

# Assessment of Microfinance Loan Repayment Problems in the Informal Sector :( The Case of DECSI Mekelle Dehub Sub Branch)

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## Abstract

The aim of microcredit is to help the poor and lower income group to get funds for their business activities and to improve their lives. Usually, the loans given are very small, in short term period, no collateral needed and required monthly repayment. However, repayment problems become the main obstacle for the microcredit institutions to continue providing microcredit services. This is because most of the microcredit institutions are Non-Governmental Organizations (NGOs), where they received funds from the government and donors and there are not profits oriented organizations. The investigation of various aspects of credit default, whether it is random and influenced by erratic behavior or whether it is influenced by certain factors in a specific situation is a great important for both policy makers and practitioners. Therefore, the major concern of this study was to assess the microfinance loan repayment problems in the informal sector of DECSI Mekelledehub sub branch. This study is an attempt to assess, some of the main factors that influence microfinance level loan repayment performance of the informal sector. Data for the study was collected through a structured questionnaire and informal discussion with the experienced borrowers and higher officers of the sub branch. The collected data was analyzed using descriptive statistics and probit technique to ascertain those factors constraining repayment performance of microfinance credit. Results of the study indicate that better repayment performance is strongly and directly associated with Suitability of repayment period and educational level of the borrower. The institution should negotiate the time to repay the loan with its clients. That means, special attention must be given to this factor in order to improve the microfinance loan repayment and the institution should provide a specific loan class for the borrowers from higher institutions in addition to the group lending facility made by it. Since most of the informal sector does not have any or little access to formal education. Therefore, DECSI can increase its borrower's repayment performance by creating conducive environment for education to the illiterates in cooperation with other NGO's or government.

## 1. INTRODUCTION

The informal sector is a prominent characteristic of many developing countries. It had become one of the most important labor sponges in the regions. Over 75% of new entrants into the urban labor force were absorbed in the informal sector. In the early 1990s, the informal sector in Africa accounted for about one quarter of the labor force and over 60% of the urban labor force (ILO, 2009)

In Ethiopia, the informal sector is emerging as an employer of the last resort holding 36.5% of the total urban economically active population. The activity undertaken by the sector ranges from street vending to small manufacturing entities. According to CSA, around 1,673,473 of the urban population engaged in the informal sector, 91,096 are found in Tigray region and out of this 22,774 are residing in Mekelle city. This account for around 25% of the total participating in the sector at regional level. Survey indicate that, many members of the informal sector are engaged in the sector due to its ease of entry, family ownership, and the labor-intensive nature of method of production or a wider demand for the cheap and basic products of the sector. Ownership structure of the sector indicates that most of them exist in the form of sole proprietorship. For instance, in Mekelle 99.46% of them exist as sole proprietorships and are dominated by family and relative establishments (CSA, 2011).

In most developing countries, credit is the pivot, which the development of any sector rests on. Now, Ethiopia strives to grow and to become under the category of countries, which have Middle-income societies. Therefore, to achieve such a strategy the financial sector especially Microfinance institutions play an important role by helping the informal sector who has no access to other financial institutions to be self-employed. The informal sector cannot operate effectively at this task without the support of other key players, like support from government, NGO's, banks and microfinance (Akintoye, 2008). Therefore, microfinance is one of the key elements for the development of the informal sector.

Lack of collateral and the smaller size of the loan demanded by the sector have resulted in a lesser interest on formal financial intermediaries, such as banks, to consider it as a potential customer. The higher interest rate charged by some informal moneylenders made the financial problem more unreachable. MFIs were aimed to bridge this gap as their primary objective through MFIs, the poor, especially the informal sector, have been proved bankable (Ghatak, 2002).

Wide scale micro financing begun in 1990, following the credit agreement signed among the Ethiopian

government and the IDA. The credit program was an urban micro financing scheme that aimed at financing the Market Towns Development Project (MTDP), whose actual operation begun in 1994 (Mengistu, 2002). Since NGOs, government departments, co-operatives and others are carrying out micro-credit delivery, saving mobilization in Ethiopia is a fragmented, and in contradictory way, the Government took the initiative to establish a regulatory framework in order to facilitate sound development of the micro finance industry. Accordingly proclamation No. 40/1996 was enacted to provide for the licensing and supervision of the business of micro financing by empowering the NBE to license and supervise them (MFDR, 2000).

Twenty-nine MFIs has been licensed by the NBE and started delivering micro finance services since the issuance of this proclamation. These MFIs aim at poverty alleviation through targeting specific groups (reaching the poor) and group based lending. In a short period the MFIs have managed to reach a sizable portion of the rural and urban poor, and in so doing have gained significant experience (MFDR, 2000). One of the MFI so established is Dedit Credit and saving institution (DECSI) which is operating in the tigray Regional State of Ethiopia. It was originally established as Deditifilm by TDA in 1993 to deliver credit and mobilize savings in rural tigray. Soon it was transformed into DECSI and was registered in 1997 as per proclamation No 40/1996.

The general objective of DECSI is to alleviate poverty and promote economic development through provision of credit and saving services. The specific objectives of DECSI include - achieving household level food security in Tigray, increasing household income, and improving the overall economic and social conditions of rural households.

Regarding the program norms, DECSI average loan size for the first loan is Birr 5000. A client obtains the next higher loan after the successful repayment of the first loan. Loan terms of DECSI are established at different levels for different activities with a maximum loan period of one year. To ensure the viability and sustainability of its operations DECSI charges ranging from 9% up to 18% per annum on its loan amount and interest will be paid on declining balance. On the other hand, DECSI pays 5% interest on the amount saved by its clients. DECSI is currently operational in 143 districts including in Gondar and Addis Ababa employed more than 2500 people (MFDR, 2000). DECSI is confined in areas where the majority of small-scale poor farmers live. According to a report in MFDR (2000), the organization has disbursed a loan amount of Birr 1,844,830,000 to about 430,000 clients as of Nov. 2011. The amount of savings mobilized has reached Birr 976.53 million during the same period.

Default rates i.e. the amount of loans not collected on current and past due loans for the reference period, for loans taken from credit institutions vary from country to country, region to region, sector to sector. However, all credits of developing countries were found to share one common characteristic; all suffer from a considerable amount of default rate (Kashuliza, 1993).

According to Michael (2006), MFIs in Ethiopia are experiencing default problems as can be observed in their declining repayment rates. Similarly, microfinance credits found in the city of Mekelle that are striving to meet the financial need of the lower class of the society, primarily composed of the informal sector, are recently suffering from considerable amount of default/delinquency rate.

However, there is no any systematic study that has been conducted so far on microfinance repayment problems in the informal sector found in Mekelle city. It is for this reason that this study is aimed at find out whether default is random and influenced by erratic behaviors or if it is influenced by certain factors in a specific situation needs an empirical investigation so that the findings can be used by micro financing institutions to be sensitive on the loan repayment for the sustainability of the programmes as of its impact on alleviating poverty and creating employment in the urban area of the providing institutions. These states of affairs have necessitated the launching of this research to analyze the factors behind loan repayment performance by the informal sector.

## **2. Review of literature**

### **2.1.1 The nature of informal sector**

The concept of “informal sector” since its invention in the 1970s has attracted much attention, discussion and disagreement. There are currently two approaches to defining informal sector activities: the definitional and behavioral (Akintoye, 2008).

### **2.1.2 Conceptual definition of the informal sector**

One of the international definitions of the Informal Sector based on the 15th ICLS is “Units engaged in the production of goods and services with the primary objective of generating employment and income to the persons engaged”. The characteristics of production unit are “typically work at a low level of organization; with little or no division between labor and capital as factors of production and on a small scale; labor relations – when they exist – are based mostly on casual employment, relationship or personal/social relations rather than contractual arrangements with formal guarantees”. In addition, it should fulfill the following criteria’s;

- i. at least one member of the household must be engaged in productive activity.
- ii. Employment position of the owner of the activity must be either an employer or a self-operated activity,
- iii. The business/activity shall not be a corporate type of enterprise,
- iv. The business/activity should not keep a complete book of accounts,
- v. number of persons engaged (if any) including the operator must be less than 10.

vi. The business/activity should not be registered by any legal authority, which gives licenses. Nevertheless, some countries because of their socioeconomic differences affect the conceptual and national definitions given by the international organizations. Accordingly, the Central Statistical Authority of Ethiopia (CSA) has given a conceptual and national definition for the term.

### **2.1.3 Operational definition of the informal sector**

For the purposes of this study, the following definition was adopted, looking at the enterprise side, there are also a number of defining features, which characterize these businesses in Africa urban informal sector Becker (2004). Is summarized as follows:

- There are low set up costs and entry necessities.
- The operation is typically on a small scale with only a few workers up to 4.
- Skills required for the business activities are usually gained outside education.
- The production of goods and services is labor intensive.
- Those who have no collateral.
- Operations that are largely outside the reach of government regulatory controlling mechanism.

## **3. Data source and research methodology**

### **3.1 Research design**

The research design that the researchers were use for this research is Cross-sectional design, which entails the collection of data on more than one case and at a single point in time. Purpose of the research is explanatory and the researcher will collect the data by distributing questionnaires. The researcher also use ex post variables. Research environment will be field and qualitative and quantitative were depth of research.

### **3.2 Data type and sources**

Most of the data for the study will be quantitative but qualitative also part of it. Members of the informal sector found in the city of Mekelle were the final unit of analysis for the study. To address the aforementioned objectives, one branch Mekelle Dehub, of MFI operating in the city of Mekelle was selected. This branch was chosen based on its magnitude of outreach and size of outstanding loans extended. This selected branch cover more than 50% of the total informal Micro finance credit outstanding in the city of Mekelle. In the course of the research, both primary and secondary data were gathered. Primary data were collecting through questionnaires directly from the informal sector member borrowers and in formal interview were held with loan officers of the microfinance.

### **3.3 Data collection instruments**

For the purpose of data collection self-administrated structured questionnaire were develop and distribute to the respondents. The questionnaire try to present data concerning the demography of the respondents, history of loan, information on income and experience from the borrowers etc. pilot survey on 6 borrowers will be conducted in order to check quality and completeness of the questionnaire.

### **3.4 Sample design and sample size**

Based on the loan list survey there are totally around 7906 outstanding clients from this institution out of this 3862 clients are informal in Mekelle dehub branch. 511 clients are failing to repay on time in the branch's.

### **3.5 Model specification data analysis techniques**

Probit model will be used in this research. The model is selected to extract the factors that influence the loan repayment performance of the informal sector borrowers. The data collected from the questionnaire also edited and coded to make them ready for analysis using probit software routine.

## **4. Data Analysis and Discussions**

### **4.1.1 Loan repayment and computation by sex of the borrowers**

Female borrowers are expected to properly utilize the loan and in most cases, women are financially conservative and try to hold money for family security. As summarized in table 4.1 below of the total respondents only 56(39%) of the total sample are male, the rest 87(61%) are female. Out of the total respondents 118 (82.5%) have settled their loans in full while the remaining 25(17.5%) failed to repay their loans in full. Of those who settled their loan in full, 39(33%) are male whereas,79(67%) are femaleon the other side, of those failed borrowers 17(68%) are male while 8(32%) are female.

Table 4.1 Loan repayment by sex

Loan paid	Male		Female	
	Frequency	%	Frequency	%
Yes	39	69.6	79	90.8
No	17	32.4	8	9.2
Total	56	100	87	100

chi2(0) = 0.00\*\*\*

Note: \*\*\* Significant at 10% probability level

Source: Researchers Survey data, 2012

#### 4.1.2. Determinants of loan repayment performance

The outcome of the econometric model showed that all variables, except business experience of the respondent, supervisory visit, availability of other sources of credit and income from other activities have significant effect on the probability of loan repayment decision. Business experience of the respondent, supervisory visit, availability of other sources of credit and income from other activities are turned out to be insignificant at less or equal to 10 percent probability levels. In the marginal effect output  $y = \Pr(y_1) (\text{predict}) = 0.5225031$  indicates that about 52.25 percent of the average respondent has the chance to repay the loan.

Table 4.12 Estimates of Maximum-Likelihood probit model of loan Repayment

Probit regression

Number of observation = 143

Wald chi2 (10) = 61.94

Prob> chi2 = 0.0000

Log pseudolikelihood = -72.223191

Pseudo R2 = 0.3001

repper	Coef	Std. Err	z	P>z
sex	-.6019257	.2627226	-2.29	0.022**
age	.4167193	.2354646	1.77	0.077***
educ	.1863984	.1108744	1.68	0.093***
hhisz	-.2542426	.1381095	-1.84	0.066***
aosc	.0813934	.2476553	0.33	0.742
srp	1.694527	.2557746	6.63	0.000 *
busexpr	.0164528	.087137	0.19	0.850
spv	.3163299	.2548424	1.24	0.215
inca	.2467485	.2605032	0.95	0.344
incom	.1878606	.104271	1.80	0.072***

\* Significance at 1% \*\* Significance at 5% \*\*\* Significance at 10%

Out of the total 10 explanatory variables, six variables were found to be significantly creating variation on the performance of loan repayment. The households' age, educational level of household, suitability of repayment period and income from activities financed by the loan all enhance the probability of repaying of loan while household size and gender of the respondents have negative coefficients which reveals the negative effect on the probability of loan repayment. A negative coefficient indicates that the variable is associated with a lower probability of being in the good credit risk category than that of the default category. On the other hand, a positive coefficient shows that the variable is associated with a higher probability of being in the good credit risk category than that of being in the default category.

The coefficients of business experience, supervisory visit, availability of other sources of credit and income from other activities were not statistically significant at all, 1%, 5% and 10% significance levels implying that they were less important in affecting the probability of loan repayment.

#### 4.1.2 Marginal effect of borrowers and loan characteristics to loan Repayment

If we are using probit model, the coefficient shows us only the direction of changes but not the real effect of the explanatory variables on the bases of explained variables. To see the real effect of the independent variables on the dependent variables, we should see the marginal effect. By using such effect table 4.13 summarize the marginal effect of each independent variables on the dependent variable, that is on loan repayment performance in our case.

From the table below we can see, keeping other variables constant, a marginal change in age of the respondent from the average of 2.27 to 3.27 years is associated with a 16.60% increase in loan repayment. The marginal effect of the variable also shows that a marginal change in borrowers' education from the average of 2 years is associated with a 7.42% increase in loan repayment, other variables held constant at their average.

On the other hand, business experience of the borrowers (Bus exp) on repayment is not significantly different from zero. However, sex (SEX) and number of dependents in the house hold (hhsiz) reduces the probability of repayment by 23.6% and 10.7% respectively.

On contrary, availability of other source of credit, net income found from other activities and net income gathered from the activities financed by the loan increases the probability of loan repayment by 3.2%, 9.7% and 7.48% respectively. Whereas supervisory visit by the loan officers increases the probability of loan repayment by 12.5%.

Marginal effects after probit

$y = \text{Pr}(\text{repper})$  (predict)

= .5225031

Variable	dy/dx	Std. Err.	z	P>z
sex*	-.2363109	.10014	-2.36	0.018**
Age	.1659824	.09385	1.77	0.077***
Educ	.0742439	.04415	1.68	0.093***
hhisz	-.1012667	.05501	-1.84	0.066***
aosc*	.0324061	.09852	0.33	0.742
srp*	.6022413	.07119	8.46	0.000 *
busexpr	.0065533	.03471	0.19	0.850
spv*	.1256006	.10041	1.25	0.211
inca*	.0977763	.10241	0.95	0.340
incom	.0748263	.04155	1.80	0.072 ***

Table 4.13

(\*) dy/dx is for discrete change of dummy variable from 0 to 1

\* Significance at 1% \*\* Significance at 5% \*\*\* Significance at 10%

On the other hand, as summarized in the table above, age of borrowers (AGE) and suitability of repayment period (SRP) strongly increases the probability of repayment by 16.59% and 60.2% respectively.

In summary, sex (taking male as a reference) and number of dependent in the household (hhsiz) are significant factors that undermine repayment performance, while age, education, srp, spv, inca and income are important and significant factors that enhance the probability of repayment. In addition to this result table 4.14 below also summarizes the results of the hypothesis and the expected and probed signs of each explanatory variables.

Table 4.14 Probit results on the Hypothesis, and expected and probed signs.

S. No	Hypothesized Relationship	P>Z	Results of the analysis	Expected sign	Probed sign
1	Sex Vs loan repayment	(0.022**)	Accepted	-	-
2	Age Vsloan repayment	(0.077***)	Accepted	+	+
3	Educational status Vs loan repayment	(0.093***)	Accepted	+	+
4	Number of dependents Vs loan repayment	(0.066***)	Accepted	-	-
5	Availability of other source of credit Vs loan repayment	(0.066***)	Accepted	-	+
6	Suitability of repayment period Vs loan repayment	( 0.000*)	Accepted	+	+
7	Business experience Vsloan repayment	(0.850)	Rejected	+	+
8	Supervisory visit Vs loan repayment	( 0.215)	Rejected	+	+
9	Income from other sources Vs loan repayment	(0.344)	Rejected	-	+
10	Income from activities financed by the loanVs loan repayment	(0.072***)	Accepted	+	+

\* Significance at 1% \*\* Significance at 5% \*\*\* Significance at 10%

#### 4. Conclusion

Here, both descriptive statistics and econometric analysis were carried out to accomplish the above-mentioned tasks. The descriptive statistics show that out of the total respondents 86.8% have settled their loans in full while the remaining 13.2% failed to repay. The numbers of female borrowers are more than their male counter parts i.e 60% of the total borrowers and they are better repaying performance i.e 90%. Above 62.67% of the respondents reported that the repayment period is suitable. This belief is likely to have a positive impact on loan repayment. All of the respondents believe that loan from such lending institutions is something to be repaid back. Similarly, Regarding group formation and peer pressure issues, almost all of them reported that they know each other, monitor each other's actions and impose sanctions on members that default. This contributes more on loan repayment.

On the other hand, number of peoples in the household negatively affects the loan repayment performance of

the borrowers. However, supervision by the loan officers has highly positive impact on loan repayment because from the total borrowers who are reported supervised most of them i.e 86.1% have settled their loan in full.

Borrowers who have higher income whether income from other activities i.e not financed by the loan or income from activities financed by the loan are enable the borrower to repay his/her loan on time. Another important point that emerged from the study is that training is not equally given to all credit groups in the sample (i.e., only provided to 79.3%) on the emphases of bookkeeping, saving and marketing. However, almost all of the sample respondents have claim that, the training was not sufficient. The findings in respect of educational background serve as an unbiased base of evaluating borrowers. It can be concluded from the result that, as educational level increases riskiness of the borrower decreases. Especially borrowers with college or university degree are most likely to become good credit risk borrowers. One possible reason that could be given for better repayment performance by this group of borrowers is the comparative advantage they have in their business opening and operation by applying their technical expertise from their formal education. Moreover, age, credit access and experience of the borrowers are likely to have positive impact on repayment rate.

The econometric analysis presented in chapter 4 also reveals that, sex, age, educational status, suitability of repayment period, number of dependents supported by borrower, and income from the loan activities financed by DECSI are significant variables of the probability of loan repayment performance. Regarding direction of influence, except sex and number of dependents supported by borrower all significant variables have positive impact (sign) on the probability of repayment performance. All of these factors except sex (i.e., taking male as a reference) number of dependents supported by borrower increase the probability of loan repayment while being male and increasing the number of persons in the shoulder of the borrower reduce the loan repayment performance.

Generally, of all variables suitability of repayment period is highly influence for loan repayment performance positively, followed by income financed by the loan, age of borrowers and educational status respectively. Whereas sex (taking male as a reference) highly affects repayment performance negatively followed by number of dependents in the household. similar results were obtained regarding educational status in Teferi (2002), Abraham (2002) and Jemal (2004). However, education is inconsistent with Adeyemo, R.et al (2007). Income financed by the loan also has consistent with Fantahun (2000) and Abebe (2011).

Gender of borrowers has same finding with that of Adeyemo, R.et al (2007) but inconsistent finding with blessing, C.O & Ifeanyi A.O (2011). Numbers of dependents also have consistent and same sign (negative) with that of blessing, C.O & Ifeanyi A.O (2011). However, inconsistent with the finding of Adeyemo, R.et al (2007) and Abebe (2011). According to their justification to positive sign of household size is that each additional labor force increases the probability of being non-default.

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