

## **The impact of microfinance on household expenditure patterns: Evidence from Amhara Credit and Saving Institution, Ethiopia**

**Derbew Kenubeh Dagneu , MSC, PhD candidate  
Gondar University, P.O.B 196, Gondar, Ethiopia,  
A Research Scholar in Punjabi University,  
Department of Commerce, Patiala, India**

**Prof. Rajinder Kaur , M.com., Ph.D.  
Department of Commerce, Punjabi university, Patiala, India**

### **Abstract**

The aim of this study is to examine the impact of microfinance on household expenditure pattern, a case of Amhara credit and saving institution, Ethiopia. The study particularly focused on expenditure related with food and non-food item. The study employed primary survey data collected from 193 existing participant households joining ACSI for more than two years as a treatment group and 193 non-participant households selected from newly incoming clients as a control group. The study used Descriptive and quasi-experimental design. Descriptive and regression analysis technique was employed to analyze the collected data. The study finds that joining ACSI and become beneficiary improves both the food and non-food item expenditure pattern of households since the independent t –test value shows that there is statistical significant mean difference among participant and non-participant households ( $\bar{x}$  difference = 0.81865 and =.68912,  $P < 0.05$ ). The result from regression analysis also supports participation improves the expenditure pattern ( $P < 0.05$ ). Therefore, based on the findings of the study ACSI has notable contribution with regard to food and non-food household expenditure pattern.

**Key words:** Microfinance, poverty alleviation, expenditure, pattern, food and non-food

### **1. Introduction**

After the success of professor Muhammad Yunus program of small credit provision for poor section through his first institution Grameen bank, microfinance program by developing country is recognized as a potential policy tool to alleviate poverty and to achieve the sustainable economic development objective. Poverty is a continual problem that affects in one or the other way all developing and developed countries throughout the world. Poverty has no single definition because of its multidimensional effect. According to World Bank (2000) poverty is defined as “pronounced deprivation in well-being”. This deprivation of well being of a poor can be reflected through different issues like lack of income to meet a demand by individual, lack of empowerment in the household as well in the society, lack of control over asset lack of exercise the opportunities, the lack of or the inability to have socially acceptable standard of living and others.

Government of different countries established different sustainable developmental programs to away from poverty in their country. One of the identified constraints facing the poor while they struggle to curve the effect of poverty is lack of access to financial service from formal financial institutions, mostly access to credit and saving. As noted in United Nations Capital development fund (UNCDF) document (2011), an estimated 2.7 billion people around the world remain with no access to formal financial

services. Of these underserved adults 2.2 billion live in Africa, Asia, Latin America and Middle East. Micro financing program is one of the developmental program that proven to be an effective and powerful tool since, it plays a great role by offering an economic opportunity for the productive poor to fighting poverty and improve their way of life (Morduch, 2002).

In the past few decades, it is believed that the contribution of microfinance institutions towards poverty alleviation changed the attitude of different stakeholders of the government that poverty can be reduced through providing and assisting in terms of substantial flow of credit and other financial and non financial related services to the productive poor in many countries. Thus, for more than 30 years, microfinance has been described as a logical approach as a policy and program intervention for poverty alleviation (Bateman, 2011).

Similarly, in Ethiopia, is one of the poorest and under developed country in the world with about a total population of 84.3 million (CSA, 2012) found in Africa, addressing poverty has been an important component of the millennium development goals as declared by the head of the state at the millennium summit in 2000 (MoFED, 2012). Microfinance institutions have been notable contribution in the alleviation of poverty by assisting the underserved productive poor through delivering small scale financial services.

In this regard, Amhara Credit and Saving institution (ACSI) is a pioneer in providing all round small scale financial service for the productive poor people to engage themselves in income generating activities. It is one of the leading institutions with a largest number of beneficiaries and aged in the country out of 31 other microfinance institutions (NBE, annual report, 2013). The aim of this study is to examine the impact of ACSI on the expenditure pattern of participant households.

### **1.1. Objective of the study**

- To examine and find out the impact of ACSI on selected household expenditure (food and non-food) pattern

### **1.2. Statement of the problem**

Globally, microfinance has been considered as a key tool to facilitate the alleviation poverty and promoting economic growth together with other developmental programs. The primary objective of every microfinance institution is to provide small scale financial services for the underserved poor productive people and capable of them to take the opportunity of generating income to improve their living standard. Previously, the market was controlled by commercial financial institutions and they were refused to serve the poor because of fear of risk. As a result to overcome this lack of access for financial services by the poor, microfinance institutions become the only alternatives. Thus, today in Ethiopia there are about 31 microfinance institutions actively operated in the country and facilitating the economic development as a whole through mobilizing saving and delivering financial services to the poor (National bank of Ethiopia, 2012). ACSI is one of the largest and oldest micro finance institutions in the country as well in Africa which contribute its share to alleviate poverty in Amhara region. However, as per the knowledge of the researcher there is scanty of studies in related with examining impact of microfinance on household expenditure pattern. Some previous researches conducted in ACSI focused on its outreach performance particularly financial performance (Ejigu, 2009; Kereta, 2007; and Alamirew, 2006). So, the aim of this study is to examine the impact of ACSI on expenditure pattern of selected sample households.

## 2. Methodology

The specific research design employed in this study is descriptive and quasi experimental design and the data were analyzed through using descriptive statistics and statistical tests like Chi- square test, paired t-test, independent sample t-test and regression analysis. The study uses primary data collected from sample participant and non participant households using survey questionnaire. To avoid randomization problem non participant samples as a control group were selected from list of eligible households but not benefited from the service provided by the institution. Whereas, participant sample households were selected from the existing client list who get the service and benefited for more than two years. Totally 386 (193 from each group control and treatment) have been selected using multistage random sampling technique. The data were collected by the use of trained enumerators and analyzed by the use statistical package of SPSS version 20.

## Review of related literature

For the past few decades, microfinance institutions are recognized as a pioneer strategy to facilitate the economic development and alleviating poverty. As a result many developing countries integrated their mega developmental programs with the financial inclusive strategy to achieve their objective. Hulme and Arun (2009) advocated that the major reason for the development of microfinance institution is based on the assumption that the poor have the capacity to undertake income generating economic activities and curve the effect of poverty but are limited for lack of access to financial and other related services. As a result concerned government bodies and other development agents are striving to assist the poor by availing necessary financial resources through microfinance institutions.

Microfinance program in Ethiopia was initiated as a developmental strategy after the fall of the Derg regime in 1991 and institutionally functional in the financial system after proclamation No.40/1996 ratified. In Ethiopia, microfinance institutions are regulated and controlled by the national bank of Ethiopia and owned by regional government, local NGOs and individual investors. There is a notable contribution of microfinance institutions in Ethiopia towards improving the living status of the poor.

ACSI is one among the 31 MFIs operating in Ethiopia and it is the pioneer and well recognized institution in terms of age, asset and coverage with loan and deposit mobilization. Its impact on the development of the region's economy is large enough through assisting the poor to access financial service.

There are several empirical studies worldwide about the role of microfinance institutions on poverty alleviation particular reference to the household expenditure pattern. Patel (2014) studied the impact of microfinance on household expenditure pattern; evidence from Kutch, India. The objective of the study was to assess the changes on the expenditure pattern of SHG women households. Data were collected from primary sources and percentage analysis was used for data analysis. The result of the study indicated that there is a change in economic status of self help group member households and as a result there a change on their food expenditure particularly, but expenditure on education and health needs improvement.

Shajahan, Shabnaz and Khan (2015) also conducted a comparative study on government organization and nongovernment organization in Bangladesh relating with impact of microcredit on household expenditure pattern of rural women borrower. A total of 172 women borrowers were selected for interview. The result of the study revealed that the income level of both borrowers is the same but governmental organizations borrows are spending more to improve their living standard. Moreover, the study conducted by Akhtar (2014) in Pakistan regarding with the impact of microfinance on the household income and consumption level indicated that the microfinance has been playing pivotal role

by bringing people above poverty line. That is MFIs have affected positively the income and consumption level of the poor.

Quach et al. (2005) conducted a cross-sectional study regarding with access to credit and household poverty reduction in rural Vietnam. The study used cross-sectional data from the two households surveys undertaken in 1992/1993 and 1997/1998 to derive empirical evidence. The finding of the study confirmed that there is a significant positive effect on per capita expenditure, per capita food expenditure and per capita non-food expenditure.

Similarly, Khalil and Doaa (2013) studied the effect of micro-grants on poverty alleviation of Palestinian families to examine the impact on the lives of Palestinian families who suffer from extreme poverty. The result of the study confirmed that, there is a positive contribution of microfinance institution in reducing poverty. The beneficiaries of the MFIs achieved a rise in their income after getting the grant and improved their expenditure on basic necessities for the households. Abraham and Getachew (2014) examined the effect of Micro Credit on the Livelihood of Borrowers of Dedebit Credit and Saving Institution's (DECSI), Ethiopia with a sample of 287 respondents. Data were collected through semi-structured interview questionnaire. The result of their study indicated that microcredit participation has a positive significant effect on children education and medical care expenditure in the study area.

In general, the major conclusion drawn from the above previous study was that the intervention of microfinance in the lives of poor families brought a change on the household expenditure pattern. Based on the above discussion the following hypotheses have been formulated:

H<sub>1</sub>: there is a significance difference between food expenditures of participant and non participant of ACSI

H<sub>2</sub>: there is a significance difference between non-food expenditures of participant and non participant of ACSI

### **3. Research results and findings**

This section of the study discusses the result extracted from the analysis of data collected from the survey. This is followed by discussion of the findings of the study in a meaning full way. The main causes for the households to expend their income are the consumptions of food and non food items. There is direct relationship between the income and the expenditure of households i.e. when income of the household raise, the demand to expend also rises.

Expenditures are good proxy of to see the improvement of the living standard of the poor households. This particular study used the sum of all expenditures for the food item and the sum of all expenditures for the non food item data collected from respondents during the survey to compare the change between a before and after condition of participant households and between participant and non participant households.

**Table 4.1. Status of expenditure of households before/ after and participant and non participant households**

Average Monthly income (in ETB)	No. of households				Statistical tests at 5% level of significance	
	Participant households			Non participant households	Paired sample t test	Independent t test
	Before	After	Change			
Up to 3000	111	35	(68.5%)	98	t= 12.279 df=192 Sig. (2-tailed) .000 x̄ difference =.80311	t= 9.637 df=384 Sig. (2-tailed) .000 x̄ difference=.68912
3001 – 5000	64	90	40.62%	66		
5001 – 10000	14	40	185.7 %	25		
10001 – 15000	2	21	950 %	4		
Above 15000	2	7	250%	-		
Total	193	193		193		

\*ETB = Ethiopian currency i.e. Ethiopian Birr

Source: survey data and spss output

The above table 4.1 depicted the family total monthly expenditure level for participant households before and after participation and between participant household and non participant households. The level of expenditure of the household reflects how much it earns and level of living standard. Accordingly, out of 193 sample participant respondents 57.5 % households are used to spend up to 3000 before joining the institution but, after joining ACSI this number of households decreased by 68.5 % and reached only 35 households. The number of households spend above 3001 – 5000 ETB was few in number; only 64 respondents out of 193 sample participant respondents before joining ACSI. Moreover, 16 participant households spend 5000 - 10000 ETB , 2 households spend from 1001 - 15000 ETB and 2 household beyond 15000 spend monthly before joining ACSI. But there is a notable improvement in number of households on their expenditure pattern after joining the ACSI; the number of households spends up to 5000 increased by 40.62 % from the number before joining ACSI. Similarly, the number of households spends monthly up to 10000 by 185.7 %, up to 15000 by 950% and above 15000 by 250%. Moreover, the paired sample t test indicated that there is a significant difference in the consumption mean of participant households before and after they become beneficiary from ACSI ( $p < 0.05$ ) at 5 % significance level. Similarly, the independent sample t test result indicated that there is a significant mean difference in consumption of participant households and non participant households ( $p < 0.05$ ) at 5 % significance level.

**H<sub>1</sub>: there is a significance difference between food expenditures of participant and non participant of ACSI**

**Table 4. 2 Monthly food expenditure for participant and non participant households**

Food expenditure (in terms of ETB)	Number of Respondents			Statistical tests at 5% level of significance	
	Participant households		Non participant households	Paired sample t test	Independent t test
	Before	After			
< 500	15 (7.8)	-	5 (2.6)	t= 4.971 df=192 Sig. (2-tailed) .000 $\bar{x}$ difference = 0.80829	t= 4.954 df=384 Sig. (2-tailed) .000 $\bar{x}$ difference= 0.81865
500 – 1000	102 (52.8)	34 (17.6)	127 (65.8)		
1001 – 2000	76 (39.4)	133 (68.9)	58 (30)		
>2000	-	26 (13.5)	3 (1.6)		
Total	193 (100)	193 (100)	193 (100)		

\*ETB = Ethiopian currency i.e. Ethiopian Birr

Source: survey data and spss output

The result furnished in table 6.2 showed that participant households before joining ACSI majority of them with 52.8 % were expend for food items monthly between 500 – 1000 ETB, while 39.4 % were expend monthly from 1001 – 2000 ETB for food and none of them were not have a capacity to expend more than 2000 ETB. But after joining ACSI the dominant households lay under the category of family food expenditure between 1000 – 2000 ETB with 68.9% of the total and the number participant respondents who is now expend more than 2000 ETB for food items of increase from nil to 13.5% (26) compared to that of 1.6 % (3) of the non participant households spend for food. Majority of the non participant households with 65.8 % lay under the expenditure category of 500 – 1000 ETB for monthly consumption of food. The statistical test indicated that there is a significance difference between the monthly expenditure for food between the participant and non participant households ( $P < 0.05$ ,  $\bar{x}$  difference= 0.81865). Hence this study accepts H1 i.e. there is a significance difference between food expenditures of participant and non participant of ACSI

**H<sub>2</sub>: there is a significance difference between non-food expenditures of participant and non participant of ACSI**

**Table 4. 3 Monthly non- food expenditure for participant and non participant households**

Food expenditure (in terms of ETB)	Number of Respondents			Statistical tests at 5% level of significance	
	Participant households		Non participant households	Paired sample t test	Independent t test
	Before	After			
< 100	72 (37.3)	21 (10.9)	54 (28)	t= 9.928 df=192 Sig. (2-tailed) .000 $\bar{x}$ difference = 0.36788	t= 5.497 df=384 Sig. (2-tailed) .000 $\bar{x}$ difference= 0.26943
100 – 500	117 (60.6)	153 (79.3)	135 (69.9)		
>501	4 (2.1)	19 (9.8)	4 (2.1)		
Total	193 (100)	193 (100)	193 (100)		

\*ETB = Ethiopian currency i.e. Ethiopian Birr

Source: survey data and spss output

Regarding with the amount the respondents expend in monthly base on non food item, table 4.3 reveals the results of the survey. Before joining ACSI 37.3% of the participant households were spent less than 100 ETB monthly for non food items compared to that of 10.9 % after joining and become beneficiary from ACSI. Majority of the participant households spend monthly from 100 up to 500 ETB before and after joining with a proportion of 60.6 % and 79.3% respectively. For non food items majority of non participant households with 69.9 % spent 100 – 500 ETB monthly. Whereas, the rest 9.8 % are expending above 500ETB for non food items by participant households compared to that of 2.1 % of non participant households. The impact on non food expenditure is more pronounced in the participant households after they joined microfinance institutions. The statistical test also supports the alternative hypothesis i.e. there is a significance difference in the mean value of the non food expenditure pattern between participant households and non participant households ( $P < 0.05$ ,  $\bar{x}$  difference= 0.26943).

### Regression analysis

Regression analysis is an econometric tool for the examination of relationship between variables (dependent and independent variables) i.e. it enables to ascertain the causal effect of independent variable upon the dependent variables. In this study, the multiple regression analysis technique is used to find out the influence of various factors in determining the pattern of household expenditure i.e. regression model was employed to determine if outcomes were a result of difference in characteristics of the household or were attributable to program participation.

$$Y_{ij} = F(\beta_1 X_{ij} + \beta_2 M_{ij} + \beta_3 T_{ij} + \varepsilon_{ij})$$

Where,  $Y_{ij}$  is the house hold outcome of interest i.e. for this study it is proxied by expenditure pattern of households

$X_{ij}$  is the household demographic characteristics namely age, sex, level of education and marital status

$M_{ij}$  is the membership dummy; 1 if participating household; 0 otherwise

$\varepsilon_{ij}$  is Stochastic disturbance term.

$\beta_1, \beta_2$ , and  $\beta_3$  are unknown parameters

### Regression result

The table below presents the result of the multiple linear regressions to see the effect of joining the microfinance institution on the participant household expenditure pattern in terms of food item and non food item.

**Table 4.4 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.812 <sup>a</sup>	.659	.652	436.01572	1.611

a. Predictors: (Constant), Average amount of borrowing per year , Age, main occupation, educational status, Gender, Marital status, loan cycle, microfinance participation

b. Dependent Variable: food and nonfood monthly expenditure

Source: survey data and SPSS output

The adjusted  $R^2$  is the square of the multiple correlation coefficients. It measures of how much of the variability in the outcome is accounted for by the predictors and it gives some hint how well the model fits (Field, 2009). The adjusted  $R^2$  value in table 4.4 is 65.2 % and which means that 65.2% of the variation in the dependent variable is explained by predictor variables. Moreover, the regression result

revealed that Durbin-Watson value is near to 2 and it indicates that there is no series autocorrelation problem in adjacent residuals in the model.

**Table 4.5 Coefficients of regression**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	2024.360	231.242		8.754	.000	1569.674	2479.045		
microfinance participation	-819.540	102.410	-.555	8.003	.000	1020.906	-618.174	.188	5.324
Gender	-27.891	51.873	-.017	-.538	.591	-129.888	74.107	.924	1.082
Age	7.494	28.737	.008	.261	.794	-49.012	63.999	.863	1.159
educational status	62.197	24.505	.080	2.538	.012	14.013	110.381	.910	1.099
loan cycle	62.378	11.163	.264	5.588	.000	40.428	84.328	.405	2.471
Average amount of borrowing per year	.021	.020	.060	1.052	.293	-.018	.061	.277	3.605
main occupation	27.971	15.800	.056	1.770	.077	-3.096	59.037	.890	1.124
Marital status	8.499	44.318	.006	.192	.848	-78.642	95.641	.911	1.098

a. Dependent Variable: food and nonfood monthly expenditure

Source: survey data and SPSS output

The regression result presented in Table 4.5 shows that the statistical significance of different independent variables in the household expenditure pattern. The coefficient estimate of the microfinance participation variable is statistically significance at 5 % level and influencing the pattern of expenditure of the household. It shows that participation in ACSI and getting services improve the household expenditure pattern. Similarly, the number of loan cycle took from ACSI has a statistically significance value ( $p < 0.05$ ) and contribute positively towards the improvement of the pattern of household expenditure. The educational status of the head of the household also has statistically positively significant impact on the household's pattern of expenditure ( $p < 0.05$ ).

#### 4. Conclusion and recommendation

##### 4.1. Conclusion

ACSI operates in Amhara region with the majority of its clients being rural poor. It served almost two times as many voluntary savers (1,734,882) as borrowers (880,606). Regarding to poverty alleviation it has a notable contribution for the last two decades. It provides a variety of services to the poor to assist them to way out of poverty. In part this study examined its impact on the pattern of expenditure of participant households. So, the statistical tests and regression analysis of the study indicated that there is improvement of the pattern of expenditure of participant households to full fill the demand of the household. The first hypothesis anticipated that microfinance has brought a difference in the food item expenditure pattern of participant and non participant households. The result reveals that there is a significant difference on the household food item expenditure pattern between participant and non

participant households. The second hypothesis was anticipated that there is a difference of the pattern of non food item expenditure between the participant and non participant households. The same result like the first hypothesis was found i.e. the result reveals that there is significant difference in the non food item expenditure of the participant and non participant households. The regression result also supports that participation in microfinance institution, number of loan cycle, the type of income generating activity and level of education are positively significantly contribute for the improvement of the household expenditure pattern. So from this study one can conclude that there is expenditure improvement by participant households after joining ACSI and these results are similar with the findings of previous studies (Patel, 2014; Quach et al., 2005; 2015, Shajahan et al., 2015).

#### 4.2. Recommendations

Despite of the recent economic growth of Ethiopia, there is still large number of people who lives under poverty. In line with this economic growth, microfinance institution plays a pivotal role by assisting the large number of productive poor people. Particularly, in Amhara region that poverty is highly influential on the lives of the poor, ACSI has notable contributions towards alleviating poverty cooperating with other developmental programs. Food is the prior need of every human being. So, everybody who generates income strive to spend more to fulfill different demands of the household. ACSIs client households are enjoying their life through spending their income generated after joining ACSI and employed. Even if, there is an improvement relating with spending but regarding with non food item expenditure compared to that of food item expenditure the expenditure is less. So ACSI needs further struggle to reach and assist the clients in different aspects not only availing credit to generate more income, to accumulate asset and to expend their business and to satisfy their demand.

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