

ERRATUM

Informal Financial Institutions and Poverty Reduction in the Informal Sector of Offa Town, Kwara State: A Case Study of Rotating Savings and Credit Associations (ROSCAs)

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The following text was missing under the head Methodology on page 77 before the Study Area in the paper published in Journal of Social Sciences, Volume 20, No. 1, pp. 71-81, and year 2009

METHODOLOGY

Data Source

In addition to the use of secondary data, a survey aimed at generating primary data on the impact of Rotating Saving and Credit Associations (ROSCAs) on poverty reduction in the informal sector of Offa town was conducted between the months of September 2004 and January 2005, using a set of questionnaire and participatory poverty assessment method. The questionnaire was based on the World Bank Living Standards Measurement Study (LSMS); International Labour Organization's Rapid Assessment Surveys of Poverty (RASP); World Bank Household Priority Surveys (HPSs) and the Federal Office of Statistics' National Integrated Surveys on Households (NISHs) methods, which among other things provided a comprehensive monetary measure of welfare and its distribution and the description of the patterns of access to and use of social services e.g. education and health care services. The Participatory Poverty Assessment (PPA) method was used to obtain information from key informants who are also members of ROSCAs on their perception of the impact of ROSCAs on poverty reduction in the informal sector of Offa town (Grootaert 1986; Robb 2000).

Sample Selection Method

A stratified sample method was used in the

selection of the respondents. To have an unbiased selection of samples the study area was divided into 12 sample units based on proximity, ecological, socio-cultural and economics variations. In accordance to these sample units, a structured questionnaire was distributed to about 500 operators in the informal sector of Offa town. The issues raised in the questionnaire included; the background of the respondents i.e. marital status, educational status, employment status, household size and composition), income, total consumption-expenditure at two different time, their membership and type of ROSCAs they belong, their monthly contribution to ROSCAs, the amount of credit collected from ROSCAs for various economic activities like for purchase of foods, for purchase of house or building of a house, for finance of health care and education, the problems encountered as members of the ROSCAs in the last 12 months.

Data Analysis

Both qualitative and quantitative methods of analysis were used. The qualitative analysis based on content analysis and the perception of the members of the ROSCAs was used in determining the influence of ROSCAs on poverty reduction in the informal sector of Offa town. The quantitative method comprised the use of descriptive statistics, the P-alpha class measures of poverty adopted by Foster and others in 1984 and a multiple regression analysis. The descriptive statistics such as frequency distribution and percentile were used in describing the socio-demographic characteristics of the respondents (who are members of the ROSCAs in the informal sector of Offa town), the nature of ROSCAs in Offa town. Weighted Rank Analysis which is descriptive in nature was also

used in determining the most severe problem of members of ROSCAs in the informal sector of Offa town.

The analysis of poverty in this study was in line with most recent works on poverty that are based on money–metric measure of utility and welfare. For measure of utility and welfare, the total household consumption-expenditure was used as a measure of household welfare and for determining the poverty line. The analysis also took into consideration differences in needs of the respondents due to the difference in household size and composition, and therefore adopted the household expenditure per adult equivalent as the welfare measure recommended by Organization for Economic Co-operation and Development (OECD), because of its simplicity of use and wide familiarity. This scale is expressed as follow:

$$EXPeq = EXP/n^{(0.7)} \dots\dots\dots (1)$$

Where:

EXP = total household expenditure

n = household size

0.7 = exponential formation representing other adults in a particular household (Grootaert and Braithwaite 1998).

From the above, a cut–off point was selected to serve as a poverty line across the distribution of real household consumption-expenditure per adult equivalent. An absolute line such as X dollars in Purchasing Power Parity (PPP) was therefore used in identifying the poor in the informal sector of Offa town (World Bank 2001).

The next stage in the analysis of poverty in the informal sector of Offa town is the use of the popular P–alpha class of poverty measures introduced by Foster, Greer and Thorbecke in 1984. The index is defined as:

$$P_{\alpha} = \frac{1}{n} \sum_{i=1}^q (z - y_i/z)^{\alpha} \dots\dots\dots (2)$$

Where:

n = number of people in the informal sector of Offa town.

q = number of poor people in the informal sector of Offa town.

z = poverty line

y_i = total consumption – expenditure of individual_i

α = poverty aversion parameter, which could be 0, 1 and 2 (0 for incidence of poverty, 1 for poverty gap and 2 for severity of poverty)

The poverty aversion parameter (α) can take

any positive value or zero. The higher the value the more the index weights the situation of the poor i.e. the people farthest below the poverty line. Of specific interest are the cases where α = 0, 1 and 2. If α = 0 the index becomes:

$$P_0 = q/n \dots\dots\dots (3)$$

which is the simple head count poverty rate, i.e. the number of poor in the informal sector of Offa town as a percentage of the total population. Although as a useful first indicator it fails to pay attention to the depth (or gap) and severity of poverty in the informal sector of Offa town. To arrive at the depth of poverty and severity of poverty one need to look at the extent to which the expenditure of the poor in the sector falls below the poverty line. This is customarily expressed on the “income gap ratio” or “expenditure gap ratio” which expresses the average shortfalls as a fraction of the poverty line itself, i.e.:

$$z_i - y_i/z_i \dots\dots\dots (4)$$

where y_i is the average income or expenditure of the poor in the sector.

A useful index is therefore obtained when the head count poverty ratio is multiplied by the income or expenditure gap ratio. Thus corresponding to:

$$P_1 = q/n (z_i - y_i/z_i) \dots\dots\dots (5)$$

which reflects both the incidence and depth of poverty. These measures have a particularly useful interpretation because it indicates what fraction of the poverty line would have to be contributed by every individual in the sector to eradicate poverty through transfer under the assumption of perfect targeting mechanism.

The severity of poverty index is the mean of the squared proportion of the poverty gap expressed as:

$$P_2 = q/n (z_i - y_i/z_i)^2 \dots\dots\dots (6)$$

This index allows for concern about the poverty of the poor people in the sector by attaching greater weight to the poverty of the poorest ones among them than to those just below the line.

To determine the extent of poverty reduction in the informal sector of Offa town, the difference between the previous and the new consumption-expenditure of the respondents was used. It is this difference that was used to test whether the contribution of ROSCAs has any significant influence on poverty reduction in Offa town.

The Model

In specifying the model, emphasis is placed on whether the contribution of ROSCAs has any significant influence on poverty reduction in the informal sector of Offa town. The contribution of ROSCAs is determined by the money received from ROSCAs and spent on food, money received from ROSCAs and spent on asset ownership, money received from ROSCAs and spent on housing project, money received from ROSCAs and spent as insurance from loss of property, money received from ROSCAs and spent on education, money received from ROSCAs and spent on health care and money received from ROSCAs to start a business or to restock supplies.

Appleton's (2001) method of estimating the values of consumption-expenditure per adult equivalent (that is based on the internationally defined poverty line of one dollar a day) was used in determining the poverty status of each respondent. The poverty status is defined as dummy 1 for non-poor (i.e. those that have experienced poverty reduction) and dummy 0 for poor respondents (i.e. those that have not experienced poverty reduction), thus providing us with a logit estimate of the impact of ROSCAs on poverty reduction in the informal sector of Offa town.

The model is therefore formulated as:

$$\Delta POVR_i = f(\ln ROSCAs_i, HHc_i) \dots \dots \dots (7)$$

Where:

$\ln ROSCAs_i$ = log of the role of individual ROSCAs, which comprises of the money received from ROSCAs and spent on food, money received from ROSCAs and spent on asset ownership, money received from ROSCAs and spent on housing project, money received from ROSCAs and spent as insurance from loss of property, money received from ROSCAs and spent on education, money received from ROSCAs and spent on health care and money received from ROSCAs to start a business or to restock supplies.

HHc_i = the vector of household characteristics, such as, household size, occupational and educational status of the individual respondent.

Thus, $\ln ROSCAs_i = f(\ln MFO_i; \ln MASO_i; \ln MHOU_i; \ln MINS_i; \ln MEDU_i; \ln MHE_i; \ln MBSS_i) \dots \dots \dots (8)$

$$HHc_i = f(HHS_i; OCCS_i; EDUS_i) \dots \dots \dots (9)$$

When equations (8) and (9) are substituted into equation (7)

$$\Delta POVR_i = f(\ln MFO_i; \ln MASO_i; \ln MHOU_i; \ln MINS_i; \ln MEDU_i; \ln MHE_i; \ln MBSS_i; HHS_i; OCCS_i; EDUS_i) \dots \dots \dots (10)$$

With a multiple linear relationship as:

$$\Delta POVR_i = \beta_0 + \beta_1 \ln MFO_i + \beta_2 \ln MASO_i + \beta_3 \ln MHOU_i + \beta_4 \ln MINS_i + \beta_5 \ln MEDU_i + \beta_6 \ln MHE_i + \beta_7 \ln MBSS_i + \beta_8 HHS_i + \beta_9 OCCS_i + \beta_{10} EDUS_i + U \dots \dots \dots (11)$$

Where:

$\Delta POVR_i$ = Poverty reduction determined by the difference in the per capita consumption-expenditure of a member of a ROSCAs in the informal sector of Offa town before and after joining the association. Dummy 1 for those that have experienced poverty reduction and dummy 0 for those that have not experienced poverty reduction.

$\ln MFO_i$ = log of money received from ROSCAs and spent on food.

$\ln MASO_i$ = log of money received from ROSCAs and spent on asset ownership.

$\ln MHOU_i$ = log of money received from ROSCAs and spent on housing project.

$\ln MINS_i$ = log of money received from ROSCAs and spent as insurance from loss of property.

$\ln MEDU_i$ = log of money received from ROSCAs and spent on education.

$\ln MHE_i$ = log of money received from ROSCAs and spent on health care.

$\ln MBSS_i$ = log of money received from ROSCAs and spent on business expansion.

HHS_i = household size of individual respondent.

$OCCS_i$ = occupational status of individual respondent.

$EDUS_i$ = educational status of individual respondent.

β_0 = intercept.

$\beta_1, \dots, \beta_{10}$ = parameter estimates associated with the influence of the independent variables ($\ln ROSCAs_i$) and the dependent variable ($\Delta POVR_i$).

U = disturbance term.

To estimate the model, a multiple regression analysis is used in order to reflect the explanatory nature of the variables. To verify the validity of the model, two major evaluation criteria were used: the a-priori expectation criteria which is based on the signs and magnitudes of the coefficients of the variables under investigation;

and (ii) statistical criteria which is based on statistical theory, which in other words is referred to as the First Order Least Square (OLS) consisting of R-square (R^2), F-statistic and t-test. The R-square (R^2) is concerned with the overall explanatory power of the regression analysis, the F-statistic is used to test the overall significance of the regression analysis and the t-test is used to test the significant contribution of the independent variables on the dependent (Oyeniyi 1997).

Drawing from the model, our a-priori

expectations or the expected behaviour of the independent variables on the dependent were: $MFO_i > 0$; $MASO_i > 0$; $MHO_i > 0$; $MINS_i > 0$; $MEDU_i > 0$; $MHE_i > 0$; $MBSS_i > 0$; $HHS_i < 0$; $OCCS_i > 0$; $EDUS_i > 0$, an indication that all the independent variables except household size are positively significant to the dependent variable. Note that the vectors of household characteristics (HHS_i ; $OCCS_i$; $EDUS_i$) are constant because they are assumed to be interactive variables between the role of ROSCAs and poverty reduction.