable indicator was constructed that takes on a value of 1 if the child is above 10 years of age but yet to complete 6 years of education and 0 otherwise was constructed to act as a second indicator of deprivation in 18.7% of children or 5747 children were deprived in that indicator.

For the living standard domain, four indicators were employed Viz: whether the household has electricity, toilet facility, the type of cooking fuel used by household and the type of material used in house construction. The study found that 42.55% of children surveyed live in households without electricity, 45.298 % live in household without toilet facilities, 75.834 % used wood or animal dung to cook, 49.382 % of children live in household with either mud floor, thatched roofs or mud walls. In general, the indicator with the highest deprivation is cooking fuel with about 75.382% of children deprived in that indicator, followed by consumption with 41.513% of children below the deprivation cut off mark for per capita consumption.

Table 4.5 Child Multidimensional Poverty Indices

K	Mo	H	A
1	0.29	0.656	0.442
2	0.162	0.289	0.558
3	0.014	0.018	0.773

Source: Authors Computation using data from LSMS 2018/2019

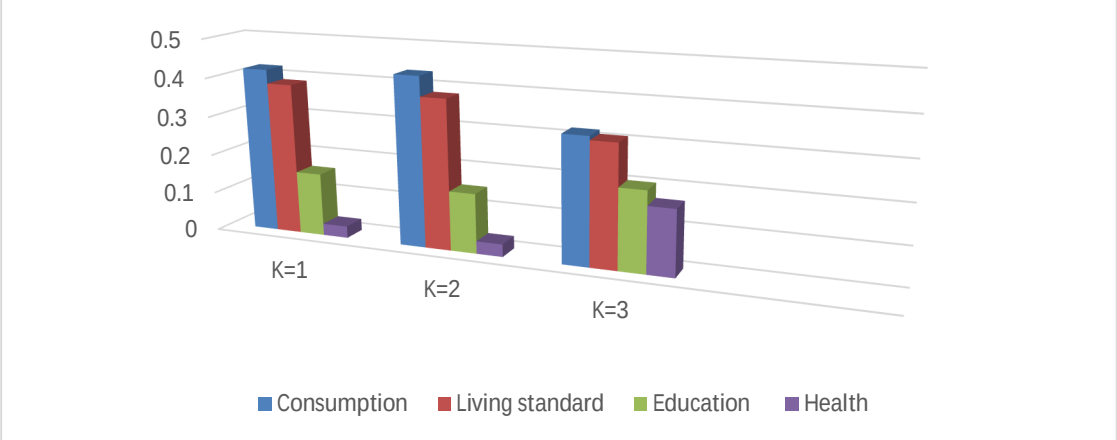
The multidimensional poverty estimates are based on four dimensions namely: Consumption, health, Living standard and Education. Table 4.5 presents the estimated poverty index based on the value of the cut - off, k. The deprivation cutoff (k) represents the number of dimensional deprivation a child must suffer before he can be categorized as multidimensionally poor. With k=1, a child is considered as multidimensionally poor if he is deprived in any of the four dimensions that was used to compute the Multidimensional poverty index (Mo) in this study. With k=2, only children deprived in any two dimensions are classified as multidimensionally poor and so on.

Evidence from table 4.5 above indicate that as the deprivation cut off (k) increases from 1 to 3, the multidimensional poverty index (Mo) and the Multidimensional headcount ratio (H) declines while the Average Intensity of Multidimensional Poverty (A) increases. When k = 1 the headcount ratio (H) is 66.5% and 28.9% when k=2. This implies that about 65.6% of children surveyed were multidimensionally poor in at least one dimension while only about 28.9% of children were considered to be multidimensionally poor in at least two dimensions simultaneously.

The average intensity of poverty shows that the share of dimensions in which the poor are deprived increases with k. Although, the multidimensional child poverty index is decreasing, it is because the number of children that are poor is reducing but the intensity of poverty among the poor is increasing. For instance at k=1, the average intensity of poverty stood at 42.2 %. The intensity rose to 55% and 77% at k=2 and k=3 respectively This agrees with the findings of Alkire, et al., (2011) where they posited that in Lesotho, Kenya and Nigeria, reduction in MPI is achieved by reduction in headcount and barely by reduction in intensity of poverty. Poverty becomes more severe or intensive as the deprivation cut off rises.

The adjusted head count ratio (Mo) at K=1 and k=2 is 29% and 16.2 % respectively indicating that the multidimensional poverty index for children aged between 0 and 15 in Nigeria is 23.3% and 9% for k= 1 and k=2 respectively. The value of the adjusted headcount ratio at k=3 stands at 0.5% which implies that the multidimensional poverty index for children deprived in any 3 combinations of domains employed in this study is 1.4%

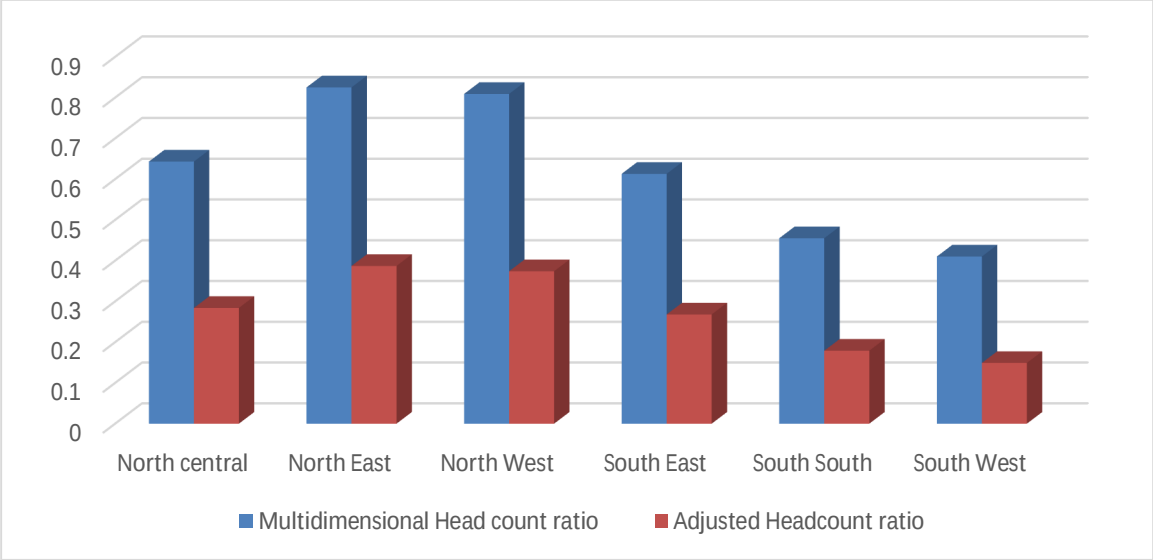
Figure 4.1 Relative contribution of Dimensions to child MPI in Nigeria



Source: Authors Computation using data from LSMS 2018/2019

The relative contribution of all the domains/dimensions to overall multidimensional child poverty is shown in figure 4.1 above. The estimated results indicate that the highest contributor to multidimensional poverty is consumption with 42.2%, 43.3% and 320% at K=1, k=2 and k=3 respectively. This is followed by the living standard dimension with 38.7%, 38.2% and 31.0% at k= 1, k=2 and k=3 respectively. This is followed by the educational dimension and lastly the health domain with only about 3%, 3.2% and 1.6% at k= 1 through k=2 respectively. This finding has implications for policy formulation and design. It means that in order to eliminate child poverty, policies must seek to improve child food consumption through schemes like the school feeding programme and other conditional cash transfer programmes to poor household, improvement in the living standards of vulnerable and deprived children through the provision of electricity, affordable housing and cheap cooking fuel as well as investment in education.

Figure 4.2 Regional Decomposition of overall child multidimensional poverty at k=1



Source: Authors Computation using data from LSMS 2018/2019

To get a clearer picture of the distribution of multidimensional poverty in Nigeria, a decomposition of child multidimensional poverty across geographical zones is in order. A decomposition of multidimensional poverty across region shows that multidimensional poverty is highest in the northern Nigeria compared to the south. Taking a look at figure 4.2 above we found that the North east has the highest incidence and intensity of multidimensional child poverty at k=1. For instance, in terms of multidimensional headcount ratio *H*, the table indicates that about 82% of children in the North east are deprived in at least one dimension. This implies that more than 4 in 5 children in the north eastern part of the country are multidimensional poor. This value is followed closely by the North West with a child multidimensional headcount ratio of 80.9% and then the North central with a headcount ratio of 64.3.8%. This finding is in line with recent NBS publications on the level of poverty across regions in Nigeria.

The southern part of the country has the least incidence of multidimensionally poverty with the south west having the lowest figure in the country at about 41% of children surveyed. This translates to roughly every 2 in 5 children that can be categorized as being multidimensionally

poor in the South West. The southwest is closely followed by the South South at 45.5% and the south east at 61.3%.

In terms of the adjusted headcount ratio, the North east has a value of 38.7%, followed by the North West at 37.4%. The region with the least multidimensional poverty index is the southwest with just over 14.9% of children considered to be multidimensionally poor.

The finding shows a stark disparity in the nature of multidimensional child poverty in Nigeria. While the figures in the southern part of the country looks very similar to those from some middle income countries like Egypt and south Africa, The figures in the North resembles those from impoverished low income countries from Sub Saharan Africa (Fonta, et al., 2020; Carraro & Chzhen, 2019). This disparity has implications for human capital development, long-term development prospects and social economic convergence in both regions. High rate of multidimensional child poverty in the North East and North West portends will lead to a vicious circle of poverty and demographic danger for the country in the future if policies that are targeted at addressing the root cause of this problem are not implemented. In particular it may reinforce the vicious cycle of poverty in those regions.

4.3 Decomposition of multidimensional poverty by place of Residence (Rural/Urban)

To further gain insight into the nature and prevalence of multidimensional child poverty, it is important we understand the relative distribution of multidimensional child poverty across urban and rural Nigeria. The intention is that such information can be utilized in designing targeted policies aimed at ameliorating multidimensional child poverty in Nigeria.

Table 4.6 Disparity in multidimensional child among rural and urban dwellers in Nigeria

	URBAN		RURAL	
	Mo	**H**	**Mo**	**H**
K=1	0.160	0.417	0.330	0.762
K=2	0.054	0.097	0.209	0.373
K=3	0.002	0.003	0.019	0.025

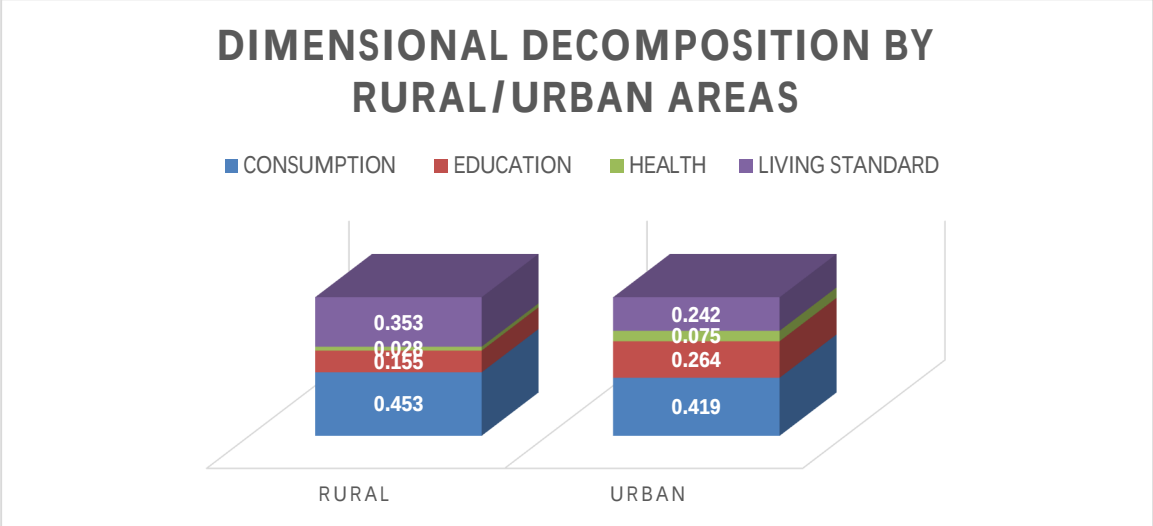
Source: Authors Computation using data from LSMS 2018/2019

Results from table 4.6 shows the disparity in multidimensional child among rural and urban dwellers in Nigeria. For instance, at k=1 multidimensional headcount ratio (H) is 76.2% compared with 41.8% in the urban area. What it means is that nearly 3 out of every 4 children aged between 0-14 in the rural area is deprived in at least one domain utilized in this study. The level of multidimensional headcount ratio at k=2 and k=3 is 37.3% and 2.5% respectively in the rural area while the value is 9.7 % and 0.3% in the urban area respectively.

One implication of this breakdown is that a great percentage of the incidence of child multidimensional poverty observed in Nigeria can be traced to the rural areas rather than the urban areas. One reason for this discrepancies maybe because people in the urban areas have greater access to schools, healthcare and employment which in turn can improve consumption and living standard. However, the huge discrepancy has great implication for pro poor policy designs that targets poverty eradication across the country. It means that in implementing social services like the school feeding programme, Trader Money, N-Power and the conditional cash transfer programmess of the Federal government, priority should be giving to rural areas especially households with multidimensionally poor children.

Taking a look at the adjusted headcount ratio (Mo), we observe that the contribution of the rural areas is more than twice that of the urban area at each level of *K* indicating that most of the children who are characterized as multidimensionally poor reside in the rural area. At k=1 adjusted headcount ratio (Mo) or Multidimensional poverty index is 33% in the rural area and 16.6% in the urban area. As *k* rises the value of *Mo* declines in both rural and urban area.

Figure 4.3 Relative contributions of Dimensions to Child MPI in Rural and Urban areas



Source: Authors Computation using data from LSMS 2018/2019

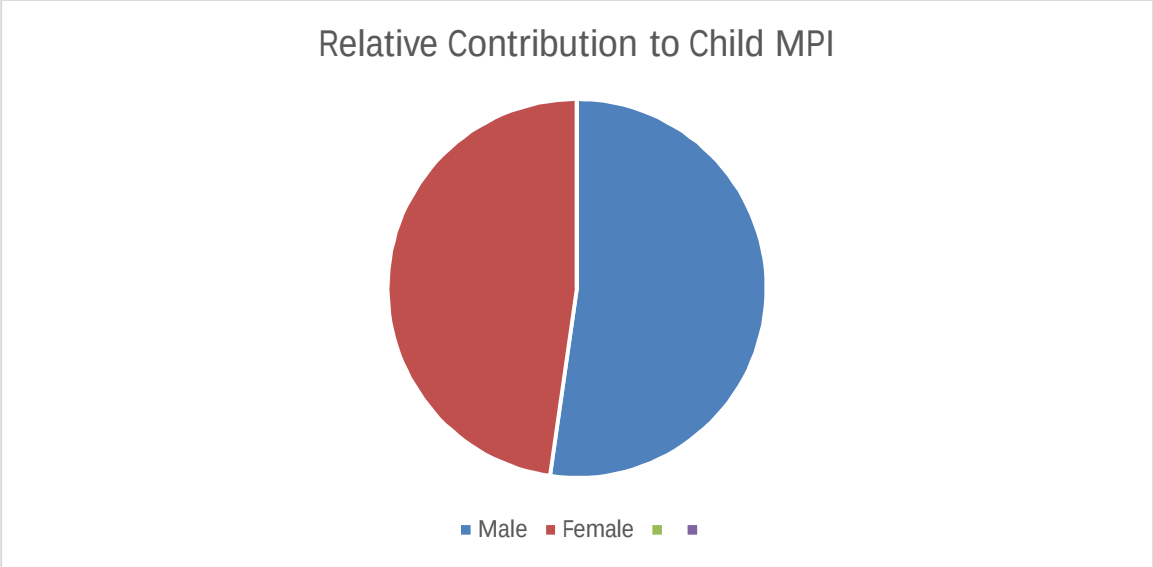
The table above presents the relative contribution of all the dimensions to overall child multidimensional poverty in rural and urban areas. The table reveals that the single major contributor to overall multidimensional child poverty in both urban and rural area is per capita consumption expenditure which captures the amount available for each child for consumption both food and non food. At k=1 the relative contribution of per capita consumption to multidimensional child poverty is 42% in the rural area and 45.3 % in the urban area. Apart from consumption expenditure, other dimensions of deprivations that contribute to total child indices in the rural area are living standard 41.1% education 14.3 % and health 2.5% which contributes the least to rural child multidimensional poverty.

In the urban area, per capita consumption 45% is followed by living standard 26%, Education 24%, and health 5.5%. Similar pattern is obtained at k=2 indicating that the dimensional contributions to multidimensional poverty remain fairly the same as the deprivation cut off increases.

The implication of this finding to policies that seeks to reduce multidimensional poverty cannot be overemphasized .The finding reveal that apart from deprivation in consumption, children in rural areas face acute deprivation in living standard which can be traced to unavailability of electricity leading to energy poverty, poor sanitation and lack of access to toilet facilities which in turn can lead to diseases, rudimentary cooking fuel and crowding. Surprisingly, the contribution of education to overall deprivation in the rural area is quite lower (15.5%) compared to its

contribution in the urban area (26%). The differences can be attributed to differences in the number of observations from both sectors.

Figure 4.4 Decomposition of Multidimensional poverty indices by Gender (At k=1)



Source: Authors Computation using data from LSMS 2018/2019

The decomposition of poverty by gender of child for all possible poverty cut-offs shows that males contributed more to the overall multidimensional poverty than female, though the difference is marginal. Evidence from the table above indicate that while the contribution of male children to multidimensional child poverty indices (Mo) is 52% the contribution of female children to the indices is 4% lower at 48% indicating a small difference in the gendered contribution to multidimensional poverty in the period under consideration. This evidence points to the direction of marginal gender bias in multidimensional child poverty in Nigeria.

4.4 Policy Implication

The foregoing analysis has thus revealed the magnitude of multidimensional child poverty in Nigeria. From the results, the following were observed: At least 65% of children in Nigeria are deprived in at least one dimension. This implies that at least every one in two child is deprived in either of consumption, Health, Education or Living standard. Secondly, the study observed disparity in the incidence of multidimensional child poverty between children living in different geographical regions in Nigeria. Whereas the level of multidimensional child poverty in the North East and North West is in excess of 80%, the value in the southern part of the country is much lower hovering between 60 and 40% and creating an impression of a North –South Dichotomy. The implication is that long term, human capital development, economic growth and general social and economic mobility in regions with high multidimensional poverty will always lag behind when compared with regions where multidimensional child poverty is low this will negatively affect economic convergence between the various regions. Without proper and targeted investment to reduce multidimensional child poverty, it could lead to a vicious cycle of poverty where poverty continues to perpetuate itself in cycles thereby limiting economic growth and development. Thirdly, there is exists a rural urban dichotomy in multidimensional child poverty with only about 22% of children In the urban areas considered multidimensionally poor while in

the rural areas the value is 79% implying that every 3 in 4 child are multidimensionally poor in at least one dimension in the rural area. Fourth, the study revealed that the biggest contributor to multidimensional child poverty is deprivation in Consumption followed by deprivations in Living standard, Education and Health. This implies that many children continue to suffer from hunger and inadequate nutrition with its attendant effect on child development and health outcomes. One policy implication from this is that to reduce multidimensional child poverty policymakers and other development partners must focus in improving access to food consumption especially among children by sustaining and expanding policies like the Federal Government school feeding programmes that targets children from poor homes. This will ensure that they get the nutritional requirement for a healthy development. Also investment in human and physical infrastructure like education, health and electricity, toilet facilities, clean water and affordable housing will go a long way in reducing multidimensional child poverty.

5. CONCLUSION AND RECOMMENDATION

This study examined the incidence and intensity of multidimensional child poverty across geographical regions, urban/rural areas, gender and Dimensions in Nigeria using the Alkire Foster Method of measuring multidimensional poverty. Using Data from the Living standard measurement survey (LSMS) 2018/2019, the study constructed an n x d dimensional matrix of achievement X consisting of Four dimensions of deprivation which was captured by 8 indicators. Dimensions of deprivations employed to compute multidimensional child poverty include consumption, Education, Health and Living standard. Indicators utilized include (i) Per capita consumption expenditure to capture the deprivations in consumption; (ii) Difficulty is carrying out basic tasks, a dummy variable used to capture deprivation in Health (iii). Years of education used as an indicator for Education (iv) Ability to read and write in English for children above eight years of age as the second indicator of education .Others are (v) availability of electricity, (vi) availability Toilet facilities, (vii) type of cooking fuel, (viii) Type of material used for house construction.

The result of our findings revealed that the incidence of poverty or the proportion of children who are multidimensional poor in at least one dimension of deprivation stands at 65 percent. Furthermore the intensity of poverty or the average deprivation experienced by the poor stood at 44%. This implies that that about every three in five children suffers from some form of deprivation that is at least as much 44% of all the deprivation considered in this study. The value is also statistically significant at the 5% level. This finding suggest that the SDG policy objective of eradiating Global poverty is still a long way off in Nigeria and more efforts are required to eliminate all forms of child deprivations through social inclusive policies that cater for the welfare of children regardless of social status.

A sub group breakdown of multidimensional child poverty by rural and urban residence indicate that the nature of multidimensional child poverty differs across place of residence with the multidimensional headcount ratio in the rural area standing at 76% compared to 41% in the urban areas of Nigeria .Also, the biggest contributor to multidimensional child poverty in the rural area is consumption, living standard, education and health in that order. This indicate that whereas the incidence of multidimensional child poverty in the urban areas is at par with other middle income countries like south Africa and Egypt The incidence of multidimensional poverty in the rural areas is comparable to lower income countries like Niger, Sierra Leone. This divergence in the incidence and intensity of poverty across urban and rural area will in the long run create an

imbalance in human capital development across making economic convergence across rural and urban areas hard to achieve.

Also, the incidence of multidimensional child poverty differs greatly across geographical zones in Nigeria. In the North east, the value is about 82% was followed closely by the north west region with a multidimensional headcount ratio of 80%, the North Central 64%. The South west has the least incidence of multidimensional child poverty in Nigeria with a head count ratio of 41% this is followed by the South South and South East with 45.5% and 61.3% of incidence of multidimensional child poverty respectively. The values approximate regional estimates of unidimensional poverty published by the National Bureau of statistics for several years. Similar to the rural urban divide, Multidimensional headcount values in North East and North Western Nigeria are more than twice of those in south western Nigeria. This disparity in multidimensional poverty can lead to long term disparities in developmental outcomes, Prosperity and Economic growth in Nigeria.

On the other hand the study established that there is little or no evidence to support the hypothesis of gender bias in multidimensional child poverty in Nigeria. In particular the study found that the multidimensional headcount ratio for females stands at about 48% while that for males stood at about 52%. Both values were also found to be statistically significant in the period under review. This implies only marginal differences considering the aforementioned values,

A dimensional breakdown of the data found that in general, deprivations in consumptions, is the single biggest contributor to multidimensional child poverty in Nigeria. This is followed closely by deprivations in living standard. The third biggest contributor is education with a contribution of 0.155 and lastly, deprivations in health.

The study recommends that short term measures like school feeding programmes be expanded to reach children in rural areas as well as long term measures which involve policies to accelerate economic growth and provide employment and incomes to households. Federal Government social interventions programmes like school feeding programme, conditional cash transfer, Trader money and the N-POWER programmes that are aimed at alleviating poverty should be geared towards targeting poor households in the rural areas as well as North west and North east were such intervention can make a lot of difference.

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