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IMPACT OF CREDIT RATIONING AND REPAYMENT PROBLEMS IN THE CASE OF AMBO WOREDA ESHET MICROFINANCE INSTITUTION

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ABSTRACT

This study was conducted with the aim of analyzing the factors that affect microfinance repayment problems, evaluating the loan rationing mechanisms. The study was conducted in Eshet Microfinance Institution, Ambo Woreda West showa zone (Oromia) Regional State, Ethiopia. Data were collected through semi-structured questionnaires that were distributed to members' through interviews with Eshet Microfinance manager, credit officers and credit committee members. The findings revealed that major factors considered by Eshet Microfinance for credit rationing were Savings, education, quantum of loan, collateral asset, age, loan diversion, repayment mode and training. The study also found out that among the factors that were used for credit rationing in Microfinance age influenced loan repayment performance. From the findings, it was concluded that Eshet Microfinance's credit rationing process was weak since it failed to discriminate between credit worthy and non-credit worthy borrowers and thus resulting in poor borrower's loan repayment performance. Credit rationing system needs to take into account the factors that influence loan repayment performance when rationing loan applicants. Based on the research findings, the study recommends members' training in proper loan utilization and business management skills so as to invest in profitable business ventures and improve their loan repayment performance. The government should provide sufficient financial and human resources to cooperative institutions so that it can extend its supportive roles to Eshet Microfinance Institution to improve its service delivery to members.

KEYWORDS: Cooperative Society, Credit, Performance, Rationing

INTRODUCTION

The primary objective of microfinance institutions is to provide financial services (credit and saving) to the poor in order to release financial constraints and help alleviate poverty. Each MFI tries to maximize its repayment performance, whether or not it is profit oriented. High repayment rates are indeed largely associated with benefits both for the MFI and the borrower. They enable the MFI to cut the interest rate it charges to the borrowers, thus reducing the financial cost of credit and allowing more borrowers to have access to it. Improving repayment rates might also help reduce the dependence on subsidies of the MFI which would improve sustainability. It is also argued that high repayment rates reflect the adequacy of MFIs services to clients needs. Last but not least, repayment performance is a key variable for donors and international funding agencies on which many MFIs still depend for their access to funds. But, there are factors which affects the repayment performance of MFIs (Tenishu, 2014).

The positive impacts of microfinance institutions on the socio-economic welfare of the poor can only be sustained if the institutions can achieve a good financial and outreach performance. Throughout the world, financial sustainability of microfinance institutions has been one of the issues that have recently captured the attention of many researchers due to its importance in the livelihood of microfinance institutions. The financial sustainability of microfinance institutions is a necessary condition for institutional sustainability (Hollis & Sweetman, 1998; Baskar, 2011; Ramesh, 2013). As it has been argued “unsustainable MFIs might help the poor now, but they will not help the poor in the future because the MFIs will be gone” (Schreiner, 2000, p. 425). Moreover, it has been reported that it may better not have MFIs than having unsustainable ones (Ganka, 2010).

One way to tackle the loan repayment problem is to investigate the factors which affect the loan repayment of MFIs., (Onyeagocha et al, 2012) although loan repayment is determined by willingness, ability and other characteristics of the borrowers; businesses characteristics and characteristics of the lending institutions including product designs and suitability of their products to borrowers. Regarding the characteristics of borrowers, repayment of loans depends on the willingness and ability of the borrowers to repay. Therefore, individual borrowers can either repay their loans or choose to default. It is also true that the factors influencing loan repayment capacity among borrowers are not only likely to differ by programs but also differ from country to country depending on the domestic business and economic environment (Tundui, 2013).

It is obvious that many rural credit schemes have sustained heavy losses because of poor loan collection. And yet a lot more have been dependent on government subsidy to financially cover the losses they faced through loan default. But such dependence will not prove helpful for sustainability. MFIs should rather depend on loan recovery to have a sustainable financial position in this regard, so that they can meet their objective of alleviating poverty (Alemayew, 2008).

Jaffe and Stiglitz (1990) further broadened the classification and identified three types of credit rationing. These are; a) A situation where a borrower may receive a loan of smaller amount than desired; b) A situation where some individuals cannot borrow at the interest rate they consider appropriate based on what they perceive to be their probability of default and c) A situation where a borrower may be denied credit, when a lender thinks of not being able to obtain its required return at any interest rate.

The performance of microfinance institutions in terms of institutional sustainability seems not encouraging despite the fact that national and international development programs have been giving high priority on sustainable microfinance to the poor for many years. In response to low repayment rate and the question of sustainability of microfinance schemes, many proposals have been forwarded for initiating small farmers’ development program and encouraged their participation in sustainable microfinance institutions (Tundui, 2013). The delivery of financial services to the poor and low-income people has changed significantly over the recent past. The long-standing assumptions that the poor cannot be good clients of the financial institutions have been challenged by well-documented experiences (Jomo, 2004). A number of micro finance programs have demonstrated that low-income clients can use small loans productively to pay higher rates of interest for their loans. It has also been proved that the poor need saving services as much or more than credit services (Fikirte, 2011).

Microcredit helps the poor to be involved in income generating activities that allow them to accumulate capital and improve their standard of living. As quoted by the late Milton Friedman, Nobel Prize winner (Economics 1976), “The poor stay poor not because they are lazy but because they have no access to capital” (Wolday, 2000). Many of the poor people around the world are already benefiting from microfinance.

Credit rationing is broadly defined as a situation where the demand for loans exceeds the supply of loans at the going interest rate. Different types of credit rationing have been examined in the literature. Pehlivan (1996) as cited in Abraham (2002) saw it from the angle of loan size where borrowers receive a lesser amount of loan than they requested at a given loan rate. Defaults in Ethiopia, according to Bekele (2001), may arise from three major factors. First, the inability of borrowers to repay the loan as a result of crop failure for various reasons. Second, due to unwillingness of borrowers to repay the loan viewing the loan as a grant or as a political patronage. The third factor could be institutional and policy problems, that is, the system of credit delivery and collection mechanisms of the lenders have contributed to poor loan recovery performance.

The sustainability of microfinance institutions depends largely on their ability to collect their loans as efficiently and effectively as possible. In other words to be financially viable or sustainable, microfinance institutions must ensure high portfolio quality based on 100% repayment, or at worst low delinquency/default, cost recovery and efficient lending. However of late, there have been complains by the microfinance institutions regarding credit rationing mechanism and high rate of default/delinquency by their clients; which presupposes that most microfinance institutions are not achieving the internationally accepted standard portfolio at risk of 3%, which is a cause for concern because of its consequences on businesses, individuals, and the economy of Ethiopia at large (Ganka, 2010). Credit rationing to financing is an important aspect in the business operation of micro enterprises. However, credit rationing mechanism and repayment problem is an obstacle to the financial institutions including Eshet Microfinance Institutions that offer service based on group lending approach to provide credit to micro entrepreneurs (Tenishu, 2014). Delinquency and hence default have started creeping deeply into the operations of microfinance institutions in Oromia regional state West showa Zone Eshet Microfinance Institutions which has not been addressed by any person in the study area. As per the researcher knowledge's, few similar research studies were conducted in the study area.

OBJECTIVES OF THE STUDY

The broader and specific objectives of the study are as follows:

Major objectives of the study was to assess the Impact of credit rationing and repayment problems in Eshet Microfinance Institution in Ambo Woreda

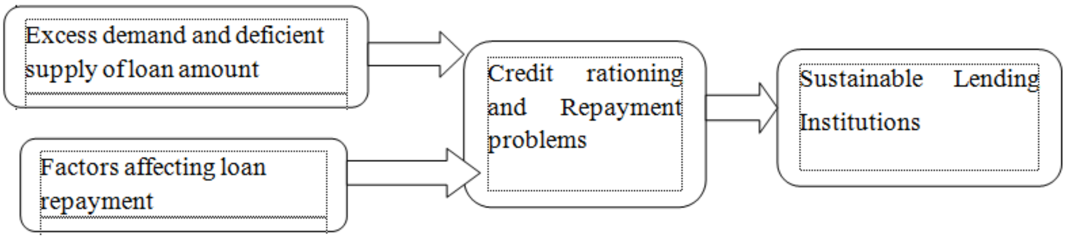
Specific Objectives

- To identify the factors that affects the repayment problems of Eshet Microfinance Institution
- To assess the influence of credit rationing on repayment performance.

SIGNIFICANCE OF THE STUDY

The research output will be helpful for Eshet Microfinance Institution and other to evaluate their screening criteria and revise it accordingly in favor of credit worthy borrowers so as to alleviate loan repayment constraints. Research findings will also help Eshet Microfinance Institution to identify the major characteristics that distinguish credit worthiness.

Conceptual Framework and Research Model



Source: Researchers Model, 2016

Figure 1: Proposed Conceptual Model: The Influence of Credit Rationing on Loan Repayment

Figure 1 illustrates the influence of credit rationing on loan repayment. Credit rationing criteria (asset collateral, guarantors, group guarantees, savings, deposits) and the factors that affect loan repayment(loan size, enterprise size, income, age, number of years of business experience, distance between home and source of loan, education, household size, adoption of innovations, and credit needs) are the independent variables that affect loan repayment performance, the dependent variable. Improved loan repayment performance is hypothesized to be resulting in creating a sustainable lending institution that covers both financial and operational cost and thus depends on repaid loan to offer credits sustainably.

MATERIALS AND METHODS

The study was conducted in Oromia Regional State, West Shoa Zone Ambo Woreda which was purposively selected because, there were problems related to the existence of credit rationing mechanisms and loan repayment. Multistage sampling was used for this study.

At the first stage, from the total 11 Kebele Associations of the Woreda, only three rural associations with the highest number of customers were selected purposively to study the effects of microfinance credit rationing mechanism on repayment to the institution. Accordingly Senkele, Meti and Gosu Kora were selected. There were 782 beneficiaries in the sampled Kebele Associations. Secondly, stratified sampling was employed to select respondents from among defaulters and non-defaulters with equal sample size of 60 households from each stratum. Finally, systematic random sampling technique was employed to select 120 respondents. Probability proportion to the size methods was used to fix the number of sample borrowers to be selected from each Kebele Associations.

Data Collection Methods/Techniques

In this study, data were collected through key informant interviews, interview schedule and documentary sources. Two sets of data were employed for the empirical analysis, primary and secondary data. The primary data were collected through field interview schedule while the secondary data were obtained the documents of Eshet Microfinance Institution.

Key Informant Interview

This technique was used to gather information from the Ambo woreda Eshet Microfinance Institutions, three experts and rural women’s, two administration officers, two agriculture officers, two women affairs officer, two micro-finance officer, eight extension workers (two each from each Kebele’s).

Other information included, repayment period, number of disbursement installments, collateral coverage, loan demand and grace period. Also, information regarding type of collateral, borrower's assessment criteria, loan size, number of borrowers and the degree of economic diversification as proxy by number of economic activities and loan portfolio information were collected through interview.

Interview Schedule

Interview schedule was used to collect the primary data from the selected 120 borrowers whose repayment period had matured. Information collected through interview schedule included: borrower's characteristics such as age, sex, and marital status, level of education, household size, business experience, loan utilization and implementation of the project as well as information on income sources for loan repayment.

Document Review

Secondary data for the study were collected from various sources which included audited financial reports which were Profit and loss account and balance sheet, Eshet Microfinance Institution loan portfolio report, loan performance reports, internal monthly financial statements and Eshet Microfinance Institutions' Credit policy documents. The secondary data were solicited from the audited financial statements for the past five years that were 2004/2012, 2005/2013, 2006/2014, 2007/2015 and 2008/2016. The above mentioned documents contained pertinent information regarding loan issuing criteria, loan repayment performance status, and loan repayment period for each borrower, borrower's name, loan purpose and collateral requirements. The documents also revealed the total loan applied by members and the total loan issued to members.

Sampling Techniques

The target population is Eshet Microfinance customers; the sample sizes were 120 borrowers which were drawn from 782 respondents from three different rural kebele's. One of the motives of the survey was to study variation in the patterns of credit rationing and loan repayment problems to this end. Three kabeles Association were selected based on the above stated variations and to make the study manageable, sample respondents was taken from each rural district using simple stratified random sampling techniques (Table-1)

Table 1: Distribution of Sampled and KAs Respondents

Respondent Category	Rural Kebele's							
	Galan		Meti		Gosu kora		Total	
	N	n	N	n	N	n	N	n
Non-creditworthy	195	27	201	23	71	10	467	60
Credit worthy	97	14	165	14	53	12	315	60

Methods of Data Analysis

Qualitative and quantitative data were collected. Qualitative data were analyzed by means of Statistical Package for Social Science Software (SPSS 20). The t-test and chi-square test to compare credit worthy and non-credit worthy. Qualitative data such as Focused Group Discussion, key informant interview, Direct Observation were analyzed descriptively to give clear interpretation and they were analyzed and presented in forms of tables, figures and chi-square.

RESULTS AND DISCUSSIONS

Credit Rationing

Table 2: Credit Ration

Variables	Credit Worthy		Non-Credit Worthy		x^2-Value
	Number	Percentage	Number	Percentage	
Rationed	42	70.0	47	78.33	17.38
Not rationed	18	30.0	13	21.67	
Mean	**8.0**		**7.5**		

Source: Own computation, 2016

The result of the study in Table 2 revealed that out of 120 loans that were issued 42 loan applications (70.0%) were rationed while 18 loan applications (30.0%) were not rationed. Loan applications that were rationed means that loan applicants received less amount of loan that the amount applied in loan application forms.

Credit rationing negatively as well as positively affects the loan repayment performance. When credit rationing is done effectively, borrowers will receive adequate loan amount as per their credit needs and will be able to utilize credit and repay properly as a result On the other hand, when credit rationing system is weak, borrowers may receive loan amounts that are contrary to their credit needs and their ability to utilize credit. Statistically, there was association (χ^2=2.958**) at 1% probability level of credit rationing on loan repayment performance. This result is in agreement with the findings of Gerald Abasanto (2013).

Loan Size

Table 3: Loan Sizes

Loan Sizes	Credit Worthy		Non-Credit Worthy		Total Sample		x^2-Value
	No	Percent	No	Percent	No	Percent	
Adequate	42	70.00	21	35.00	63	52.5	2.581***
Not adequate	18	30.00	39	65.00	57	41.5	

Source: Own computation, 2016

It is evident from Table 3 indicated that 52.5percent of the total borrowers stated, the disbursed loan was adequate while 41.5percent reported that to the opposite. More specifically, 70.00percent of the credit worthy and 35.00 percent of the non-credit worthy reported that the loan they received was adequate. Whereas 30.00percent of the credit worthy and 65.00 percent of the Non-credit worthy reported that the loan they received was not adequate. The two groups of borrowers was statistically different(x^2=2.581) due to the credit rationing mechanism with respect to their views on adequacy of credit at 10 percent conventional level of probability on loan repayment problems. This result is in agreement with the finding of Tenishu (2014).

Loan Diversion of the Borrowers

Table 4: Loan Diversion

Description/Variables	Credit Worthy		Non-Credit Worthy		Total		X^2 -Value
Divert	19	39	48	48	48	40.00	11.172
Not-divert	41	21	62	62	62	60.00	

Source: Own computation, 2016

Regarding loan diversion 65.0percent of the non-credit worthy have diverted the loans they received to other Purposes than specified in their loan agreement, while only 31.6 percent of the creditworthy borrowers diverted the loan they took to other purposes. This shows that loan diversion is negatively related to loan repayment performance. The chi-square-test shows that there is a significant difference (x^2=2.172) between the two groups of borrowers in terms of loan diversion.

The impact of this variable depends on what use the diverted loan is put to. If the used for productive purposes than the intended ones then repayment will be enhanced. If on the other hand the loan is diverted to non-productive uses, it will have a negative impact. Therefore the sing of this variable can't be predetermined (Manager personal interview, April 21, 2016) (Table 4).

Group Guarantee

Table 5: Group Guarantee

Variable	Non-Credit Worthy		Credit Worthy		Total		X^2-Value
			Number	Percent			
Positive effect	34	56.67	47	78.33	81	67.5	2.46
Negative effect	26	43.33	13	21.67	39	36.5	

Source: Own Computation, 2016

The respondents were asked whether the credit group guaranty had any effect on their loan repayment performance or not. It is evident from Table 5 that 81.5percent of the beneficiaries reported that it had a positive effect, while 18.5percent reported that it had a discouraging effect on their loan repayment performance. The Chi-square value shows that there was no significant relationship between the formation of saving and credit group and their loan repayment problems.

Since the credit delivery mechanism of AMFIs is a group based one that relies on peer pressure and social sanctions that exist among borrowers, questions regarding these issues were included in the interview schedule. Almost all the borrowers responded "yes" to questions regarding peer group that they know each other very well, feel responsible for each other and monitor each others' action (Interview result, 2016).

Asset Collateral

Usually, the institution utilizes combination of poverty assessment and tar getting methods. Clients provide collateral to the institution, after that the institution offer the loan. Cooperatives and individual based lending methodologies are latterly introduced in the system. Eshet are the biggest institution operating in this economically marginalizes area where millions are living at subsistence levels with limited economic opportunities and risk. Wisdom institution adopted the (German style) group lending method since its inception. Small initial credit up to above ETB500 are disbursed to jointly liable poor but capable Group of to 3-5,6-10 and above ten(10) members for self employment purposes were organized and income generating activities. Groups are formed voluntarily among credit user's member by simply selecting their partners. Eshet Microfinance institution accepts individual application under the eligibility requirements that borrower's come in groups should be above 18 years old and are not from the same family (Interview result, 2016).

Generally its lending programs essentially, target the productive poor those who would by themselves create the activities that could enable them to get out of poverty. Then participatory wealth ranking of those was conducted to select first beneficiaries of the service. And the clients are allowed to from a peer group, self selection for the purpose of sharing a mutual loan repayment guarantee in addition the client should fulfill the following criteria (Interview result, 2016).

Table 6: Asset Collateral

Variables	Non-Credit Worthy		Credit Worthy		T-test	Total	
Types of Collateral	No	Percent	No	Percent		No	Percent
Ethics	52.0	32.2	38.0	22.2	30.134	90	75
Fixed asset	4.0	5.5	11.0	6.6		15	12.5
Free from debt	4.0	2.4	11	6.6		15	12.5

Source: own computation, 2016

Educational Level

Table 7 Revealed that, of the total respondents, 65.0 percents of the respondents were illiterates, 20.83percents respondent were educated up to primary school (1-8), 17.5 percent respondents are certificate and above. The educational level of creditworthy were: 75 percent respondents are illiterates, 15.0 percent respondents are primary school (Grade1-8),10.0 percent respondents completed certificates and above, while for the non creditworthy it is 55 percent, 26.67 percent and 18.33 percent at the same order. This indicates that the level of education and dependant variable has direct relationship. It has positive implication on loan usage and managing the business or using loan for income generating activities. Statistically, the t-test results also confirmed the presence of strong and significant association between educational level and loan repayment rate at 5% significance level (t= 79.016). This result is in agreement with the findings of Besley T. (1995) and. Coate, S. (1995)

Table 7: Education Level

Variables	Credit Worthy		Non-Credit Worthy		Total		T-test
	No	Percentage	No	Percentage	No	Percent	
Illiterate	33	55.00	45	75.0	78	65.0	*7.38*
Primary school(1-8)	16	26.67	9	15.0	25	20.83	
Certificate and above	11	18.33	6	10.0	21	17.5	
Mean	**8.0**		**7.5**				

Source: Own computation, 2016

Business Experience

Table 8: Business Experience

Year	Non-Credit Worthy		Credit Worthy		Total	
	Number		Percent		Number	
2years	12	20.00	1	1.67	13	10.83
3years	25	41.67	12	20.00	37	30.83
4years	14	23.33	24	40.0	38	31.67
5years	7	11.67	5	8.33	12	10.0
6years	2	3.33	8	13.33	10	8.33
7years	0	0	10	16.67	10	8.33
Mean	**5.3**		**6.2**		**5.76**	

Source: Own computation, 2016

The results of Table 8 showed that the average business experience of credit worthy about 6.5 years with maximum and minimum of 12 and 1year respectively. On the other hand, the average business experience of non-credit worthy was 2.5333 years with maximum and minimum years of 6 and 1 in that order. This study has identified about 11.3 percent of the respondents had less than 10 years of business experience. Whereas around 3.3 percent of them had more than 40 years of experience. Therefore; credit worthy had more years of business experience than non-credit worthy. This variable has significant impact at less than1% significance level (chi-square-test -4.216) between non-credit worthy and credit worthy on loan repayment performance. This result was agreement with the findings of some authors (Berhanu, 2005; Berhanu, 2008; Fufa, 2008).

Age of Respondents

Table 9: Age of the Respondents

Variables	Credit Worthy		Non-Credit Worthy		Total	
	No	Percent	No	Percent	No	Percent
20-35	27	45.00	34	56.67	61	50.83
36-45	16	26.67	21	35.0	37	30.84
46-58	17	28.33	5	8.33	22	18.33
X^2	*-4.216*					

Source: own computation, 2016

The data in Table 9 disclosed that, age of the respondents ranged from 20 to 58 years. Accordingly, the respondents' age range from 20 – 35 constitute 50.83percent, the age range from 36 – 45 constitutes 30.84percent, and the remaining 18.33 percent of respondents were constituted between the age range of 46 – 58. The proportion of non-credit worthy age was highest in the age range of 20 – 35 by constituting 56.67percent, and lower in the age range of 46 – 58 representing 8.33 percent. Whereas the proportion of credit worthy age was highest in the age range of 20 – 35 by constituting 45.3percent, and lower in the age range of 46 – 45 representing 26.67percent. The age range of credit worthy decrease as the age range increases. This indicates that the young borrowers become more credit worthy than the aged. This is because as the age of borrowers' increases they became settled and accumulated wealth; acquired experience in business management and credit use than youngsters. The differences were significant according to the t-test ( ) between the ages of the two groups. This result is in agreement with the study of Gerald (2013).

Family Size

Table 10: Family Size

Variable	Credit Worthy		Non –Credit Worthy		T-test	Total	
	No	Percent	No	Percent		No	Percent
1-5	21	38.9	17	44.67		38	41.3
6-8	24	44.4	18	47.3	***1.872*****	42	45.7
>8	9	16.7	3	7.00		12	13.0
Mean	**4.50**		**3.93**			**4.45**	

Source: Own computation, 2016

The result of the finding indicated on Table 10 that of the total sample respondents, the average family sizes were 4.4. The mean average family size of non-credit worthy and credit worthy was found to be 4.35 and 3.969 respectively. This result is in agreement with the finding of Belay (2008). This indicates that as family size in the household of borrowers' increases then they allocate their business incomes, earned through credit loan, to cover different household's expenses. As a result, this influences the borrowers' loan repayment performance negatively. The t- value is 1.812, which is significant at less than 5% level.

Saving Purpose of Borrowers'

The survey results showed on Table 11, it was found that majority of the respondents (40.00%) saved their money for consumption purpose followed by 40.00 percent to meet emergency, 29.16 percent for future use and 21.67 percent for repayment purpose. it was clear from the evidence that there was no much difference between credit worthy and non-credit worthy in the saving purpose. This result is in agreement with the findings of Retta (2000).

Table 11: Saving Purpose

Variable	Non-Credit Worthy		Credit Worthy		Total Samples	
	Number	Percent	No	Percent	No	Percent
For future use	21	35.0	14	23.34	35	29.16
For emergency	11	18.33	13	21.67	24	40.00
For consumption	25	41.67	30	50.0	55	45.83
For repayment	13	21.67	3	5.0	26	21.67
Mean	**1.0333**		**.5333**		**.7917**	
Std.dev	**.80183**		**.91070**		**.8972**	

Source: own source, 2016

Training

The survey results showed in Table 12 that, 61.2 percent of the respondents stated that they were trained on saving and credit affairs; whereas 38.8percent stated that they were not. The difference between the two groups was not statistically significant at any level of significance.

A participant in a Focus Group Discussion also indicated that, the information collected it could be concluded that as continuous training was not given to clients so that they were constrained to effectively run their business. Even though the training has no significant influence in this study it has negative influence on loan repayment problems. This is in agreement with the finding of Firafis (2013).

Table 12: Training Availability

Description	Non –Credit Worthy		Credit Worthy		Total Sample	
	No	Percent	No	Percent	No	Percent
Trained	41	68.33	27	45.00	90	75.00
Not-trained	19	31.67	33	55.00	30	25.00

Source: Own computation, 2016

Business Information

The study showed in Table 13 that the 66.66 percent of the total respondents has received information and 34.34 were not. 76.5percent of credit worthy had got information whereas 56.5 percent of non-credit worthy were not. Information is not the most important parameter that helps borrowers to become aware of the business they planned to run. It plays a vital role in the success of business. Through this, borrowers can understand the advantages and disadvantages of the information on business. It can initiate borrowers to try the new practice on their own business place. Borrowers can get information through informal or formal sources. Informally, they can get from neighboring farmers, friends, relatives, elders, etc. On receiving business information there was no significant between non-credit worthy and credit worthy. This study was in agreement with the finding of Firafis (2013).

Table 13: Information of the Respondents

Variable	Credit Worthy		Non-Credit Worthy		Total	
	No	Percent	No	Percent	No	Percent
Got information	46	76.5	34	56.5	80	66.66
Not got information	14	23.5	26	43.7	40	34.34

Source: own computation, 2016

Marital Status

It was found that majority of the credit worthy and non-credit worthy respondents were married (65.0% and 58.33% respectively). The distribution of credit worthy and non-credit worthy respondents was also more or less same in other categories. The difference was not statistically significant. The study implies that being married or not was not related to repayment performance and credit rationing of the institution (Table 14).

Table 14: Marital Status

Variable	Credit Worthy		Non-Credit Worthy		Total	
Description	No	Percent	No	Percent	No	Percent
Single	9	15.0	11	18.33	20	16.67
Married	39	65.0	35	58.33	74	61.67
Divorced	4	6.67	3	5.00	7	5.83
Widowed	8	13.33	11	18.33	19	15.83
Mean	**.500**		**7.8**		**6.77**	

Source: Own computation, 2016

Econometrics Result

Econometric analysis was carried out in order to identify Impact of microfinance credit rationing and loan repayment problems. As explained in the earlier binary logit model was employed to estimate the effects of the hypothesized explanatory variables on the impact of credit rationing mechanism on loan repayment performance

As discussed earlier, the binary logit model analysis models were selected to analyze factors affecting microfinance credit rationing mechanism on loan repayment performance. Prior to running the logistic regression analysis both the continuous and discrete explanatory variables were checked for the existence of multicollinearity and high degree of association using variance inflation factor (VIF) and contingency coefficients. The VIF values for continuous variables were found to be very small (much less than 10) indicating that absence of multicollinearity between them. Likewise, the results of the computation of contingency coefficients reveal that there was no serious problem of association among discrete variables. For this reason, all of the explanatory variables were included in the final analysis. More specifically, six (6) continuous and seven discrete explanatory variables were used to estimate the multiple regression models. Contingency coefficient values ranges between 0 and 1 and as a result of chi-square variable with contingency coefficient below 0.75 shows weak association and value above 0.75 indicates strong association of variables. The contingency coefficient for the dummy variables included in the model was less than 0.75 that did not suggest multicollinearity to be a series concern. The result of VIF and contingency coefficient computed from the survey data are presented on table 13 and 14 respectively.

Table 15: Multicollinearity Test for Continuous Explanatory Variables

Continues Variables	Collinearly Statistics	
Variables	Tolerance	VIF
Asset collateral	0.813	1.137
Business Experience	0.776	1.215
Family sizes	0.869	1.115
Age	0.781	1.365
Saving purpose	0.855	1.277
Marital status	0.844	1.346
Education	0.23	1.134

Source: Own computation, 2016

Table16: Multicollinearity Test for Discrete Variables

Variables	Credit Ration	Loan Sizes	Loan Diversion	Training	Group Guarantee	Business Information
Credit ration	1.000	0.034	0.050	0.121	0.246	0.312
Loan size		1.000	0.008	0.064	0.022	0.321
Loan diversion			1.000	0.025	0.177	0.255
Training				1.000	0.015	0.023
Group guarantee					1.000	1.020
Business Information						1.000

Source: Own computation, 2016

Binary Logit Model

Binary Logit model was used to assess role of microfinance credit rationing mechanism on loan repayment performance Based on the result of Multicollinearity diagnostics' tests for both continuous and dummy explanatory variables, no variable was found to be highly correlated or associated with one of the other variables. The likelihood ratio test statistic exceeds the Chi-square critical value with 12 degrees of freedom. The result is significant at less than 0.01 probabilities indicating that the hypothesis that all the coefficients except the intercept are equal to zero is not tenable. Likewise, the log likelihood value was significant at 1percent level of significance. Another measure of goodness of fit used in logistic regression analysis is the count R2, which indicates the number of sample observations correctly predicted by the model. In other words, the i^{th} observation is grouped as a non-creditworthy if the computed probability is greater than or equal to 0.5 and as a defaulter otherwise. The model results show that the logistic regression model correctly predicted 75.00 of 120 of the sample women farmers.

Factors Influencing Microcredit Rationing and Loan Repayment Problems

Binary logit model analysis of the data indicated in Table 16 shows that six of the variables were significantly related to the influence of credit rationing mechanism on loan repayment performance. The variables were credit rationing, loan sizes, loan diversion, Family size, marital status, business experience and education. They significantly affect loan repayment performance at 1percent, 5percent and10percent level of significance respectively.

With regard to education, the positive coefficient (0.074) implies that as level of education increases, loan repayment of the borrower's increase which is expected. The higher the educational level of the farmer, higher the chances of getting better paying jobs or the higher the tendency to be involved in politics and less increased participation in microfinance Institutions. In general, this study re-affirms the position of many other studies, including that of Chukwu *et* *al.* (2012) that identified age and educational level as factors affecting loan repayment performance.

The coefficient of marital status was positive and significant at 10percent level of significance suggesting that women's marital status influence their level of credit rationing mechanism on loan repayment performance. Most of the successful women's in microfinance institutions service programme participants opined that they have a good understanding, support and encouragement from their husbands in terms of advice and funding. This could have stimulated such farmers to increase their level of loan repayment. This study is in agreement with that reported by Sabo (2006) which showed significant relationship between marital status and credit rationing and loan repayment performance of Eshet Microfinance institutions in Ambo Woreda.

Coefficients of business experience, saving, business information and business status were also not significant with level of participation. One possible explanation with regards to business experience on the level of access might be that most of the participants now discourage the over reliance on family labor on the farm to enable their children have access to formal education.

In the case of saving, business information and training it might be that most of the experienced farmers tend to invest their resources and incomes into other ventures instead of increasing their level of loan repayment performance.

Table 17: Maximum Likelihood Estimate of a Logit Model for Loan Rationing and Loan Repayment

Variables	Estimated Coefficients	Odds Ratio	Wald Statistics	Significance Level
Credit rationing	-0.205***	0.112	.459	0.0001
Loan sizes	0.06543***	0.0581	.219	0.000
Loan diversion	0.0049**	0.1802	3.217	0.0143
Marital status	-0.3243*	0.23300	.717	0.033
Business experience	0.003***	0.0034	.119	0.0043
Saving	0.282	.0.0773	0.306	0.823
Training	0.012	1.2361	3.080	0.770
Level of education	0.194*	4.546	5.703	0.050
Age of borrowers	0.022*	2.644	2.906	0.043
Business Information	0.3266	0.0077	.371	0.543
Asset collateral	0.00422	2.026	.019	0.344
Family Sizes	0.032	0.2120	.261	0.322
Group guarantee	0.234	0.343	0.18	0.253
*=significant at 10% **= significant at 5% ***= significant at 1% NS=not significant	Person chi-square =84.12*** -2log likelihood ratio=67.121*** Correctly predicted-R^2=75.00 Sensitivity=73.5 Sample sizes =120			

Source: own computation, 2016

CONCLUSIONS

Based on the major findings of this study, the following conclusions could be drawn along with some policy implications to be brought to the attention of the institution and any other interested parties. Generally the evidences in the study reveal that the overall repayment performance of the borrowers and the screening technique, which the institution follows to ration loan to its clients, were found to be sound. Similarly, it was found that the credit scheme has contributed positively in terms of improving the incomes, access to education, access to health facilities and nutritional status of the borrowers. The following recommendations are derived from the findings:

- Specifically, loan diversion was found to be one of the important and significant factors influencing loan repayment performance negatively, i.e., it increases default risk significantly. This variable is itself influenced by many factors, of which loan supervision, education and suitability of repayment period were found to reduce the probability of diverting loan to non-productive uses that ultimately lead to reduced recovery rate. So there is a need for a continuous supervision on loan utilization and training so as to reduce both the problem of using loan for non-income generating activities as well as lack of skill observed because of the wide-scale illiteracy (particularly in the rural areas).
- On the other hand evidences in this study show that female borrowers have performed better in terms of loan repayment than their male counterparts. But we have seen that the number of women being served particularly in the rural parts of the district is very small. This is also in conflict with one of the objectives of the establishment of such an institution; i.e., empowerment of women. So the institution has to do much in this direction.
- In line with the basic idea of improving the loan repayment performance, the screening of borrowers deserves good attention. From the evidence provided in this study, borrowers with more income and educational level were incorrectly rationed despite their being creditworthy, while those applying for larger loan amounts and those who are male were rationed less despite their being non-creditworthy.
- Rationing those with more income could be seen, as a deliberate pro-poor action on the part of the institution, if at all it is done with such an intention. On the other hand the majority of the institution’s clients whose eligibility for participation in the scheme is based on the criteria of being poor are illiterate. Since most of the time literacy and wealth are positively related, and that it seems that the institution is focusing more on equity than efficiency by rationing the literate clients more strictly than the illiterate ones.
- Although promoting equity may help Eshet Microfinance Institution move towards its objective of poverty reduction, it cannot sustain such an objective on a permanent basis. Screening of the clients is carried out by the Local Poor Representatives and administrators, assisted by the branch staff. Since this procedure is meant to identify the poor who are the target clients of Eshet Microfinance Institution, the issue of equity is somehow being addressed in the screening process. So it should focus more on making its services sustainable rather than promoting equity temporarily. Hence the institution is advised not to incorrectly ration creditworthy borrowers (the literate ones in this case) and also not to leave non-creditworthy borrowers un-rationed (those applying for larger loan amounts and those who are male).
- Moreover the researcher observed that only four out of eight variables that were significant in the loan repayment equation were also found significant in the rationing equation during the comparison of the two equations that was made to evaluate the rationing mechanism. This means that important information is being ignored as in the case where some variables contributing to good repayment performance are neglected when it comes to the use of these variables in identifying good borrowers with such characteristics. So another area of focus as far as rationing is concerned should be towards using more of the factors that can be used for identifying clients into creditworthy and non creditworthy, while at the same time the institution should attempt to avoid incorrect use of such factors as criteria for rationing.

RECOMMENDATIONS

From the outcome of the collected data through questionnaires, interview and review of the documents would like to forward the following comments:

- The disbursement of loan has to continue effectively for it is one of the strong points of the performance of the branch.
- The organization has to set additional mechanism of promotion to increase number of female client
- On sight visit and follow up should be exercised at their working places and door to door in addition to the meeting held at center regularly on monthly basis.

Recommendations to Eshet Microfinance Institutions' Management

Based on the findings, discussion and conclusion drawn in the study, researcher recommends as follows; there is a need to develop tailor made financial products particularly credit products that suit majority of the members in rural areas taking into consideration the nature of their economic activities. In most rural areas the major economic activity is agriculture. For effective production, farmers are to be facilitated with farm implements and inputs. In this case, Eshet Microfinance Institution needs to offer demand driven products credit products are in line with member's requirements. In order to develop effective credit rationing system, credit committee members are recommended to visits borrower's business premises, verify borrower's asset collateral and enquire borrower's additional information during rationing process so as to ensure that only credit worthy borrowers are granted loans.

It is also recommended that Eshet Microfinance Institution management should offer training on proper loan utilization and business management skills to members so as to enable them to manage their loans and business profitably and thus be able to repay their loans on time.

Training is also recommended to Eshet Microfinance Institution 'Eshet Microfinance Institution staff and credit committee members on credit management and designing of effective credit rationing mechanism so that they can be able to identify creditworthy borrowers from non-creditworthy borrowers.

Recommendations to the Government

In order for the rural people to have access to financial services and engage in economic activities to alleviate poverty, they should be sensitized to form Eshet Microfinance Institution in their residential areas where they can access financial services easily. The government also needs to allocate sufficient financial and human resources to the cooperative department order to facilitate training and capacity building to Eshet Microfinance Institutions' so as to improve loan recovery.

In order to monitor increased loans non-credit worthy rates to Eshet Microfinance Institution, the legal framework and court practices should be revised to expedite the rulings of Eshet Microfinance Institutions'' loan non-credit worth cases. Similarly, the regulatory frame work should be able to take legal action including seizing of personal properties of Eshet Microfinance Institution leaders who mismanage Eshet Microfinance Institution resources for their personal benefit.

Finally there are some important points that may need further investigation. These issues may serve as points of departure for further research. We have seen that complementarily was observed between the credit scheme of Eshet Microfinance Institution and that of the money lenders operating in the area of study. Since from the data collected for this study the number of respondents that reported having access to other credit sources is very few, this finding needs to be further studied. Also there may be a need to test if there is some sort of association between loan repayment and purpose of borrowing. Also it would be better to employ the control group approach of assessing impact of such credit schemes, probably by employing the methodology suggested by Karlan (2001), which uses first time borrowers as the control group. This method may solve the problem related to the costliness of the control group approach of assessing impact.

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