

# Socio-Demographic Factors as a Determinant of Household Poverty in Niger State, Nigeria

Mukaila A. Ijaiya

Faculty of Economics and Business, University of Malaysia, Sarawak

Dayang Affizah Awang Marikan\*

Faculty of Economics and Business, University of Malaysia, Sarawak Email: <u>amdaffizah@unimas.my</u>

# Nor Afiza Abu Bakar

Faculty of Economics and Business, University of Malaysia, Sarawak

#### Muhammad Ashraf Roszopor

Faculty of Economics and Business, University of Malaysia, Sarawak

\* Corresponding Author

#### Abstract

**Purpose:** This paper focuses on the socio-demographic factors as a determinant of poverty in Niger State, Nigeria.

**Design/methodology/approach:** Using a set of household data generated from a structured questionnaire administered on 519 households, in which 479 responses found suitable for the analysis, and Tobit regression analysis. Multistage sampling was used to obtain data from six local government's area of the state. The marginal effects of Tobit regression on each of the independent's variable were also identified.

**Findings:** Mean age and household size were  $35.1 \pm 11.1$  years and  $4.5 \pm 2.2$  years respectively. The results of the analysis showed that age, gender, household size, educational status, and health facility were the factors that significantly affected poverty in Niger State. The Tobit regression results shows that if household size increase by 1, poverty will increase by 0.7 per cent, also additional age by 1 year shows that poverty will reduce by 0.07 per cent.

**Research limitations/implications:** The results notwithstanding, policy measures that would reduce the poverty status of the heads of household were suggested.

**Practical implications** Findings can advise thoughtful stakeholders especially the government policy make to redesign favorable labor policies that will enhance local participation in the organized labor entwined with the increase of health care and education.

**Originality/value:** The significant value of the research refers to its focus on the understanding of the extent, nature, and determinants of rural poverty is a precondition for effective public action to reduce deprivation in the rural areas. Due to the fact that lots of researches in poverty has been conducted but least has been focusing the in depth analysis of household poverty, the paper provides an empirical investigation to confirm the significance relationships involved. This can only be achieved by examining the root causes of poverty among households that should be made through grassroots-level planning, thereby drawing roadmap that can mitigate extreme poverty and hunger in the country.



Keywords: Socio-demographic, Poverty, Tobit Regression, Niger State, Nigeria

## Introduction

Poverty is a global phenomenon, countries in the world have put in different measures in other to reducing the level of poverty in their countries, but still there is a wide spread of poverty in the world. According to UNDP (2013), despite the greatest achievement in the reduction of poverty since the introduction of Millennium Development Goals (MDG's) by the United Nation (UN) in 2000, there is still a widespread of human poverty in the world. Africa is well known as the poorest continents on earth, it is reported that seventy-five percent of the poorest countries are in Africa. According to (Gallup World, 2013), the highest proportion of countries whose people are living in an extreme poverty were all in Sub-Saharan Africa. (World Bank, 2010), reported that population of African who are living on \$1.25 a day is 48.5 per cent.

This situation is not different in Nigeria, previous studies have shown that the country is suffering from poverty. (See, Balaogun, Yusuf, Omonana, and Okoruwa, 2011; Balogun, 2011; Ojimba, 2012, and Zaccheaus & Nwokoma 2012). This situation however, contradict the belief that the country is endowed with the enormous human and physical resources, it is even more worrisome that despite the vast human and material resources that were put in place to reduce the level of poverty and the various economic policies introduced by the government since the 80's, such as, Austerity Measure and Structural Adjustment Program (SAP), Directorate of food, Roads and Rural Infrastructure(DFRRI), Integrated Rural Development Projects, Better Life Program, Family Support Program, Mass Transit Program, National Directorate of Employment, Peoples' Bank, Family Economic Advancement Program, National Poverty Eradication Program, Subsidy Reinvestment Program (SURE-P), poverty and the challenges that comes with it still persist. Report from the Human Development Report reveals that in ranking Nigeria is 152nd in Human Development Index with 0.504 and 54th with respect to human poverty index. Also, it is shown that Nigeria belong to one of the poorest countries of the world. Thus, making it the 22th poorest country in the world.

Evidence shows that there is a wide variation in the rate of poverty of the geo-political zone in Nigeria. Northern part of the country has witnessed the highest poverty rate, which Niger State, the study area belongs. Of the six geo-political zone, poverty rate in North East, North West and North Central was 35.6 percent, 37.7 percent and 32.2 percent in 1980 respectively, which increase to 77.5 percent, 78.1 percent, and 68.0 percent for North East, North West and North Central respectively in the year 2010. Niger State, the study area is part of North Central and it poverty rate as at 2013 stood at 49.6 percent. National Bureau of Statistic (NBS, 2014).

The causes of poverty in the State can be attributed to high level of adult illiteracy, lack of access to basic needs, such as, food, shelter, drinkable water, health, sanitation, epileptic electric power supply among others. Above all, agriculture is the main occupation of the people in the State, over 80 percent of the population are either on-farm or non-farm agriculturalists.

The effects of the increase in the rate of poverty in the state will lead to poor nutrition and physical health problems, which will eventually lead to malnutrition and starvation, infectious disease, mental illness and drug dependence related crime and violence, as well as increase in the rate of "Almangiri" menace.

Over the years, the Niger State government in collaboration with non-governmental agencies such as Youth Empowerment Scheme (YES), and Life- Rehab, have at one time or the other developed and implemented several measures or program in reducing the level of poverty in the state. Measures such as housing scheme, transportation scheme, and Vision 3: 2020 among others.



Paramount among them since the inception of present democracy dispensation is that of vision 3: 2020, introduced by the present government, which aims to make Niger State one of the top three state economy in Nigeria. However, this study tends to contribute to the study of poverty reduction in Nigeria, by looking at the socio-demographic characteristics of the heads of household as a determinant of poverty in Niger State, Nigeria.

## **Conceptual Framework**

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

A distinction can be made between absolute and relative poverty. Absolute poverty refers to the inability to meet what are thought to represent the absolute minimum requirements for human survival. The poverty status of any individual or household is considered completely independently of the conditions of other individuals or households. Those considered to be absolutely poor are often identified with reference to poverty lines, those households or individuals that fall below the poverty line (Brewer et al., 2011; Green, 2014; and Bergh et al., 2014). While, Relative poverty considers the status of each individual or household in relation to the status of other individuals, households in the community, or other social groupings, taking into account the context in which it occurs (i.e. their position within the distribution of that population). Relative poverty typically changes spatially and temporally, and measures of relative poverty are therefore not necessarily comparable between locations or over time (Ravallion and Chen, 2011; Notten and Neubourg, 2011; MacKeigan et al., 2013).

Poverty can also be viewed objectively and subjectively. It is considered to be objective when observable and measurable (typically quantitative) indicators are used to measure material or nonmaterial dimensions. Subjective measures represent psychological elements and perceptions of poverty, where individuals' judgements are sought about their experience of life and the aspects they value in their lives. The incorporation of subjective measures into the understanding of poverty is recognition that decision making is partially related to individuals' perceptions about their constraints and available alternatives. There has been increasing support for subjective well-being measures to complement assessments using objective indicators.

# The Multiple Dimensions of Poverty

In the second half of the 20th century, poverty was explained largely as a result of inadequate economic growth and individual failings, and measured as per capita income or consumption, ignoring structural issues relating to the unequal distribution of wealth and opportunity. The solutions were therefore interpreted as a need for greater economic growth, with a focus on building human capacity/capital.

Recently, and drawing heavily on the work of Amartya Sen, the conceptualization of poverty has broadened to include non-economic components. Thus, poverty is increasingly being recognized as multi-dimensional, distinguishing the numerous aspects of people's lives affected by poverty, including economic and non-economic dimensions, and recognizing that poverty occurs within and is affected by the political, economic, social and cultural context.

Lugo & Maasoumi (2008), lists five contributory elements of well-being, drawn from the Voices of the Poor exercise (Narayan et al., 2000; Narayan et al., 2000b; Narayan and Petesch, 2002), one of the largest studies where the poor themselves defined poverty. Together they are said to provide



the conditions for physical, social, psychological and spiritual fulfilment (though they are rather general and do not provide any sense of how they can be achieved). The five elements are the basic material needs for a good life, health, security and freedom of choice and action.

Many dimensions have been identified in the literature, including (but not limited to) those relating to physical, material, social, psychological and/or experiential dimensions. The most commonly used dimensions to date are as follows which are drawn from a review of leading papers dealing with multidimensional poverty, whether theoretical or empirical.

Asset ownership, Access to public services, Agency, Demographics, Dignity, Education, Employment, Empowerment, GNP/capita, Health, Housing conditions, Income/expenditure, Leisure, Life expectancy, Literacy, Psychological/subjective, Security etc.

#### **Materials and Methods**

#### Study Area, Sampling Procedure and Data Collection

This study was conducted in Niger State of Nigeria, Niger State is one of the State in the Northern part of Nigeria, specifically, North central region. The State located in an area of about 150 Kilometer from Abuja, the Federal Capital of Nigeria and on Latitude 8022'N and 11030'N and Longitude 3030'N and 7020'E.

Data was collected through structured questionnaire administered among the heads of households in Niger State between the month of January 2015 and May 2015. A stratified sampling method was used in selecting the respondents. To have an unbiased selection of samples (i.e. the respondents), a multistage sample design was used to collect cross sectional data from households in the study area. The first stage was to identify the sample areas which comprise twenty five (25) local government areas, which was divided into three (3) senatorial district that is Niger East, Niger North and Niger South. In the state, two local government area was randomly selected from each of the senatorial district based on the proximity, ecological, socio-cultural, language speaking, and economic variations. This was necessary for equal representation of the study area. The second stage identified the number of household and population in each study area, while the third stage of the sampling involve random selection of eighty five point five (86.5) approximately eighty seven (87) households in each of the selected study areas. In all a total sample of about five hundred and nineteen (519) or five hundred and twenty two (522) heads of households were randomly selected to respond to the questions in the questionnaires. Out of which only 479 questionnaires were suitable for the analysis of this study.

#### **Tobit Regression Analysis**

In other to achieve the objective of this study, Tobit regression analysis was used in determining the factors that affect household poverty in Niger State. The model that was developed by Tobin (1958) is expressed below following McDonald and Moffit (1980), and as adopted by Omonona, (2001), Adejobi (2004), Omonona et al., (2006), Balogun (2011), Balogun et al., (2011), and Ojimba, (2012).

 $\begin{array}{ll} q_i = Pi = & \beta^T Xi + ei & (1) \\ Equation ~(3.6) ~can ~be rewrite in a regression form as follows: \\ LogQ = & \beta_0 + & \beta_1 Logx_1 + & \beta_2 Logx_2 + & \beta_3 Logx_3 + & \beta_4 Logx_4 + & \beta_5 Logx_5 + & \beta_6 Logx_6 + & \beta_7 Logx_7 + & \beta_8 Logx_8 \\ + & \beta_9 Logx_9 + & \beta_{10} Logx_{10} + ei & (2) \\ \end{array}$  Where:  $X_1 = Age ~of ~household ~head (Years)$ 



 $X_2$ =Gender of the household head (D=1 for male, D=0 for female)

X<sub>3</sub>=Marital status (D=1 if Married, D=0)

 $X_4$ =Household size  $X_5$ =Educational status of household head (years)

X<sub>6</sub>=Primary occupation (D=1 if Farming, 0= otherwise)

X<sub>7</sub>=Household asset endowment (total asset value of household) (Naira)

 $X_8$  = Toilet facility (Yes=1, 0 = No)  $X_9$  = Health facility (Yes = 1, 0 = No)

 $X_{10}$  = Access to water (Yes=1, 0=No), ei = error term,  $\beta_0$  = intercept

 $q_i$  = Household poverty status. (1 if non-poor; 0 otherwise)

Pi\* depth of household poverty, defined as (Z-Yi)/Z and, Z = poverty line (Per Capita household expenditure),

Yi = Per Capita household expenditure (N)

 $(P^* = 0)$  Xi = vector of independent variables.,  $\beta_1, \beta_2, \dots, \beta_{12}$  = parameters

The a-priori expectations or the expected behaviour of the Logs of the independent variables (Log  $x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}$ ,) on the Log of the dependent variable (Log POVRi) in the model  $x_1>0, x_2>0, x_3>0, x_4>0, x_5>0, x_6>0, x_7>0, x_8>0 x_9>0$  and  $x_{10}>0$ :

# **Results and Discussions**

Table 1 shows the poverty status of the heads of household in Niger State, indicated that 49 per cent of the sample population accounted for the number of people who are severally poor in the study area, 23 per cent accounted for the number of the people who are moderately poor, while 28 per cent accounted for the number of non-poor people in the study area. These results indicate that the percentage of the non-poor people is low compare to the percentage of both severally poor and moderately poor people. Meaning that the population of poor people is more than the non-poor. These results is in agreement with the findings of Ibitoye and Odiba, (2015), who concluded that more than 70 percent of Nigerian population was poor.

Poverty Status	Frequency	Percentage		
Severally poor	300	49		
Moderately poor	47	23		
Non-poor	132	28		
Total	479	100		
a <b>FI 11</b> a <b>A</b> 015				

Table 1: Poverty Status of the heads of household

Source: Field Survey 2015

Table 2 shows the maximum likelihood estimates of Tobit regressions for the determinants of poverty among heads of household in Niger State, Nigeria. The results shows that all variables included in the model are jointly and statistically explained variation in the poverty level of the household in Niger state. The model is statistically significant at one (1) per cent level, (Chi<sup>2</sup> = 85.69, p-value = 0.000), this indicates that the model had a good fit to the set of data used.



Maximum Like variables as Det	elihood Esti terminants o	mates of Tobit Censored f Poverty in Niger State Ni	Regression Model u geria	sing Socio-Demographic
Variable	Xi	Coefficient	z-value	P> z
Constant		-49.83774	-1.04	0.298
Age	$\mathbf{X}_1$	1.633109***	3.36	0.001
Sex	$X_2$	-57.58668***	-4.36	0.000
Mstatus	$X_3$	11.68968	1.11	0.269
Hhs	$X_4$	-14.91348***	-6.81	0.000
Edustatus	$X_5$	2.745261*	1.77	0.077
Priocu	$X_6$	-0.0921831	-0.04	0.966
Hhae	$X_7$	4.06E-06	0.77	0.441
Tf	$X_8$	39.93868	1.54	0.124
Hf	X9	-42.48537***	-2.73	0.007
Aw	$X_{10}$	50.40144	1.43	0.154
log likelihood		-2132.6302		
Sigma δ		83.00678		
Prob > Chi2		0.0000		

 
 Table 2: Tobit Regression Analysis
 f Tabit Concound Decreasion

Source: Computed from Tobit regression Result 2015. Asterisks indicated significance

level: \*\*\*1 %, \*\*5%; \*10%

Out of 10 explanatory variables included in the model only 5 of them have significant coefficients. These are, age, (X1), sex (X2), households' size (X3), educational status (X5) and health facility (X9). Going by the sign and magnitude of the coefficient, a positive sign of the parameter indicates that the higher the values of the variable the higher the likelihood of the poverty status, while the negative sign of the parameter indicates that the higher the values of the variable the lower the probability of the household's poverty status. However, our results from the survey reveals the following: the coefficient of age of the heads of household is 1.633109. This shows that an increase in the age of heads of household is strongly associated with increase in incidence of poverty in Niger State. This can be attributed to the fact that as one increase in age, the ability to do difficult job decreases as a result poverty increases. Also, the coefficient of gender is -57.58668. This implies that the poverty level is likely to reduce by 57.58 per cent with the male heads of household, while the probability of increase poverty in poverty with the female headed household. This is as a result of having more male as heads of household which are more active than female. The results also reveal that the coefficient of household size as -14.91348. This indicates that a unit decreased in the size of households in the study area led to 14.9 per cent reduction in poverty incidence. This result is in line with the a priori expectation that the lesser the size of households the lesser the incidence of poverty. The coefficient of educational status is 2.745261. this shows that an additional year in the educational level of the household heads resulted in increased poverty status by 2.7 per cent, this result is in line with the a priori expectation, this can be attributed to an additional year gained by the heads of the household in acquiring formal education would lead to an increase in the household income, and this will eventually reduce the level of poverty status of the household, as it widely known that education attainment enhance human capital which will enable participation in labor market has seen as a tool for poverty reduction and welfare improvement of the people. The coefficient of health facility is -42.48537. This indicates that



household with health facility have tendency of reducing poverty by 42.48 per cent, this implies that the higher the access to health facility by household in the study area, the lesser the incidence of poverty.

Tuble 5. Effects of Rhanghhan Changes in the Emphanatory variables					
Variable	dy/dx	Z	P> z		
Age	.0078489	3.34	0.001		
Sex	2634454	-4.73	0.000		
Hhs	716761	-6.78	0.000		
Education	.0131941	1.77	0.077		
Hf	1977643	-2.91	0.004		

 Table 3: Effects of Marginal Changes in the Explanatory Variables

Source: Computed from marginal effects after Tobit

Table 3 shows the effects of marginal changes in the explanatory variables, this was computed for the significant variables in the model. The results indicated that a unit change in the age of heads of household leads to a proportional change in the poverty incidence of the heads of households by 0.7 per cent. Sex is a dummy variable, and it statistically significant at one per cent, this result indicates that a household headed by female has the tendency of an increase in the poverty status by 2.6 per cent. Also, a unit change in the size of the household, will leads to a proportional change in the poverty incidence of heads of households by 7.2 per cent. Furthermore, a unit change in the education status of the heads of household will leads to proportional change in the poverty incidence of the heads of households by 1.3 per cent. Also, a unit change in the headth facility of the heads of household will leads to a proportional change in the poverty incidence of the heads of households by 1.9 per cent.

## **Policy Implications and Recommendations**

The results of this study and conclusion drawn notwithstanding, a number of policy implications and recommendations are made towards the improving the well-being of the study area as well as reducing the level of poverty status of the heads of household. These findings have implications for existing policies aimed to improve the poverty status of the heads of household using demographic characteristics. As for the result of gender that are negatively and significant to poverty reduction in Niger State, which can be attributed to the culture of the study area, where women are not encouraging to work, policy measure directed to encourage and give the women the right to engage in economic activities should be given attention and priority by the Niger State government. As a result of household size that are also negatively and significant to poverty reduction called for policy measure that would be directed towards the provision of better family planning or birth control, which will help in reducing the size of household should be given priority in policy formulation. The study identified that education is very important in determining the poverty status of the heads of household in the study area, our analysis suggest that policy makers should direct their policy toward improving and encourages both the formal education and informal education, as this will help in further reducing the level of poverty in Niger State, Nigeria. The study also identified the health facility has a crucial factor to poverty reduction in Niger State, our analysis suggests that effort to investment in health facility and infrastructure in general should be given attention and priority by the government of Niger State and Nigeria in general, this will assist in improving the poverty status of the heads of household, as it used to say health is wealth.



In reducing the level of household's poverty in Niger State, Nigeria, poverty reduction measures should be directed to the improvement of socio and demographic characteristics of the households, this is because the number of poor among the households in the study area is increasing.

## References

- Adejobi, A. O. (2004). Rural Poverty, Food Production, and Demand in Kebbi State, Nigeria. Unpublished PhD Thesis, Department of Agricultural Economic, University of Ibadan.
- Balogun, O. L., S. A. Yusuf., Omonona, B.T. and Okoruwa, V.O. (2011). Social Capital and Mocrocredit Effects on Poverty Among the Rural Households in South-West States, Nigeria. *ARPN Journal of Agriculture and Biological Science*, 6(3), 210-221.
- Balogun, O. L. (2011). Determinants of Poverty among Rural Households in South Western States, Nigeria. International Journal of Agricultural Science, Research and Technology, 1(3), 99-104.
- Bergh, A. and Nilsson, T. (2014). Is Globalization Reducing Absolute Poverty?. World Development, 62, 42-61.
- Brewer, M., Browne, J., Joyce, R. and Payne, J. (2011). *Child and Working-age Poverty from 2010* to 2020. London: Institute for Fiscal Studies.
- Fafowora, O. (2002) *Global Prosperity and Poverty*. New York, USA: The Comet Publisher.
- Foster, J., Greer J., and Thorbecke, E. (1984). A Class of Decomposable Poverty Measures *Econometrica*, 52, 761-765.
- Gallup World, (2013), Country Well-being Varies Greatly Worldwide. Available on: www.gallup.com (Accessed on: 15 JUNE 2018).
- Green, R. H. (2014). Overcoming Poverty, Approaching Distributional Equity: From Absolute Poverty Toward Relative Equality. *Energy Research and Social Science*, *10*, 31-40
- Suich, H. (2012). Conceptual Framework: Poverty. Bulletin of Ecosystem Services for Poverty Alleviation (ESPA), 1:1-3.
- Ibitoye, S. J. and Odiba, J. (2015). Analysis of the Impact of Community Based Poverty Reduction Project on Farming Communities in Kogi State, Nigeria. *Journal of Economics and Sustainable Development*, 6(4), 18-24.
- Ijaiya, G. (2011). "Estimating the Rate of Absolute Poverty in H. A. Saliu *et al* (eds.) *Perspectives* on Nation- Building and Development in Nigeria," Lagos, Nigeria: Concept Publications.
- Ilesanmi O. A. and Lasisi, F. A. (2015). The Interface Between Government Policies, Human Capital Development and Poverty Reduction in Nigeria. *European Journal of Business and Innovation Research*, 3(4), 11-25.
- Imam, H. (1998). Why Poverty Defines Solution. Business Times Monday, 1,5.
- Lugo, M. A., and Maasoumi, E. (2008). Multidimensional Poverty Measures from An Information Theory Perspective (pp. 2008-85). Oxford, UK: Oxford Poverty & Human Development Initiative.
- MacKeigan, M., Wiese, J., Mitchell, T. L. and Loomis, C. (2013). Shifting Societal Attitudes towards People Living in Poverty: People Living in Poverty.
- McCaston, M. K and Rewald, M. (2005). Conceptual Overview of Underlying Causes of Poverty, Available at: http:pqdl.care.org/care/library/concept. (Accessed on: 10 MAY 2018)
- McDonald, J. F. and Moffit, R. A. (1980). The Uses of Tobit Analysis. *Review of Economics and Statistics*, 62, 318 -321.
- National Bureau of Statistic (NBS) (2014). *The Nigeria Poverty Profile 2014 Report* of the National Bureau of Statistics Harmonized Nigeria Living Standard Survey (HNLSS).



Available on: https://reliefweb.int/sites/...int/.../b410c26c2921c18a6839baebc9b1428 fa98fa36a.pdf. (Accessed on: 20 JUNE 2018).

- Notten, G. and De Neubourg, C. (2011). Monitoring Absolute and Relative Poverty: "Not enough" is not the same as "much less". *Review of Income and Wealth*, 57(2), 247-269.
- Ojimba, T. P. (2012). Socio Demographic Factors as Determinant of poverty in Crude Oil Polluted Crop Farms in River State. *International Journal of food and Agricultural Economics*, 1(1), 13-25.
- Omonona, B. T. (2001). Poverty and Its Correlates among Rural Farming Households in Kogi State, Nigeria" Unpublished Ph.D Thesis, Department of Agricultural Economics University of Ibadan, Nigeria.
- Ravallion, M. and Chen, S. (2011). Weakly Relative Poverty. *Review of Economics and Statistics*, 93(4), 1251-1261.
- Tobin, J. (1958). Estimation of Relationship for Limited Dependent Variables. *Econometrica*, 26, 26-36.
- United Nations Development Programme (UNDP). (2013). Human Development Report. Oxford University Press, Oxford. Available from: <u>http://hdr.undp.org/en/reports/global/hdr2013</u> (Accessed on: 12 APRIL 2018)
- World Bank, (2010). *World Development Report: Attacking Poverty*. New York, USA: Oxford University Press.
- World Bank, (2006). Poverty at a Glance, World Bank Issue Brief/Poverty. Available at: www.worldbank.org/INTPOVERTY/Resources/Poverty\_(Accessed on: 21 MARCH 2018).