

# **SOCIAL CAPITAL AND POVERTY REDUCTION IN NIGERIA: METHODOLOGICAL ISSUES**

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## **ABSTRACT**

Despite the efforts by most of the countries to reduce poverty, there are evidences that a large number of people are living below the poverty line, the situation is not different in Nigeria. However, the importance attached to the social capital as a solution to social interaction provides for an examination of its relevance to poverty reduction in Nigeria. To this end, social capital has been described as an empirically elusive concept, yet has also been heralded as the glue that holds communities together. This paper focus on the impact of social capital on poverty reduction in Nigeria, using Minna as a case study. The missing link to poverty reduction program in Nigeria is social capital. This paper reviews the empirical evidence of social capital and economic outcome and the methodological issues in analyzing the impact of social capital on poverty reduction in Nigeria. It concludes with policy measures that can further enhance social capital in relation to poverty reduction in Nigeria.

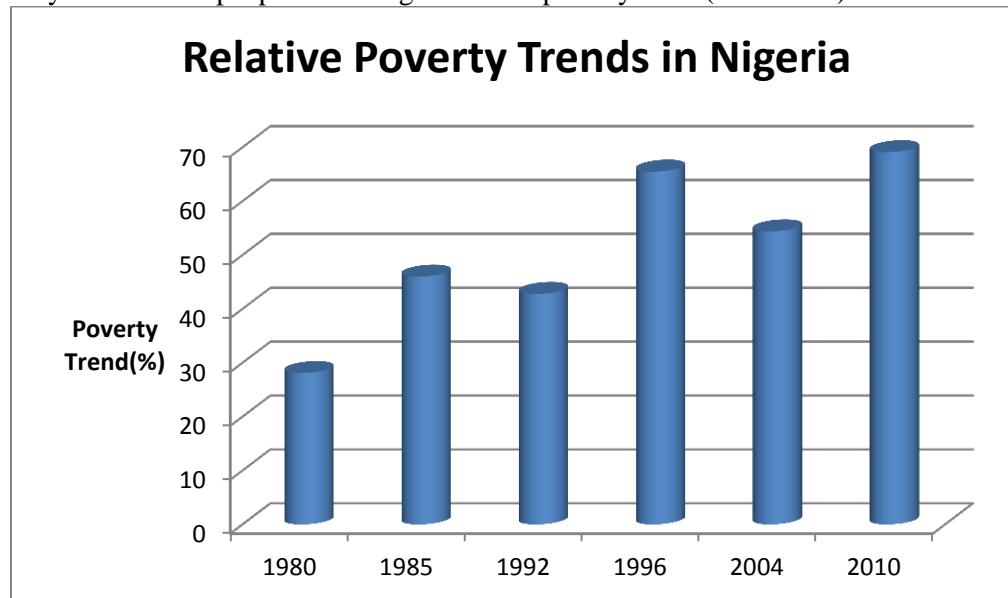
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## **INTRODUCTION**

The situation of poverty in Nigeria is worrisome; evidence from the previous studies shows that both the quantitative and qualitative measurement of the growing incidence and depth of poverty in the country. This situation however, contradict the belief that the country is endowed with the huge human and physical resources, it is even more disturbing that despite the huge human and material resources that have been put in place to reduce the level of poverty and various economic policies introduced by the government since 80's such as Austerity Measure and Structural Adjustment Program (SAP) to ratify the problems have undermined the country's efforts toward economic growth and development and have caused a lot of hardship on the people. This has subsequently resulted in a high level of poverty within the country. The Human Development Report (HDR, 2005) reveals that Nigeria is one of the poorest among the poor countries of the world. Nigeria ranks 54th with respect to the human poverty index (HPI) - making it the 20th poorest country in the world. It is also ranked 30th in the gender development index (GDI) while occupying the 40th position from below in its human development index (HDI).

According to the National Bureau of Statistics (NBS) report, about 69.1% of the Nigerian population or approximately 100 Million people are living below the poverty level (NBS 2011)



Source: (FOS, 1980,1985,1993,1997, NBS 2004, 2011)

Given this situation, several attempts have been made to address or at least reduce the problem of poverty. At one time, dishing out emergency aid, heavy investment in infrastructural services, rapid industrialization, heavy support for integrated rural development and urban projects, re-distribution of income and rapid economic growth through the introduction of austerity measure and structural adjustment programs were believed to be the solutions. Recently, there seems to be a general belief among scholars and policy makers that the development and promotion of the Social Capital will go a long way in addressing the poverty situation.

It is the desire to find out whether or not this general belief is valid that prompted this study. Despite the various programs and projects promulgated by the government of Nigeria and civil society in Nigeria with the supports of the donor agencies whom have devoted considerable resources at reducing poverty, all these efforts have largely remained unfelt by the masses. An estimate of the increasing level of poverty in Nigeria is of great concern. For instance, National Bureau of Statistics estimate indicated that 69.1 percent or approximately 100 Millions of the country's population lives below the poverty line and that the scourge will continue to rise if nothing is done to arrest it (NBS 2011). This bizarre picture requires an urgent intervention of which the proposed study on the effects of social capital and poverty reduction in Nigeria: A case study of Minna metropolis is one. Social capital has seen as a missing link to poverty reduction in Nigeria. Social capital has been depicted as an empirically elusive concept, and as the glue that holds society together. According to World Bank (2008), Social Capital is as institutions, relationships, and norms that shape the quality and quantity of a society's social interactions.

The main objective of this study is to examine the factors that determine poverty reduction in Nigeria, using Minna metropolis as a case study, in achieving this main objective, the study also examine and analyze the factors that affect poverty in Minna metropolis. In line with this, it is hope that the study can further investigate the extent to which social capital factors affect poverty in the affected area mentioned. Lastly, the mechanism of the relationships between social capital factors and poverty reduction in Minna,

metropolis is explored and discussed. However, for this preliminary stage, the study focuses on the methodological issues of the poverty situation in Minna metropolis and on how to measure the degree to which the Social Capital has fared in reducing it.

## **LITERATURE REVIEW**

### ***Conceptual framework of Social Capital and Poverty***

#### ***Meaning of Social Capital***

According to World Bank (2008), Social Capital is as institutions, relationships, and norms that shape the quality and quantity of a society's social interactions. while the OECD (2001) defined it as, "networks, together with shared norms, values and understandings which facilitate cooperation within or among groups".

Although the concept of social capital can be understood otherwise, there has been a visible convergence towards a definition that focuses on networks, shared norms and values that facilitate cooperation within and among groups (Healy & Hampshire, 2002).

Therefore, the definition of social capital revolves around the idea of network, norms and reliance. The network is the citizenry that we know as family, friends and neighbors in the community (Putnam, 1995). Norms are unwritten rules and values that describe a community (Coleman, 1988). How we communicate and interact with each other as neighbors, friends and acquaintances are strongly determined by certain principles and societal norms. The reliability of the people that one interacts with shows one's trust (Grootaert & Narayan, 2004). Trust can be created and build up through education and exchanges with various people (Uslaner, 2003).

#### ***Types of Social Capital***

Generally speaking, there are two types of social capital "government social capital and civil social capital" Collier (1998) described "government social capital" from "civic, social capital" by referring to government social capital as governmental institutions that influence peoples' ability to co-operate for mutual welfare. These foundations include the enforceability of contracts, the rule of law, civil liberty and the extent of economic liberty that are allowed by the country. While civil, social capital encompasses common values, norms, informal network and associational memberships affecting the ability of individuals to work together to achieve common goals.

#### ***Forms of Social Capital***

Social capital is widely recognized as a multi-dimensional concept with dimensions such as relationships, trust, reciprocity, and action for a mutual use. Some of these dimensions such as relationships can be further split down. Three different dimensions or types of relationships are described by Woolcock (2000); bonding, bridging and linking, forms of social capital. He describes bonding as the relationships that we have with people who are like us, and typically refers to those relations among members of families and ethnic groups. Bridging refers to those relationships; we have with people who are not like us. These may be people who are from a different socioeconomic status, from a different generation or a different ethnicity. He describes linking social capital as the relationships people have with those in power. Linking social capital enables individuals and community groups to leverage resources, ideas and information from formal institutions beyond the immediate community radius.

### ***Measurements of Social Capital***

There is considerable debate and argument over the measurement of social capital. The World Bank has been attempting to propose a harmonized measure of social capital while individual researchers have also been making their own measurements (World Bank, 2004; Narayan & Pritchett, 1999; Putnam, 1995; Roslan, Nor & Russayani, 2010). The search for a universal measure still continues. Measurements therefore depend on the assumptions made and the availability of socioeconomic variables.

Putnam (1995), a pioneer in the research on social capital, has proposed an important approach distinguishing five components of social capital, namely the community organizational life, the engagements in public affairs, the community volunteers, the informal sociability and the trust. Grootaert, Oh, and Swamy (2002) focused on seven aspects to capture social capital. The variables considered and used as proxies of social capital are: the number of memberships in associations; the degree of heterogeneity of the group; the meeting attendance; the index of participation; the degree of informality of the association; the community initiation; and the cash contribution score and work contribution score.

The World Bank, through the Integrated Questionnaire for the Measurement of Social Capital (SC-IQ), proposed ways of assessing social capital via six broad dimensions, namely groups and networks, trust and solidarity, collective action and cooperation, information and communication, social cohesion and inclusion and empowerment and political action (Grootaert, Narayan, Nyhan & Woolcock, 2004). The same index numbers have been employed by, among others, Roslan, Nor and Russayani (2010).

Sanjeev and Per Selle (2004) argue that Social Capital should be quantified using three components; the impact of scale, embeddedness and consequences. Grootaert (1998) indicates two things to look for when measuring Social Capital, either quantitatively or qualitatively, these being the extent of connections and related systems, and also the impacts that Social Capital can have on development processes, such as growth and poverty reduction.

Grootaert and Bastelaer (2002) propose three types of proxy indicators that should be employed in social capital measurement. These are as follows: (i) membership in local associations and networks; (ii) indicators of trust and adherence to norms and (iii) an indicator of collective actions. They claimed these three types of indicators to measure social capital from different vantage points and provide a helpful framework for designing a measurement instrument.

It is clear that social capital has been measured in a variety of innovative ways. However, it is to be noted that obtaining a single, consensual and true measure is probably not possible (Woolcock & Narayan, 2000). However, this paper will follow the proposed indicators by the World Bank (2003) in analyzing the impact of social capital on poverty reduction in Minna metropolis as adopted by Grootaert et.al (2004) and Roslan et.al (2010).

### ***Poverty: Meaning, Measurement, Causes and Consequences***

Poverty is a contested concept, and there is no agreement on how to define the word more precisely. Depending on the societies and changes over time, the perceptions, contexts, meanings and usages may differ among the observers and researchers. For example, the World Bank (2001,) defines poverty as a “pronounced deprivation in wellbeing”. Well-being is usually defined through three approaches, namely the monetary, basic needs and capabilities approaches. The monetary approach views poverty as a situation where households or individuals do not have enough resources to meet their needs while the basic needs approach of well-being considers poverty as associated with certain types of consumption

good. The capabilities approach of poverty arises when people lack key capabilities, meaning they have inadequate income or education and training, or poor health, or insecurity, or low self-confidence, or a sense of powerlessness, or the absence of rights such as freedom of speech.

Related to the definition of poverty is the measurement of poverty. According to Foster, et.al (1984) the most frequently used measurements are: (i) the head count poverty index given by the percentage of the population that lives in the household with a consumption per capita less than the poverty line; (ii) poverty gap index which reflects the depth of poverty by taking into account, how far the average poor persons income is from the poverty line; and (iii) the distributional sensitive measure of squared poverty gap defined as the mean of the squared proportionate poverty gap which reflects the severity of poverty. [See also Ferreira (1996), Grootaert and Braithwaite 1998]] Other measures of poverty exist; for example, the Sen index, the Sen-Shorrocks-tone index and the Watts index (See Haughton & Khandker, 2009). Recent studies by United Nations Development Program (UNDP) advocates the use of the Human Development Index (HDI). According to UNDP (2009), HDI combines three components in the measurement of poverty: (i) life expectancy at birth (longevity); (ii) education attainment and; (iii) improved standard of living determined by per capita income. (World Bank 2006).

### ***Causes of poverty***

According to Maldonado, (2004), there are two main causes of poverty which are the low productivity of available household resources and the high income and consumption volatility experienced by poor households.

### ***Consequences of poverty***

Discussing the consequences of poverty Von Hauff and Kruse (1994) highlighted three major consequences: (i) consequences for those affected. That is, for the people affected, poverty leads to physical and psychological misery caused inter-alia by inadequate nourishment, lack of medical care, a lack of basic and job related education and marginalisation in the labour market; (ii) consequences for the national economies of countries affected arising through the formation of slums in cities, a worsening of ecological problems particularly as a result of predatory exploitation in the agricultural sector and through the failure to use the available human resources; and (iii) consequences for the political and social development of the countries affected.

### ***Trends of Poverty in Nigeria***

A critical look at some of these causes and consequences discussed above provide some peculiarity with the poverty situation in Nigeria. The incidence of poverty in Nigeria increased from 28.1 percent in 1980 to 88.0 percent in the year 2002. This percentage rate represents in absolute term 86 million people out of an estimated population of about 116.4 million people. Nigeria's currently rank in the Human Development Index 156th out of 187 economies (UNDP-HDR 2011). This position underscores not only the limited choices of Nigerians, but also define the critical development challenges being faced by government. According to the National Bureau of Statistics' (NBS) report, about 69.1 percent of the Nigerian population or approximately 100 million people are living below the poverty level (NBS, 2011).

## METHODOLOGY

### *Data Description*

Minna the Niger State capital comprises two local government area, that is Bosso local government area and Chanchaga local government area, the state covered 76,363 square km, and is located in an area of about 150 Kilometer from Abuja the Federal Capital of Nigeria and on latitude North 9°.4<sup>1</sup> and longitude East 7°.28<sup>1</sup> of the equator. By the 2006 census, it has an estimated population of about 3,954,772 people (NPC 2006).

### *The Sampling Procedures and the Research Instruments.*

To have an unbiased selection of samples (i.e. The respondents), a multi-stage sample design will be used. The first stage will identify the sample areas which comprises of Bosso local Government Area and Chanchaga Local Government Area in Minna metropolis, which have an estimated population of 304,113 people (NPC 2006). Bosso Local Government is divided into 13 wards, while Chanchaga Local Government Area is divided into 10 wards. 10 wards and 5 wards will be randomly selected from both Bosso Local Government Area and Chanchaga Local Government area respectively, this will be necessary for equal representation of the household. The selected wards in Bosso local Government will be (Bosso, Tundun Fulani, Maikukele, Tunga, Barike sale, Sauka kutta, Pakungu, Sabon Gari, Chanchaga, Gidan Kwano, Gidan Mongoro, Garatu, Sabon Gada, Dutzen Kura Gwari, Dutzen Kura Hausa, Kwongila, Kateren Gwari, Makera, Limawa, Maitunbi, Angwan daji, Karma, Jikwoi, based on proximity, ecological, socio-cultural and economic variations. The second stage will identify the number of household and population in each study area, while the third stage of the sampling will involve random selection of the head of households and their economic activities in the study area. In this regard a total sample of about 500 heads of households will be randomly selected to respond to the questions in the questionnaires.

### *Variables Definition*

According to World Bank (2003) social capital as being made up of six dimensions, namely (i) groups and networks, (ii) trust and solidarity, (iii) collective action and cooperation, (iv) information and communication, (v) social cohesion and inclusion and (vi) empowerment and political actions, has adopted by (Grootaert, et.al, 2004; and Roslan, et.al 2010).

These can be represented in the following model:

$$Y = f(x_1, x_2, x_3, x_4, x_5, x_6)$$

Where:

- x<sub>1</sub> = Group and Networks, which indicate the membership in formal and informal association, ability to get support from other than family member and relatives in case of hardship.
- x<sub>2</sub> = Trust and Solidarity, which indicate that most people in the community can be trusted, and most people in the community always help each other.
- x<sub>3</sub> = Collective action and Cooperation, these will show that more than half of the community contribute time or money toward common development goals, and likelihood that people in the community cooperate to solve common problems.
- x<sub>4</sub> = Information and communication, which indicate the frequently listen to radio, and frequently watch television, it shows how household receive information regarding market condition and public services

- x<sub>5</sub> = Social cohesion and Inclusion, which indicate the strong feelings of togetherness within the community, and feelings safe from crime and violence when alone at home.
- x<sub>6</sub> = Empowerment and Political action, which indicate how individual household are empowered and their participation in political activities.

**The Procedures for Poverty Analysis in Minna Metropolis**

In analyzing the poverty situation in Minna metropolis, the index, which is the popular P-alpha class of the poverty measure introduced by Foster, Greer and Thorbecke (1984) will be used. According to Foster et.al (1984) as adopted by (Balogun, 2011 and Balogun et.al 2011).

$$P_{ai} = \frac{1}{ni} \sum_{j=i}^q [Z - Yi/Z]^{\alpha} \tag{1}$$

$$P_o = \frac{1}{ni} \sum_{j=i}^q [Z - Yi/Z]^{\alpha} \tag{2}$$

Where Z is the poverty line.

Y<sub>i</sub> = Per capita expenditure of the household i (i=1, 2, ...q)

Q = Number of households below the poverty line

n = Total number of sampled households

α = Poverty aversion parameters of the FGT index (Pα<sub>i</sub>), α ≥ 0 and it can take three values of 0, 1, and 2

The implication of the values of α as follows;

Pα<sub>i</sub> = q<sub>i</sub>/n<sub>i</sub> when α=0 (Head Count Ratio or incidence of poverty) the proportion of respondents' households that is poor

Pα<sub>i</sub> = α<sub>i</sub>=1 depth of poverty (the proportion of the expenditure shortfall from poverty line)

Pα<sub>i</sub> = α =2 Severity of poverty (the amount of transfer of expenditure requires from a poor to a poorer for his poverty to decrease).

**Tobit Regression Analysis**

Tobit regression analysis will be used in determining the factors affecting the household poverty in Minna metropolis as stated in the objective one of this study. 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 (date not stated).

$$q_i = P_i = \beta T X_i + e_i \tag{3}$$

If P<sub>i</sub> > P<sub>i</sub>\*

$$q_i = 0 = \beta T X_i + e_i$$

if P<sub>i</sub> ≥ P<sub>i</sub>\*

i = 1,2,3.....n

q<sub>i</sub> = Dependent variable. P<sub>i</sub>\* is the depth of household poverty, defined as (Z-Y<sub>i</sub>) /Z and, Z = poverty line (Per Capita household expenditure)

Y<sub>i</sub> = Per Capita household expenditure in Naira (N)

(P\* = 0) X<sub>i</sub> = vector of explanatory variables/independent variables.

βT = vector of parameters

e<sub>i</sub> = error term

The explanatory variables include the following:

Household Characteristics:

X1=Age of household head (Years)

X2=Gender of the household head (D=1 for male, D=0 for female)

X3=Marital status (D=1 if Married, D=0)

X4=Household size

X5=Dependency ratio (This is defined as the ratio of non-workers to workers in each household)

X6=Educational status of household head (years)

X7=Primary occupation (D=1 if Farming, 0= otherwise)

X8=Household asset endowment (total asset value of household) (Naira)

X9=Plastered house (Yes=1, 0 = No)

X10 = Toilet facility (Yes=1, 0 = No)

X11 = Health facility (Yes = 1, 0 = No)

X12 = Access to water (Yes=1, 0=No)

The explanatory variables (Xi), which significantly will determine household poverty in Minna metropolis will determine quantitatively in order to achieve objective one following the Tobit decomposition framework suggested by McDonald and Moffit (1980) as adopted by Omonona, (2001), Adejobi (2004), Amaza et al (2007),

***The Procedures for the Analysis of the Influence of the Social Capital on Poverty Reduction in Minna Metropolis***

***Models Specification***

In determining the influence of the social capital on poverty reduction in Minna metropolis, an econometric model will be built around the indicators of the social capital and poverty reduction, as stated in objective two of this study. The models will be used in estimating the impact of these indicators on the poverty reduction in Minna metropolis.

The customary reduced form of the Model relates individual household’s poverty reduction level or the improvement in the welfare of each individual household in Minna metropolis, directly to the explanatory (exogenous) variables which are the indicators of the social capital in Minna; and yields the following estimation equation. Starting with a general equation which gives a bivariate relationship:

$$POVR_i = F(\text{Soccapindi}) \text{-----}(4)$$

With Soccapindi = F (Gn, Ts, Cc, Ic, Sci, Ep) ----- (5)

When equation (5) is substituted into equation (4) the equation thus gives a multivariate relationship:

$$POVM_{i1} = F (Gn, Ts, Cc, Ic, Sci, Ep) \text{-----}(6)$$

with a multi-log-linear relationship as:

$$\text{Log } POVM_i = \beta_0 + \beta_1 \text{ Log } Gn + \beta_2 \text{ Log } Ts + \beta_3 \text{ Log } Cc + \beta_4 + \text{Log } Ic + \beta_5 \text{ Log } Sci + \beta_6 \text{ Log } Ep + u \text{-----}(7)$$

Where:



Log POVR<sub>i</sub> = Log of the poverty reduction level of individual households. Note that the poverty reduction level (welfare improvement) is proxied by consumption-expenditure per adult equivalent of each household.

Log Gn = Log of membership in association by the household and the ability to get support from other than family member and relatives in case of hardship in Minna metropolis.

Log Ts = Log of trust and solidarity among the people in the metropolis.

Log Cc = Log of collective action and cooperation among the people in the metropolis.

Log Ic = Log of the access to information and communication by the head of household in the metropolis.

Log Sci = Log of the social cohesion and inclusion among the individual household in the metropolis.

Log Ep = Log of the empowerment and political action of the head of household in the metropolis.

$\beta_0$  = Intercept

$\beta_1, \beta_2, \dots, \beta_6$  = parameter estimates (or co-efficient) associated with the influence of the indicators of the social capital of Minna on poverty reduction level in Minna metropolis.

u = error term.

The a-priori expectations or the expected behavior of the Logs of the independent variables (Log Gn, Log Ts, Log Cc, Log Ic, Log Sci; and Log Ep) on the Log of the dependent variable (Log POVR<sub>i</sub>) in the model will therefore be:

$$\frac{\partial \text{Log POVR}_i}{\partial \text{Log Gn}} > 0;$$

Thus indicating that an increase in the numbers of groups and network belongs to by the individual household in Minna metropolis is expected to increase the poverty reduction level or consumption-expenditure in Minna metropolis.

$$\frac{\partial \text{Log POVR}_i}{\partial \text{Log Ts}} > 0;$$

Thus indicating that an increase in the number of people that can be trusted and help each other in Minna metropolis is expected to increase the poverty reduction level or consumption-expenditure in Minna metropolis.

$$\frac{\partial \text{Log POVR}_i}{\partial \text{Log Cc}} > 0;$$

Thus indicating that an increase in the collective action and cooperation in Minna metropolis is expected to increase the poverty reduction level or consumption-expenditure in Minna metropolis.

$$\frac{\partial \text{Log POVR}_i}{\partial \text{Log Ic}} > 0;$$

Thus indicating that an increase in the information and communication by the head of household in Minna metropolis is expected to increase the poverty reduction level or consumption-expenditure in Minna metropolis.

$$\frac{\partial \text{Log POVR}_i}{\partial \text{Log Sci}} > 0;$$

Thus indicating that an increase in the social cohesion and inclusion among the people in the Minna metropolis is expected to increase the poverty reduction level or consumption-expenditure in Minna metropolis.

$$\frac{\partial \text{Log POVR}_i}{\partial \text{Log Ep}} > 0;$$

Thus indicating that an increase in the empowerment and political action of the head of household in Minna metropolis is expected to increase the poverty reduction level or consumption-expenditure in Minna metropolis.

### ***The procedures for the Analysis of the Relationship between Social Capital and Poverty Reduction***

In analyzing the relationship between social capital and poverty reduction in Minna metropolis, as stated in the objective three of this study, two – stage least squares of simultaneous equation will be used. According to Grootaert et.al (2003), they pointed out the two-way relationship between social capital and poverty and, therefore, the presence of endogeneity. Without rectifying endogeneity, the application of ‘ordinary least squares’ will not suitable, as the result will be incorrect and the estimators biased (Green, 2000; Hassan & Birungi, 2011).

A usual remedy for the endogeneity problem is the use of an instrument variable (IV) estimation or a two-stage least squares (2SLS) estimation. Nevertheless, in this instance, one of the endogenous variables (social capital) is dichotomous, while another endogenous variable (per-capita consumption) is continuous. Thus, I will follow ‘two-stage probit least squares (2SPLS)’ regressions for such a simultaneous equation model as adopted by (Amemiya, 1978; Hassan & Birungi, 2011). Before actual application of the model, the explanatory variables will be tested for possible correlations and multicollinearity (White, 1980).

Following Amemiya (1978), Alesina and La Ferrara (2000) and Hassan and Birungi (2011), our a priori is that group membership increase household expenditure and, therefore, lowers poverty. The first equation of per-capita household spending (Y) as a function (f) of social capital (S) is as follows:

$$Y = f(S, T) \quad (8)$$

Where T represents other independent variables such as sex, literacy level, age, accessibility, and family sizes and asset endowment. Whereas, to study the opposite relationship of social capital being determined by income, the second equation is where social capital (S) is the function (g) of expenditure (Y):

$$S = g(Y, W) \quad (9)$$

Where W represents other independent variables.

The social capital variable, defined by the membership in a group or association, is a discrete choice taking a value one (1) for a member and zero (0) for a non-member. Thus, the non-recursive two-stage model is defined as:

$$S' = \gamma_1 Y + \beta_i T_i + \mu_1 \quad (10)$$

$$Y = \gamma_2 S' + \beta_i W_i + \mu_2 \quad (11)$$

Where a continuous variable of household per-capita expenditure is defined by Y, independent variables by T and W, error terms by  $\mu_1$  and  $\mu_2$ , and finally, the coefficients to be calculated by  $\gamma$  and  $\beta$ . S' value is not directly seen, but, instead:

$$S = 1 \text{ if } S' > 0 \text{ and } 0 \text{ if } S' \leq 0$$

From these, the equivalents of the 'reduced-form equations' are:

$$S = \lambda_i T_i + \pi_i W_i + v_1 \quad (12)$$

$$Y = \lambda_i T_i + \pi_i W_i + v_2 \quad (13)$$

If the standard suppositions for the probit model are held for Eq. (11) and the ordinary least squares for Eq. (12), Alvarez & Glasgow (1999) opine that this model would produce consistent estimates. They further suggested the used of reduced-form equation parameters to produce the endogenous variable 'predicted' values. Then, each endogenous variable is substituted by the predicted values as they show on the rightward part of the corresponding equation (i.e., Eqs. (10) and (11)). The equations are then estimated "with the predicted values from the reduced-forms serving as instruments on the right-hand sides of the equations" (Alvarez & Glasgow, 1999,). However, the standard errors are biased (Alvarez & Glasgow, 1999; Green, 2000).

In order to correct the biased nature of standard error, STATA command of the 2SPLS approach developed by Keshk (2003), will be adopted, which will also corrects the standard error, to see the effect of social capital on poverty reduction in Minna metropolis.

## CONCLUSIONS AND POLICY RECOMMENDATION

Social capital has been described as an empirically elusive concept, yet has also been heralded as the glue that holds communities together. Given the importance attached to the social capital as a solution to social interaction provides for an examination of its relevance to poverty reduction in Nigeria. This study is trying to examine the factors that determine poverty reduction in Nigeria, using Minna metropolis as a case study.

However, evidence from the previous studies shows that social capital has a significant positive impact on the household expenditure and hence reduce poverty. Despite the results from the previous studies, policy measures that can enhance social capital in relation to poverty reduction in Nigeria are suggested.

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