

Determinants of Household Level Urban Poverty the Case of Wolaita Sodo Town

Frew Moges Motta

Wolaita Sodo University, College of Business and Economics, Department of Economics Po.Box 138 Ethiopia

Abstract

The study was carried out at sodo town of Wolayta Zone in Southern Nation Nationalities Regional State with the main objectives to describe correlates or determinants of urban poverty in the study area. In order to attain this objective the study made use of cross-sectional household survey data collected from 240 sample households. The data collected were analyzed and discussed applying FGT measure of poverty i.e. poverty head count index, poverty gap and severity, determinant was done by using binary logit model. By Using cost of basic needs approach; the study found that total poverty line (food and nonfood poverty line) of the study area was about 3694.08 birr per year per adult equivalent consumption. Using this poverty line as bench mark the study indicated that 52 percent of the households were poor. The result of the logistic regression model revealed that out of 13 variables included in the model, 8 explanatory variables were found to be significant at 1%, 5% and 10% level. Accordingly, family size was found to have positive association with poverty of the household and statistically significant. while, access to credit, household health, remittance, sex, access to main road, employment and education were found out to have strong negative association with the households poverty status and statistically significant up to less than 10% level of significant.

Keywords: Binary Logit, Cost of Basic Need, Consumption approach, Determinants, Household, Urban poverty, wolaita sodo

1. Introduction

At its most general level, poverty is the absence of acceptable choices across a broad range of important life decisions a severe lack of freedom to be or to do what one wants. The inevitable outcome of poverty is insufficiency and deprivation across many of the facets of a fulfilling life: Inadequate resources to buy the basic necessities of life, Frequent bouts of illness and an early death, literacy and education levels that undermine adequate functioning and limit one's comprehension of the world and oneself, Living conditions that imperil physical and mental health, Jobs that are at best unfulfilling and at worst dangerous, A pronounced absence of dignity, a lack of respect from others, exclusion from community affairs(Foster et al, 2013).

Poverty reduction is a central policy of the current Ethiopian Government since it came to power in 1991.The country has implemented three Poverty Reduction Strategy Programs (PRSPs). The first PRSP, Sustainable Development and Poverty Reduction Programs, lasted for three years (2002/03 to 2004/05), while its successor, the Plan for Accelerated and Sustained Development to End Poverty, was implemented between 2005/06 and 2009/10 and the current PRSP, Growth and Transformation Plan, runs from 2010/11 to 2014/15 (MOFED, 2010 (as cited in Theophile T et.al).

Ethiopia and its population have a huge potential to overcome the challenges of the poverty trap and undertake sustained economic growth. The possibilities are immense given the fact that the level of economic underdevelopment and the gap to the rest of the world economy is so huge that considerable catch up process could be initiated and sustained. However, this demands serious reforms to dismantle the hostile economic policy and repressive political environment in which the millions of hardworking Ethiopians are struggling to earn a decent living (Moges, 2013).

Addressing poverty has been an important component of the MDGs as declared by the heads of states at the Millennium Summit in September 2000 that set out goals and targets to be met by the year 2015. The measurement and analysis of poverty and inequality is crucial for understanding peoples' situations of well-being and factors determining their poverty situations.

The outcomes of the analysis are often used to inform policy making as well as in designing appropriate interventions and for assessing effectiveness of on-going policies and strategies.(MOFED, 2013).

Since the last two decades, as part of the global and national initiatives, the government of Ethiopia together with its development partners has been pushing with a development with aim of achieving a broad based and sustained economic growth. In light of the strategy, objective of reducing the depth and extent of chronic poverty over time, a strong system of Monitoring and Evaluation has been put in place to monitor progress in poverty reduction. Consequently, the issue of Welfare Monitoring in the country arose as part of the Economic Reform Program (ERP).

The ERP specifically and strongly underlines to see the effect of the reform program on poverty and building the analytical capacity of the government to monitor and evaluate such effects. To this end, the government of Ethiopia has established a Welfare Monitoring System (WMS) in 1996. Moreover, the

government of Ethiopia has made poverty analysis to be an integral part of the overall Monitoring and Evaluation (M&E) System since 1996 as part of its endeavor to address the poverty reduction agenda (MOFED, 2012).

Nowadays, the rapidly growing urban population of developing nations poses unprecedented challenges for the national and municipal policymakers. Urban areas in Ethiopia are in a state of expansion without the necessary preconditions and this is paving the way for visible urban poverty. There is, indeed, ample evidence that urban areas are unable to cope with the increasing population, and delivery of services has deteriorated markedly over the years. Access to housing, health, and education services continues to be seriously limited. Basic sanitary conditions are atrocious by any standard. Transportation facility, energy availability and access to job, labor market, skill reproduction, work, entitlements and finance are also at their lowest level (Dessalegn and Aklilu, 2002 as cited in Esubalew, 2006).

And therefore, the motive for the research was to fill the time and area gap in measuring the poverty line, by addressing the following research questions.

- 1) What is the portion of household that live below poverty line?
- 2) What are the major determinants of urban poverty?

As the town is seat of wolaita zone, it is now expanding and being urbanized increasingly. Therefore study should be undertaken and this study tried to identify those determinants of poverty and suggest recommendation based on the facts collected through field survey and address unique feature of the town.

Objective of the study

The general objective of the study is to assess determinants of household level urban poverty the case of wolaita sodo town, southern Ethiopia. The study is based on the following Specific Objective

- To determine the proportion of households who live below and above poverty line.
- To analyze incidence, depth and severity of poverty in the study area
- To identify the determinants of poverty in Sodo Town

Hypothesis of the study

- ✓ It is hypothesized that major portion of the household within the society lies below poverty line.
- ✓ It is hypothesized that there is significant relationship between poverty and its determinants (household head education, household head employment status, household age, household family size, household head sex, household access to health, household access to water, household house tenure, household access to credit, household remittance, household head marital status, household urban agriculture and house hold access to main road).

2. METHODOLOGY

2.1. Data source and method of data collection

Both qualitative and quantitative data were collected from primary and secondary sources. Quantitative data from primary sources were collected through interview schedule, and personal observations to supplement the research finding with qualitative information. The survey included interview schedule such as current household consumption expenditure and socio economic, demographic, institutional and natural factors This include household size and composition, marital status, economic activities, access to basic services, asset ownership, remittance and position of occupations. Secondary sources, empirical studies conducted so far were used. Secondary sources of data were collected from central statistical authority (CSA), from published and unpublished sources.

2.2. Sample size determination

To determine appropriate sample size simplified formula which was developed by Cochran, (1977) was used.

$$n_{\alpha} = \frac{n_r}{1 + \left(\frac{n_r - 1}{N}\right)} \dots\dots\dots 1$$

With the 94 % confidence interval and 6% precision level.

This study was conducted at household level, i e. the unit of analysis was household. The sampling frame or the total population from which the required number of sample drawn was the total number of household found at six kebeles of sodo town which was 12,275 and therefore a total of 240 respondents were surveyed.

2.3. Sampling technique

In the study area, household are responsible for making day to day decision on their activities. Thus, households were the basic units of the sample. Multi-stage sampling techniques were used to generate the required primary data. At first stage, sodo town was selected purposively because one of the food insecurity problem area and sponsored area of the study. In the second stage, out of 11 kebeles with in the town, six kebeles were selected by random sampling techniques. A probability proportionate size technique(s) was employed to determine sample size from each kebele and finally 240 households were selected by using systematic random sampling.

Table 1 Number of kebeles with their total population and their sampled households

No	KEBELE	TOTAL POPULATION	TOTAL HOUSEHOLD	PROPORTION	SAMPLE HOUSEHOLD
1	WADU	8479	1804	0.146	35
2	FANA	11524	2452	0.199	48
3	GOLLA	8737	1859	0.151	36
4	DAMOTA	9818	2089	0.170	41
5	KIDANEMIHIRET	7924	1686	0.137	33
6	HIBIRET	11210	2385	0.194	47
	TOTAL	57692	12275	1	240

Source: own computation from field survey 2017

2.4. Approaches to measuring poverty

Based on the available information on welfare indicator i.e. consumption per adult equivalent and poverty line. The summary measure of poverty was made by using the most common measure of poverty FGT (Foster, Greer, and Thorbecke (1984) classes of poverty measure. Consumption per adult equivalent was used as an indicator of welfare because consumption better captures the long-run welfare, can reflect households' ability to meet basic needs, ability of household's access to credit and saving at times when their income is very low. Hence, consumption reflects the actual standard of living (welfare). In most developing countries, income report of households is likely to be understated compared to consumption expenditure report. Income is so erratic and seasonal that it may be very difficult for respondents to recall (FDRE, 2012).

Cost of Basic Needs Approach(CBN): was used to determine poverty line, it takes into account both the food and non-food requirements, is the most widely used method of estimating poverty line because the indicators were more representative and the threshold was consistent with real expenditure across time, space and groups.

Steps to establish poverty line

Food poverty Line

- Stipulate a consumption bundle that is deemed to be adequate for the level of minimum caloric requirement.
- Pick a nutritional requirement for each food items which yield 2200 Calories per person per day.
- Estimate a quantity of each bundle in gram that yield a calorie requirement of that food item per person per day.
- Then convert quantity in gram of each item consumed to kilogram.
- To obtain annual adult equivalent consumption of food items multiply food items in kg by 365 days.

Then these bundles giving the minimum caloric requirement were valued at local market prices to get a food poverty line of the study area. Which become minimum amount of money that a household needs to purchase basic-needs of food bundle.

Non-Food poverty Line

After setting the food poverty line a specific allowance for the non-food goods were made i.e. with the spending of the poor was added to the food poverty line which will yield the overall poverty line.

According to World Bank (2005), there are different approaches to take part of measuring non-food poverty line Practice varies widely from one analyst to the next. But most studies set the poverty line as a share of mean expenditure/income or identified the poor using some percentage (e.g. 20%, 25%) of the income or expenditure distribution. Therefore, in this study to account for the non-food expenditure, the food poverty line is divided by the food share of the poorest quartile or quintile (MOFED, 2013).

Finally the analysis in this paper focused on poverty among households; if a household was deemed to be poor, all its members were counted as poor. The implicit assumption here is that all individual members of a household benefit equally (or in a constant proportion, depending on their age and gender, called adult equivalence scale) from the household's expenditure. In this study absolute poverty lines were used for the analysis.

2.5. Method of Data Analysis

Two types of data analysis, namely descriptive statistics and econometrics models were used to analyze the data collected from the households. Quantitative categorical types of data were analyzed using percentage, frequency. While quantitative continuous types of variables were minimum, maximum, mean and standard deviation. After computing the descriptive statistics, Binary logistic regression was used to identify determinants of household's poverty level, where the dependent variable was found to be binary outcome.

The data analysis was conducted using statistical package for social sciences (SPSS version, 20) and

STATA 11.

Foster-Greer-Thorbeck class of poverty analysis was used to determine the proportion of households who were living below and above poverty line and the magnitude of poverty in the study area.

Head Count Ratio (Incidence of poverty)

This is the share of the population whose consumption is below the poverty line; that is, the share of the population that cannot afford to buy a basic basket of goods. The headcount index (P0) measures the proportion of the population that is poor.

$$HCR = \frac{H}{N} \dots \dots \dots 2$$

Where:

HCR= head count ratio

H= number of person below poverty line

N=total number of person in the sample

Poverty gap (depth of poverty)

This provides information regarding how far households are from the poverty line. This measure captures the mean aggregate consumption shortfall relative to the poverty line across the whole population. It estimates the total resources needed to bring all the poor to the level of the poverty line (divided by the number of individuals in the population). The poverty gap index (P1) measures the extent to which individuals fall below the poverty line (the poverty gaps) as a proportion of the poverty line. The sum of these poverty gaps gives the minimum cost of eliminating poverty, if transfers were perfectly targeted.

$$P_1 = \frac{1}{N} \sum_{i=1}^Q \left(\frac{z - y_i}{z} \right) \dots \dots \dots 3$$

This refers to the average distance of poor households are far away from the poverty line.

Poverty severity (squared gap)

This takes into account not only the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor, that is, a higher weight is placed on those households further away from the poverty line. The squared poverty gap (“poverty severity”) index (P2) averages the squares of the poverty gaps relative to the poverty line, which may be written as

$$P_2 = \frac{1}{N} \sum_{i=1}^Q \left[\frac{z - y_i}{z} \right]^2 \alpha, 1, 2, 3 \dots \dots \dots 4$$

2.5.1. Binary Logit Model Specification

Logistic regression analysis examines the influence of various factors on a dichotomous out come by estimating the probability of the events occurrence. Logit model used when dependent variable is binary (also called dummy) which takes values 0 or 1 and it is a non –linear regression model that forces the output (predicted value) to be either 0 or 1. The logit model is designed to analyze qualitative data reflecting a choice between two alternatives, which in this case are the poor and non-poor. The choice of the logit model is premised on the fact that ordinary least squares assumes a continuous dependent variable while in the case of poverty the response is a binomial process taking the value 1 for poor and 0 for non-poor. The parameters of this model were estimated by using the maximum likelihood estimation rather than the movement estimation in which Ordinary least square regression technique rely on.

The logit method gives parameter estimates that are asymptotically efficient, and consistent. Indeed, the logit approach is known to produce statistically sound results (Gujarati, 2004). Probability of being poor is specified as the value of the cumulative distribution function which is specified as function of the explanatory variables.

The equation is of the form:

$$y_i = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots \beta_k x_k + \varepsilon \dots \dots \dots 3$$

Where;

y_i = probability of household being poor or non-poor

α = Intercept (constant) term

β_k =Coefficient of explanatory variable

x_k = Explanatory variables

ε = Disturbance (Stochastic) term.

logit model estimate the probability of dependent variable to be 1 ($y=1$). This is the probability that some event happens. The logit model usually takes two forms. It may be expressed in terms of logit or in terms of event probability. When expressed in logit form the model is specified as

$$\log\left(\frac{p(y=1)}{1-p(y=1)}\right) = \sum_{k=1}^k B_K X_K \dots \dots \dots 4$$

This particular study deal about the probability of being poor or not and this expressed in mathematical form as follows

$$\Pr(y=\frac{1}{x}) = pr(y = 1) = \frac{e^{\sum_{k=1}^k B_K X_K}}{1 + e^{\sum_{k=1}^k B_K X_K}} \dots \dots \dots 5$$

The above equation represents the probability of an event occurring. For a non-event the probability is just 1 minus the event probability.

$$pr\left(y = \frac{1}{x}\right) = pr(y = 0) = \frac{e^{-\sum_{K=1}^K B_K X_K}}{1 + e^{-\sum_{K=1}^K B_K X_K}} \dots \dots \dots$$

$$y_i = \alpha + b_1 hhs + b_2 edu + b_3 age + b_4 mst + b_5 sex + b_6 emp + b_7 hse + b_8 wtr + b_9 hth + b_{10} cdt + b_{11} rmt + b_{12} mrd + b_{13} uag + \varepsilon$$

Table 2 definition and unit of measurement of explanatory variables used in binary logit model.

Variable name	Description and measurement	Expected sign
HHS	Family size of the household in adult equivalent(AE)	+
HEDU	Education of household head in years of schooling	-
AGE	Age of household head in years	+
HSEX	Is a dummy variable taking the value 1 if the household head is male, 0 otherwise	-
HHTH	Is a dummy variable taking the value 1 if the household has access to health, 0 otherwise	-
HEMP	Is a dummy variable taking the value 1 if the household head has access to employment, 0 otherwise	-
HWTR	Is a dummy variable taking the value 1 if the household head has access to water, 0 otherwise	-
HHSE	Is a dummy variable taking the value 1 if the household head has own house, 0 otherwise	-
CRDT	Is a dummy variable taking the value 1 if the household head has access to credit, 0 otherwise	-
RMT	Is a dummy variable taking the value 1 if the household head has access to remittance, 0 otherwise	-
HMST	Is a dummy variable taking the value 1 if the household head is married, 0 otherwise	+
HUAG	Is a dummy variable taking the value 1 if the household head has access to urban agriculture, 0 otherwise	-
MRD	Is a dummy variable taking the value 1 if the household head has access to main road, 0 otherwise	-

3. Result and Discussion

By using the poverty line based on the total expenditure necessary for an acceptable standard of living considering 2200 calories per day per adult equivalent. We estimated the three important indicators of poverty these are incidence of poverty, poverty gap and poverty severity and the result revealed shows that 52 percent of the sampled households in the town are unable to afford the necessary calorie requirement per day and deemed below the poverty line.

The result from the survey shows that the poverty gap (deficit) in sodo town is 12.6 percent. That means if the town mobilizes resources equal to 12.6 percent of the poverty line for every adult equivalent individuals and distribute these resources to the poor in the amount needed so as to move each per adult equivalent to poverty lines poverty could be mitigated.

Although households, with their consumption expenditure which lies below the poverty line have common name “poor” the degree of poverty varies from one to another. Therefore, the poverty severity index measures variation in the poverty level of individual households. The result shows 5.2 percent severe poverty.

Table 3 FGT measure of Poverty status of six surveyed Kebeles

Kebele	Poor	Non poor	obs	% share of poor	Po	P1	P2
Gola	13	23	36	36.1	13	1.168	0.418
KidaneMihiret	15	18	33	45.5	15	1.601	0.588
Hibret	27	20	47	57.4	27	3.293	1.511
Fana	26	22	48	54.2	26	2.788	1.229
Damota	21	20	41	51.2	21	2.288	1.035
Wadu	23	12	35	65.7	23	1.433	0.405
Total	125	115	240	52	125	12.6	5.2

Source: Own computed from survey, 2017

3.1. Econometric analysis

Logit Model

The logit model can be used when dependent variable is binary (also called dummy) which takes value 0 or 1 and it is a nonlinear regression model that forces the output (predicted value) to be either 0 or 1.

Model Test

Model specification: when the assumptions of logistic regression analysis are not met, we may have problems, such as biased coefficient estimates or very large standard errors for the logistic regression coefficients, and these problems may lead to invalid statistical inferences. Therefore, before we use our model to make any statistical inference Check that our model fits sufficiently well and check for influential observations that have impact on the estimates of the coefficients (verbeek, 2004).

To detect a specification error the stata command linktest can be used. After the regression command (in our case, logit or logistic), linktest uses the linear predicted value(_hat) and linear predicted value squared(_hatsq) as the predictors to rebuild the model. The variable _hat should be a statistically significant predictor, since it is the predicted value from the model.

This will be the case unless the model is completely missing specified. On the other hand, if our model is properly specified, variable _hatsq should not have much predictive power except by chance. Therefore, if _hatsq is significant, then the linktest is significant. This usually means that either we have omitted relevant variable(s) or our link function is not correctly specified. In this study linktest report that the model is correctly specified. Because (_hat) is significant and (_hatsq) is not significant

The p value associated the chi- square with “n” degrees of freedom and hosmer and lemeshows are used to test goodness of fit test. In this study p value associated the chi-square with 13 degree of freedom. The value of .0000 indicates that the model as a whole is statistically significant i.e the model fit the data well.

Multicollinearity in the logistic regression solution is detected by examining the standard errors for the β coefficients. A standard error larger than 2.0 indicates that there exist numerical problems, such as multicollinearity among the independent variables, therefore in our case there is no problem of multicollinearity.

To control for heteroscedasticity in binary outcomes model robust logistic regression was used. Heteroscedasticity in binary outcome models will affect both “Betas” and their standard errors (wooldrige, 2001). In this study both the regressions i.e earlier regression and robust logistic regression have the same result. None of the coefficient estimates changed, but the standard errors and the Z values are little different. Had there been more heteroscedasticity in this data, there would have seen bigger changes. Therefore this model is free from heteroscedasticity problem

Estimates of the determinants of urban poverty in Sodo town

The model result shows the binary logit model, the chi square value with LR chi square value with (13) =137.87 at significant level of zero shows that inclusion of explanatory variables contributed to the improvement of the model. As a result, out of the hypothesized variables which were included in binary logit model, 8 variables shows statistically significant relationship with household falling to poverty. These variables are described below

Table 4. Logistic Regression

Probability of being poor	Coef.	Std. Err.	Z	P> z
Hhs	.6010311	.1447449	4.15	0.000***
Hedu	-.7266081	.1658547	-4.38	0.000***
Age	-.0111187	.0191678	-0.58	0.562
Hmst	.0451933	.3817907	0.12	0.906
Hsex	-1.024826	.5821144	-1.76	0.078*
Hemp	-.8402525	.3979606	-2.11	0.035**
Hhse	-.2762049	.4196829	-0.66	0.510
Hwtr	-1.40051	1.142861	-1.23	0.220
Hhth	-.7455415	.4153076	-1.80	0.073*
Credit	-1.387121	.435618	-3.18	0.001***
Rmt	-2.614326	.5251979	-4.98	0.000***
Hmrd	-1.411548	.5381041	-2.62	0.009***
Huag	-.4572071	.4632608	-0.99	0.324
_cons	-1.903055	2.531307	-0.75	0.452

Pr.of being poor	Coef.	Std. Err.	Z	P> z	Odds ratio
Hhs	.6010311	.1447449	4.15	0.000***	1.823998
Hedu	-.7266081	.1658547	-4.38	0.000***	.4835463
Age	-.0111187	.0191678	-0.58	0.562	.9889429
Hmst	.0451933	.3817907	0.12	0.906	1.04623
Hsex	-1.024826	.5821144	-1.76	0.078*	.358859
Hemp	-.8402525	.3979606	-2.11	0.035**	.316952
Hhse	-.2762049	.4196829	-0.66	0.510	.318118
Hwtr	-1.40051	1.142861	-1.23	0.220	.057267
Hhth	-.7455415	.4153076	-1.80	0.073*	.4744773
Credit	-1.387121	.435618	-3.18	0.001***	.2497934
Rmt	-2.614326	.5251979	-4.98	0.000***	.6583245
Hmrd	-1.411548	.5381041	-2.62	0.009***	.2437657
Huag	-.4572071	.4632608	-0.99	0.324	.579656
_cons	-1.903055	2.531307	-0.75	0.452	
No of obs = 240 log likelihood = -97.213547 LR chi2(13) =137.87 Prob>chi2 = 0.0000 Pseudo R ² = 0.4149					

NB:* significant at 10%, ** significant at 5%, *** significant at 1%.

The above logistic regression analyzed that the variable that are positively correlated with the probability of being poor are household size and marital status. The variables that are negatively correlated with the probability of being poor are education, age, sex, access to credit, health, and access to main road, employment status, house tenure, water, remittance and urban agriculture.

In the above result, out of 13 predictor variables, eight of them: household size, education, sex, employment, credit access, remittance, health and access to main road significantly affect households falling in poverty.

In the above table the negative value of the coefficient in the independent variable shows that when independent variable increased by a unit, the probability of being poor decreased by about the value of the coefficient, this suggests the negative relationship between being poor and the variable. As explained above, the variable that is negatively correlated with poverty and significant at the same time experience less poverty in the town.

Odds ratio interpretation

The odds ratio result shows that the probability of being poor in terms of probability of not being poor. Therefore the result of this finding revealed the following odds ratio result summarized as follows:

Household size in adult equivalent: household size in adult equivalent has positive and significant relationship with household poverty status at 1 % probability level. Keeping other variables constant, a unit increase in household size in adult equivalent enhances the odds ratio of household poverty level by a factor of 1.823. that is, the household who has small number of family size are almost 2 times to escape being poor than those who are having larger number of family sizes. This implies that the larger the household size in adult equivalent the more likely they are in poverty. Importantly, household size in adult equivalent increases the number of consumers putting pressure on household resources However; this household size should be carefully analyzed with other household composition like dependency ratio in the household and age of the head. Because one might think that, the positive result of the variable is due to the quality of household members. The result agrees with (Benjamin et al, 2012), (Abebe, 2011), (Metalign, 2005) as cited in (zegeye, 2016)

Education is one of the factors influencing the poverty status in this study and the variable is negatively correlated with the probability of being poor and coefficient is statistically different from zero at 1 percent level. Other things remain constant, when education level of the household head increases by a unit, the odds ratio of being poor decrease by amount 0.483. This is connected with the fact that when people level of education increases their level of understanding, skill and etc. increases and this in turn brings opportunity to be engaged in different activities so as to earn income. This study is in line with, YonasAlem (2011),Saidatulakmal (2012) and

Adem Nuri(2008).

Sex of the household head was negatively related to probability of being poor and the coefficient is significant at less than 10 percent level. Holding other variables constant at their mean value, when household head is male, the odds ratio of being poor decreases at about 0.358 times lower than their counter parts. The possible explanation for this result is that female headed households have lower access to productive resources and social services, which affects their productive ability and their intra household allocation of resources. The study was In line with (Garza 2002), (Sargoda, 2010) and (FDRE,2002).

Employment status of the household head was negatively related to the probability of being poor and the coefficient is significantly different from zero at 1% level. Holding other variables of the model at their mean values, a discrete change in employment from 0 to 1 (no access to access), probability of being poor decrease at about 0.3169. The study agrees with, Yonas Alem (2011).

Health access was negatively related to the probability of being poor and the coefficient is significantly different from zero at 1% level. Holding other variables at their mean values, a discrete change in health access from 0 to 1(no access to access), probability of being poor decrease at about 0.474. The possible explanation for this finding was that the healthier people can be participated in different activities that can help them generate additional income for their family than those who have no access to health. The study was consistent with (Zegeye, 2016).

Credit access was negatively related to the probability of being poor and the coefficient is significantly different from zero at 1% level. Holding other variables of the model at their mean values a discrete change in credit access from 0 to 1(no access to access), probability of being poor decrease at about 0.249. The possible reason is credit gives an opportunity to be involved in income generating activities in addition to farm income, so that derives revenue and purchasing power of the household to escape from risk of poverty. Moreover, it helps to smooth consumption when household face with temporary problem. The study was similar with (Nega Afera, 2015).

The coefficient of remittance is significantly different from zero at 10% significant level and has negative relation to probability of being poor. Holding other variables at their mean values, a discrete change in remittance from 0 to 1 (“no-access to remittance” to “access to remittance”), probability of failing to poverty decrease at about 0.658. Because remittance is used as additional income source, used as starting capital to finance activity, to purchase more assets, enables higher investment in business; and facilitate buying more goods, including education and health inputs. The finding was consistent with (Banga et al., 2009) (Abraham et al., 2012), (Alem, 2011) (Eyob and Harris2004).

The coefficient of main road is significantly different from zero at 10% significant level and has negative relation to probability of being poor. Holding other variables at their mean values a discrete change in main road from 0 to 1 (“no-access to main road” to “access to main road”), probability of failing to poverty decrease at about 0.2437. The possible explanation is that access to main road gives the household an opportunity to be involved in income generating activities to obtain their basic needs at reasonable prices from the competitiveness. The result obtained is consistent with studies done by (Abebe, 2011 cited in zegeye), sargoda (2010) & World Bank (2005).

4. CONCLUSION AND POLICY IMPLICATION

4.1. CONCLUSION

The study was conducted to identify determinants of urban poverty in households insodo town. Data was collected from 240 sample households from six kebeles (Gola, Kidane mihiret, Hibret, Fana, Damota and Wadu). The study used cost of basic needs method to compute the poverty line of the study area by using consumption as an indicator of welfare or standard of living.

Based on the information on welfare indicator i.e. adult equivalent consumption we computed poverty line, which is the combination of food and nonfood poverty expenditure, Birr 3694.08 i.e. the minimum amount of money required to purchase the consumption bundle in the study area. The poverty incidence, poverty gap and poverty severity were calculated in accordance with the poverty line; and found 0.52, 0.126 and 0.051 percent respectively. Headcount index shows that 52% of the households were poor and 48% were not poor, poverty gap result implies 12.6% consumption shortfall from the poverty line and severity result indicate 5.1% variation among poor households.

The descriptive analysis shows highest poverty incidence in households among family size greater than average family size i.e. 7-10 (84.62%), and lowest in family size less than average 1-3 family size (35%). 57.31% of female households were poor from the total surveyed female head households and 49% of male headed households were below poverty line, number of poor for educated household, having access to health, employment, main road, credit and remittance were less than their counter part.

Determinants of poverty in the study area were computed by employing the econometric analysis i.e. binary logit model and the regression result revealed that family size, household age, marital status, household health,

head sex, access to main road, access to credit, and remittance affects poverty status of urban households of the study area significant at 1%, 5% and 10%. As a result the following policy recommendations were made.

Urban poverty is multidimensional and has interrelated factors. One cause of poverty may become a consequence in other side. That means one variable may be a cause and consequence simultaneously. Critical identification of the variables is important for direct and concrete solutions. Therefore, urban poverty can be alleviated through multiple strategies that affect the poverty situation of household in different direction.

4.2. POLICY IMPLICATION

Based on the above descriptive and econometric analysis, the following policy implications are forwarded as alternatives for the effective reduction of the urban poverty in general and particularly for sodo town:

- The study found that household size was positively and significantly correlated with poverty, this has a clear implication for the residents of the town in that households with large size will fall into the hardcore of poverty easily than those who have not. Thus implementation of family planning and use of contraceptive which is attained by a clear focus on healthcare related measures should be taken to limit household family size.
- Access to credit is also negatively correlated with poverty in the study area. credit gives an opportunity to be involved in income generating activities and it derives revenue and purchasing power of the household to escape from risk of poverty. It helps the poor households to improve their productivity, create jobs, smooth consumption flows but with a prior saving used as pre requisite to qualify for credit in the form of group lending hinders credit access to the poor in the area. However, poor households find group lending inconvenient to access credit from MFI since they are rejected from the group by better offs on one hand and pre requisite saving requirement on the other. Therefore, accommodative credit policy should be employed; meaning that MFIs and other development agencies need to introduce credit policies targeting poorest of the poor.
- Existence of an efficient economic infrastructure for development of any area is deemed as a basic requirement since the town is characterized by less extensive economic infrastructure. The focus here is on road construction because of its multidimensional and central role in urban poverty reduction, but other services are also needed to overcome problems of poverty. Construction of internal road to the town has the potential for reducing poverty in different ways:

It will raise the value of the physical asset of households; it is often a pre requisite for accelerating business activities

It will improve the quality of life through following its construction like provision of domestic lighting, safe drinking water, drainage etc. It will attract many investors and make the town as a market center. Access to main road improves household's income and reduces probability of becoming poor by giving the household an opportunity to be involved in income generating activities to obtain their basic needs at reasonable prices from the competitiveness hence efforts should intensify to create some sort of activities in the vicinities of households and improve road and other infrastructure facilities. Therefore, the city administration or other concerned authorities should take immediate steps to construct the road and other economic infrastructure in the town.

- Promotion of education is central in addressing problems of poverty in the town. Specifically, higher education is found to be of paramount importance in reducing poverty. Households headed by those that have first degree and above did not fall in poor category and in the town. The educational attainment of the head of the household head is found to be the most important factor associated with urban poverty and therefore adequate education is central in addressing incidence of poverty. In general, the creation of human capital in the shape of better education increases the productivity/income of the poor, and it may be seen as the most effective indirect way of addressing the problem of poverty in sodo.

Poverty reduction strategies should target specific locations and specific households as most of the time poverty by its nature is individual centered rather than aggregate. Therefore schemes that can improve incomes of individual households and certain localities should be employed selectively. And also there should be joint effort in the identification of the causes, consequences, and commitments in the implementation from the government.

The variables that are not significantly correlated with poverty in this study are access to water, access to house, marital status and urban agriculture. They need to be strengthened in the future.

Finally, poverty is not only the problem of sodo town rather it is the problem for the country as well. Therefore the poor themselves, government, NGO and other stakeholders should strengthen their participation to reduce the poverty than ever.

Reference

Abrham et al,(2012): Poverty and Vulnerability Dynamics : Empirical Evidence from Smallholders in Northern Highlands of Ethiopia. Quarterly Journal of International Agriculture, No. 4.

- AdemNuri,(2008):Determinants of urban poverty in worabe town: A house hold level analysis,Thesis(economic policy analysis), Addis Ababa.
- Afera, N.(2015): Determinants of Poverty in Rural Tigray:Ethiopia Evidence from Rural Households of GulomekedaWereda,. Journal of Poverty, Investment andDevelopment, Volume 10, 99-100.
- Banga et al.(2009). Impact of Remittances on Poverty in Developing Countries .Bristol,Policypress.
- Cochran. (1977). Sampling techniques. New York: John Wiley& Son.
- CSA, (2012), Household Consumption and Expenditure (HCE) survey, Analytical report, Addis Ababa, Ethiopia
- Esubalew, A.(2006). Determinants of Urban Poverty in DebreMarkos, Ethiopia.MastersThesis.
- Eyob and Harris,(2004): Modelling determinants of poverty in eritrea: a new approach, MonashUniversity, Australia.
- FDRE (2002).Ethiopian Sustainable Development and Poverty Reduction Programs. Addis Ababa, Ethiopia
- FDRE,(2013):Ethiopia poverty assessment overview, poverty global practice africa region, thefederal democratic republic of ethiopia selected issues.
- Foster et al(2008), A Unified Approach to Measuring Poverty and Inequality ,Theory and Practice ,World Bank, Washington D.C.
- Garza,(2002): The Determinants of Poverty in Mexico: Jorge -Rodríguez University of Monterrey, Mexico
- Greene. (1993). Econometric Analysis, Fifth Edition. New York: Pearson Education, Inc.,Upper Saddle River,New Jersey, 07458
- Gujarati D.N(2004): Basic Econometrics, 4th ed. The McGraw-Hill, Inc.,New York.
- MOFED,(2013):Federal Democratic Republic of Ethiopia, Development and Poverty in Ethiopia ,Addis Ababa.
- MOFED,(2012). Ethiopia's Progress Towards Eradicating Poverty:An Interim Report on Poverty Analysis Study (2010/11). Addis Ababa: Ministry of Finance and Economic Development.
- Moges, A. G. (2013). The Challenges and Policies of Poverty Reduction in Ethiopia, Special Issue on the Ethiopian Economy Institute of Humanities and Social Sciences, University of Tsukuba, Japan. Ethiopian E-journal for Research andInnovationForesight,Vol 5, No 1 (2013) - pp (94-117.
- Sargodha and Iqbal N,(2010): Determinants of Urban Poverty: The Case of Medium Sized City in Pakistan MasoodSarwarAwan University of Sargodha, Pakistan Institute of Development Economics, Islamabad, working paper
- Wooldrige J.M, (2001): Econometric Analysis of cross section and panel data: Cambridge, Massachusetts London, England. Working Paper no. 88.
- World Bank.(2005). World Bank Institute Poverty Analysis Report.World Bank.
- World bank (2007), policy research working paper 4211.
- Yonas Alem,(2011),The dynamics and persistence of urban poverty: panel data evidence from Ethiopia
- Zegeye Paulos Borko (2016), Determinants of poverty in Damot gale District, household level analysis. Department of Economics, Wolaita Sodo University, Wolaita Sodo, Ethiopia