



WOLKITE UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

**DETERMINANTS OF LOAN REPAYMENT PERFORMANCE IN
MICRO FINANCE INSTITUTION (CASE STUDY OROMIA CREDIT
AND SAVING SHARE COMPANY, KUYU DISTRICT)**

**RESEARCH SUBMITTED TO COLLEGE OF BUSINESS AND
ECONOMICS DEPARTEMENT OF ECONOMICS FOR THE
PARTIAL FULFILLEMENT OF BACHELOR OF ART IN
ECONOMICS**

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Declaration

I, Bedasa, declare that this Research entitled: “*Determinant of Loan Repayment Performance in Micro finance Institution*” is outcome of my own effort and study and that all sources of materials used for the study have been appropriately acknowledged.

To the best of my knowledge, this study has not been submitted for any degree in this University or any other University. It is offered for the partial fulfillment of the Bachelor degree in economics.

By; Bedasa Taddessa

Signature-----

Date-----

Advisor's Approval Sheet

This is to certify that the Research entitled “*Determinants of Loan Repayment Performance in Micro Finance Institution*” submitted in partial fulfillment of the requirements for the Bachelor degree in Economics, of the Department of Economics, and has been carried out by Id. No 098/09, under my/our supervision. To the best of my knowledge, is an original work and not submitted earlier for any degree either at this University or any other University.

Therefore I recommend that the student has fulfilled the requirements and hence here by can submit the Research to the department.

Advisor: Tesfaye Etensa (Ass.Prof.)

Signature: _____

Date: June 18, 2019

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Acronyms and Abbreviation

ADCSI.....	Addis Credit and Saving Institution
CDF.....	Cumulative Distribution function
CGAP.....	Consultative Group to Assist the Poorest
DBE.....	Developmental Bank of Ethiopia
FAO.....	Food and Agriculture Organization
GE	Government Employees
KDARDO	Kuyu District Agricultural and Rural Development Office
LRP.....	Loan Repayment Performance
MFDR	Micro Finance Development Report
MFI	Micro Financing Institution
MSE.....	Micro and Small Enterprise
NBE	National Bank of Ethiopia
NGO.....	Non- Governmental Organization
OCSSCO.....	Oromia Credit and Saving Share Company
OLS	Ordinary Least Square
POCSSBO.....	Project office for the creation for Small Scale business Opportunity
SPSS.....	Statistical Package for Social Science

Abstract

Delivering credit services targeting low income people is a crucial agenda but problem plagued undertaking. The main concern is the loan default problem which has a significant effect on the success of credit program both in rural and urban areas. Thus, the main aim of this study was identifying the determinants of LRP in MFIs with particular reference to OCSSCO Kuyu branch. A total of 105 respondents were included in the survey and the main data for the study was collected through structured questionnaire administered by trained enumerators. In addition, secondary data was collected from the branch office records. Probit model was employed to analyze the determinants of loan repayment performance of the branch borrowers. STATA12.0 software was used to analyze data and t-test and chi-squared test was employed to compare non-defaulters and defaulters with respect to significant explanatory variables. A total of nine explanatory variables were included in the model's equation. The result of probit regression confirmed that six of them; sex of the borrowers, income from activities financed by the loan, family size, loan diversion rate, suitability of repayment period and grace period were significantly affect LRP. Hence, taking these factors in to account is vital since it provides information enabling to take effective measures aiming at improving LRP in the study area. Equivalently, it would also help the institution and policy makers by providing information on how to exercise their capacity to reduce loan default.

Key Words: *Micro Finance, Loan Repayment Performance, Non-defaulter, Defaulter,, Probit, Kuyu*

CHAPTER ONE

INTRODUCTION

1.1 Back ground of the Study

The bench mark model for many micro credit programs in the world is the Grameen Bank in Bangladesh that was established in 1983 by Mohammad Yunus (Hossain, 1988, Yunus, 1999). Micro Finance has evolved as an economic development approach intended to benefit low income groups by providing financial services like credit, saving, insurance and fund transfer to such clients including the self- employed (Lidgerwood, 2000). Micro credit institutions (MFIs) are institutions that provide small loans to low income people either individually or as a group.

MF has recognized as an essential socio-economic and financial mechanism for poverty alleviation, promoting entrepreneurial development, and increasing the profit of disadvantaged people in numerous country throughout the world (Hossain, et al, 2012). Alleviation of poverty and promotion of economic growth can therefore be achieved through provision of credit to the poor. The formal financial institutions have been largely excluding the majority of both rural and urban poor there by forcing them to turn to informal sectors (Jamal, 2003). According to the paper compiled by Ministry of Trade and Industry (cited in Berhanu,1997) the number of people earning their living hood from the informal sector activities and small scale manufacturing industries is eight times larger than those engaged in medium and large scale industries(2003).

Although some NGOs have been providing credit to poor households in some parts of Ethiopia since 1970s, wide scale micro finance began in 1990s with credit scheme that target the urban (MFDR, 2001, Mengistu, 1997). Micro Finance Institutions (MFIs) targets to the poor because these people usually lack collateral, no steady employment and verifiable credit history, which therefore, cannot even meet the minimal qualification to gain access to normal banking.

Besides, it can avoid poor people lend with illegal banking such as money lenders or loan shark that charge unreasonable interest rate (Newai and Mohd, 2013). MFIs were established to fill the gap in the financial service sector by providing loan to poor and low income group to enhance their economic activities (Jemal, 2003).

As these credit services are carried by various organizations in a fragmented and inconsistent ways there was a need for government to put in place a strategy for conducting and regulating their activities. For this, the government instituted a legal and policy frame work for MFIs in 1996 through proclamation 40/1996 (Gebrehiwot, 2002). As the result a number of MFIs were established and start operation in many parts of the country and within short period after establishment, achieve remarkable performance (Getachew, 2016).

It is important, however, that this borrowed loan be invested for productive purpose and generate additional income to be repaid to the lending institutions. But, increase in default rate is one of the major problems of lending institutions (Singh et al, 1985). According to Bekele (2001) in Ethiopia loan repayment (LR) was not a serious problem priori to 1990 and become a serious issue after 1990. For instance, it has been reported that loan recovery ratio in Ethiopia declined from 50%in 1990 to 37% in 1991 and further dropped to 15% in 1992 (Amare, 2005).

The process of issuing loan by FIs goes hand-in-hand with risks such as LR risk (Santomero, 1997). In order for the FIs to reduce risks they should establish appropriate and effective loan repayment environment (Robert, 2014).MFIs will try to reach a first best level of on time repayment rate i.e. 100%. If borrowers failure to repay loan the FI are unable to provide loans to new applicants (Chijoria, 1997). High loan repayment rate performance is an important positive signal when MFIs have to raise new funds. Thus it benefits both the institution and the borrowers. Understanding what the MFIs should do to meet these objectives relay on factors influencing credit repayment (Robert, 2014).

MFIs are quite dependent on the loan repayment to get funds for further, loan therefore; they must take great precautions to insure that clients will repay the loan according to the agreement and the schedule. Factors affecting loan repayment performance can be divided in to four main categories, namely individuals /borrowers factors, firms factors,

loan factor and institutional/lenders factors. The implication of all the above is quite detrimental and should be avoided at any cost. This can be done through designing an efficient lending strategy.

It has been recognized that some of the OCSSCOs branches were weak in credit collection and making follow up on loan repayment upon the schedule, especially those in rural areas, thus resulting in loan delinquency which affect future profitability and sustainability of the institution. Hence the aim of this study is to analyze the determinants of loan repayment performance of OCSSCO's borrowers with particular reference to borrowers in kuyu district of Oromia. It also necessitates the need for making an empirical investigation on the factors behind the default problems so that the lending units in OCSSCO could make an appropriate precaution in its lending decision.

1.2. Statement of the problem

Majority of the world poor live in developing countries. In most of the cases they are unable to earn sufficient income to lead their livelihood and hence felt under poverty. But in different ways it is possible to overcome the problems associated with poverty out of which arranging credit scheme targeting the poor is one. A number of scholars suggest their opinion that making credit available for the poor contributes to poverty alleviation. Gibons(1992) argue that the best way to do some thing to overcome poverty is is to motivate the stockholders do some thing on their own because no body have more interest to overcome the situation than the concerned body themselves.

It is generally known that the poor are excluded from credit facilities of the formal financial institutions such as banks for many reasons. These includes insufficient collateral to support their loan, high transaction cost, unstable income, lower literacy and high monitoring cost. Micro Finance Institutions therefore is established to fill this gap by providing loans to poor and low income groups. This helps them to alleviate poverty and enhance their business activities (Mohn Noor Mohd Sharaiff,2016.)

OCSSCO is one of such institutions operating in Oromia Regional State. OCSSCO's branch in the study area, kuyu district of the region is helping the low income groups by providing financial services. But for such institutions to be successful in doing so, they should be sustainable financially and institutionally. The sustainability of these institutions depends highly on loan repayment capacity of the beneficiaries.

Hunte as cited in Jemal, (2003) argue the default problems destroy lending capacity since as the flow of repayment decline it makes to seek government subsidy in sever case for recovery. It is clear that credit scheme targating the poor faces heave loss due to repayment problems.Hence it is advisable to identify factors which determine loan repayment performance in Micro Minance Institution(OCSSCO in this case).

Having this importance, few studies have been conducted on operation of OCSSCO in Oromia Regional State in general and the study area in particular, example study conducted by Jemal (2003). More over the previous studies focused only on rural and urban poor only. But OCSSCO is currently serving Government Employees (GE)in addition to the previous target groups which calls for another study using different method from the previous work. In addition, this study was conducted priori to 2003 and now a days the economy of the country is expanding significantly and this may improve households income which enhance their loan repayment performance. On the other hand the previous work did not includes some key variables that determine loan repayment performance,such as Grace Period and other variables.

In view of previous researchers weakness, the following questions can be raised and answered through the course of this study.What are the factors that can determine loan repayment?, how they influence loan repayment?,what are the benefit obtained from such institutions by the targate groups? In what way the result of the study helps policy makers? etc. In this regared, this study would be conducted to identify the determinants of loan repayment in OCSSCO borrowers of Kuyu district which have significant contribution to the literature for further studies by filling partially the gap in the area.

1.3 Objectives of the Study

1.3.1 General objective

The general objective of this study is to analayze the determinants of loan repayment performance of OCSSCO's borrowers in Kuyu branch.

1.3.2 Specific objective

The study pursued the following specific objectives:-

- ✎ To identify the effect of determinants of loan repayment on loan repayment performance
- ✎ To identify the effect of the credit scheme on the beneficiaries in the study area in terms of reducing poverty
- ✎ To identify the major factors that affect loan repayment performance of borrowers disbursed by OCSSCO in Kuyu district

1.4 Research Questions

This researcher is going to tackle the problem by addressing the following questions

1. What are the major factors that determine loan repayment performance?
2. How these factors determine the loan repayment performance?
3. What is the contribution of the scheme to the living standards of the borrowers?

1.5 Significance of the study

Loans disbursed for the purpose of supplementing capital of low income people should be used effectively and finally repaid to the lending institutions in order to get viable and sustainable credit scheme periodically. Better loan repayment in MFIs plays significant role in sustainability of the institutions. It makes them to have good potential and engage in providing further loans to the poor so that they can generate employment and income for themselves. But for these institutions to be able to render the service on a permanent base, they should be viable and profitable. Contrary to this fact, it has been proved in various studies that loan default is the central problem of most financial institutions. Nonetheless, little has been done handling this problem.

This study therefore is help to identify the factors that determine loan repayment in MFIs (OCSSCO, in Kuyu district) and this enable it to properly serve the beneficiaries of the district. The study output will also help OCSSCO to evaluate its screening criteria and revise it accordingly in favor of credit worthy borrowers not to be excluded wrongly and to alleviate loan repayment constraints at district and regional levels. It also examines the impact of the program on the borrowers of the institution.

1.6 Scope and Limitations of the Study

OCSSCO as a lending Micro Finance Institution operates in different zonal and district level of Oromia Regional State. Since conducting such research in all this area is too difficult the study was delimited to cover Kuyu district to investigate the determinants of loan repayment performance. Moreover, not all kebeles in which OCSSCO disbursed loan was included due to time, budget and other resource limitations. In addition, the sampled respondents might have given incorrect information and this might leads to wrong conclusions.

1.7 Organization of the Study

The research paper was organized in five chapters. Chapter one begins with introduction containing the following; background of the study, statement of the problem, objectives, research question, scope and limitation of the study, significance of the study and organization of the study.

Chapter two is about review of related literature in general, chapter three is about research methodology, chapter four deals with result and discussion and the fifth chapter presented the summary, conclusion, recommendation and policy implication on the basis of empirical findings.

CHAPTER TWO

2. REVIEW OF RELATED LITRETURE

2.1 Theoretical Literature Review

2.1.1 Operational Definition of key terms

1. **Borrower:** a loan beneficiary who willingly makes agreement with the lending institution with intention of accessing credit.
2. **Credit:** The term loan and credit are used interchangeably. This study adopts the credit definition of Aryetey (1995) who defined credit as arrangement in which a lender gives money to a borrower and the borrower agrees to repay the money, usually along with interest, at some future point in time.
3. **Credit default:** Adopted from Abel and Eberly (2004) who defined it as a failure of the borrower to repay loan in accordance with the term of the lender.
4. **Defaulter:** a borrower who fails to repay the loan as per the agreement.
5. **Formal Financial Institution:** are financial institutions that are legally registered and are under direct control of national bank (Steel, 1998).
6. **Grace period:** time period for which borrowers are not required to pay any portion of loan they received.
7. **Informal Financial Sectors:** are financial institutions that are legally registered but not under direct control of national bank (Steel, 1998).
8. **Loan:** amount of money disbursed (borrowed) that must be paid back within specified time period.
9. **Micro Finance** is the provision of financial services to low income clients, including consumers and self-employed who traditionally lack access to bank and related services (Gonzalez-Vega, 2008)

2.1.2 General Overview of Micro Finance

In 1864, the concept of credit union was developed by Friedrich Wilhelm Raiffeisen in German to assist the rural population break out of their dependency on local money lenders, Nawai and Mohd (2013). Informal finance and self-help has been the origin of

micro finance in Europe. The concept of micro finance has been expiated in early 1970s initiated by Jonathan Swift in Ireland. The organization provides small loan to rural poor with no collateral which is known as Irish Fund System. The principal purpose was making small loans with interest for short period (CGAP, 2006).

The bench mark model for many micro credit programs in the world is the Grameen Bank in Bangladish which was established in 1983 by Mohammad Yunus, a professor at Chittagong University (Hossain, 1983, Yunus, 1999). The operation is currently becomes synonym with micro finance (Sarah, 2011).

Micro Finance is the second revolution in credit theory and policy preceded by micro credit (Woller and Parson, 2000). Now a day, there is a strong development towards commercialization and transformation of MF in to formal financial institutions which form the incentives of profitability and sustainability of MFIs. Hence, the year 2005 was declared as the “year of MF” and attracts even more private investors towards investing in MF activities (Sundaresan, 2008).

2.1.3 The need for MFIs

MFIs are a place for the poor and near poor clients to get access to high quality financial services. According to Ledgerwood(1999) MFIs provide broader range financial services such as saving, credit, insurance and money transfer to low income groups who are excluded from the normal banking sectors.

2.1.4 Economic Rationales of Credit Use

As a number of researchers (Gonzalez-Vega, 1977, Adams and Grahams, 1981, FAO, 1996) reported, the requirement of credit facilities to small holders of LDCs is for production and consumption smoothing. Governments of LDCs and Aid agencies have spent a large amount of money for such scheme.

Kumer et.al (1978) from India also indicated that the need for credit arises for rural development, because so long as sufficient credit is not provided for weaker section of the society. The study by Wolday (2003) also showed that farmers who had access to credit were more likely to improved seeds than those who had no access to credit. Credit helps to raise productivity, improve standards of living and attain food self-sufficiency of low income groups.

2.1.5 Informal Financial Sector in Ethiopia

The informal financial institution in Ethiopia includes Iqub (rotating saving scheme) and Iddir (traditional insurance scheme), arata- abedari (usures) etc. This sector is neither regulated nor counted for in the country's financial intermediation process. The sector however provides by far the greatest financial services to low income people (Anbes, 2003). Informal financial sectors are by far the most important sources of loanable funds both for rural and urban poor and operate in areas where formal financial sector fails to provide financial services (Gebrehiwot, 2002).

The operation of informal sector derives their rules and regulations from country's culture and customs. The common culture background, mutual obligation and fervent bond of family and kinship, all operate to promote the trust, accountability, and moral responsibility that is lacking in the formal financial system (Amare, 2005). In addition, the informal lenders have easy access to information (at reasonable cost) about their borrowers with whom they have social relations. This permits credit contract to play a more direct role in enforcing repayment (G/Yonnes, 2000).

Nevertheless, the informal sector is not without limitations. Despite its flexibility, rapidity and transparency of producers not only are the securities of their fund for investment, but also the interest rate charged on these loans is often exorbitant. The informal financial sector often embraces a wide group of individuals and institutions whose financial transactions are generally not subject to direct control of the country's monetary policy (ibid).

2.1.6 Formal Financial Institution

As it was cited in Belay (2003) formal financial institutions are financial institutions that are under the direct control of the country's monetary policy. The formal financial institutions include banks, insurance company and MFIs. They operate in areas where they perceive low risk and enforcement and transaction costs are least.

2.1.7 Micro Finance in Ethiopia

The development of MFIs in Ethiopia is a recent phenomenon. It was introduced in Ethiopia post 1991 following the policy of economic liberalization. Before the promulgation of proclamation number 40/1996 currently serves as basis for legal and regulatory framework for micro financing, all MF operations are by local and

international NGOs were run under the legal provision of proclamation 138/78 which provides the establishment of thrift and credit cooperatives (G/Yonnes, 2000).

The micro financing proclamation was issued in order to provide legal regime of MFIs with in Ethiopia's monetary and fiscal policies. Besides, it was meant to fill the missing gap that monetary and banking laws of the country did not provide for MFIs that cater for the credit requirement of peasants and micro-level business operators (ibid).

Most micro financing scheme in Ethiopia provides loans to organized members who are not required to put up physical collaterals, but operate in group mechanism in which risk of non- repayment are transferred to the group. Essentially, most MF schemes in the country have, with slight modification, adopted the Grameen Bank micro credit scheme (Fantahun, 2000).

Now a day, there are quite a number of MFIs that operate both in regions and capital city providing loans and technical support to poor people and SMEs. Since the issuance of proclamation 40/1996, 21MFIs have been legally registered and licensed until the end of January 2003 (NBE, 2003).

2.1.8 The OCSSCO

OCSSCO is a micro Finance Institution operating in Oromia regional state. It has a mission of poverty alleviation in Oromia through providing financial services to the poor and assists them to make the best use of indigenous resources and knowledge.

OCSSCO is the transformation of Oromia Rural Credit Scheme Development Project. It assumed company status in August 1997. The basis for this transformation was the issuance of proclamation no. 40/96 that provides for licensing and supervision of the business of micro finance in Ethiopia. (www.m.birr.com/service_providers_OCSSCO.html ,assessed on August 7, 2016)

2.1.9 Lending Methodology in MFIs

The methodologies of lending used by MFIs differ with respect to whether loans are made to groups or individuals. Most MFIs offer and provide credit on solidarity-group lending basis without collaterals. The lending methodology selection greatly influences client selection, product design, application and portfolio management. Lending methodology also affects institutional structure and staff requirement such as training and compensations (Ledgerwood, 2013).

2.1.9.1 Group Lending Methodology

Group based lending is one common approach in disbursing small amount of money to large number of borrowers lacking physical collaterals. The number of individuals within the group varies, in most of the cases, 4-8 individuals contained in a group. The group self-selects its members before obtaining loan and the loans are granted to selected members. Group members are jointly accountable for default in repayment. Most MFIs requires percentage of the loan to be saved in advance to foster latter repayment and serves as collateral (Murry&Baros, 2002).

According to the same author, to insure repayment peer pressure and joint liability works very well. In group lending, each members of the group are responsible for the loan of the other in case of default in repayment.

The defaulters group will be disqualified and will not be eligible for further loan and rationed out even if one member becomes defaulter. The credit worthiness of the borrowers is therefore determined by the members rather than by the MFIs.

2.1.9.2 Individual Lending Methodology

Unlike MFIs, there are very few conventional financial institutions which provide individual loans to low income people because, poorer clients are considered higher risk clients due to their lack of collateral, plus labor intensive nature of the credit and lack of profitability of small credits(Murry and Baros,2003).

Individual loan requires greater honest analysis of client and their cash flow, sometimes physical collateral and frequent and close contact with clients during the term of loan. Loan approval and amount are based on applicant's eligibility and debt capacity which in turn depend up personal and business characteristics like age, gender, source and amount of income, business experience, cash flow and available collaterals (Ledgerwood, 2003).

2.1.10 Challenges of MFIs

Micro credit as a means of poverty alleviation faces different challenges that can be observed at different levels, macro, meso and micro levels. Unstable policy and poor macro- economic conditions are the main challenges at macro level. At meso level, inadequacy of institutional capacities such as managerial and financial worthiness, quality of human resource, lack of coordination among MFIs, entrepreneurial skills and issues of stability are the main challenges. At micro level, the problem related to credit worthiness and credit disciplines of the clients are main challenges (Fitsum, 2014).

As stated in Vento (2004) the first most typical challenge faced by MFIs is credit risk. Moreover, the cost of debt collection per loan amount is on average higher than informal intermediation especially in developing country lending.

2.1.11 Loan Repayment performance

The analysis of performance indicator is important for lenders to determine the efficiency, viability and outreach of micro finance programs. Performance indicators collect and restate financial data to provide useful information about the financial performance of MFIs. The sustainability and viability of MFIs is important to make sure that MFIs can continually provide financial services to beneficiaries without depending on donors and governments. Therefore, financial sustainability is a pre-requisite for making MF service as well as widely available (Mohd Noor Mohd Shariff, 2010).

Von Pischke (1980) identified two problems as major causes of poor loan recovery performance: credit project design problems and credit project implementation problems. Credit project design problems includes debt versus equity, realism versus aspiration (how realistic the projection of the project designer is), expected value versus dispersion (detailed consideration of the variety of results which occur in the field book keeping convenience versus borrowers cash flow patterns, collection mechanism, institutional scope or range of service offered and interest rate. Credit project implementation includes low service level, coordination, access (i.e. information problem and lack of decision making experience in lending to the specific target groups) and financial recording (ibid).

Arene (1992) outlines the main factors that determine loan repayment performance as loan size, enterprise size, income, age, number of year of business experience distance between home and source of loan, education, and household size, adoption of innovation and credit needs.

2.1.12 Repayment performance in Group Lending

Since 1970s group lending programs have been promoted in many developing countries. A distinguishing property of group lending is that the group obtains the loan under joint liability; so each member is made responsible for repayment of loan of his/her peers. In group lending, the functions of screening, monitoring and enforcing repayment are to a large extent transferred from MFIs to group members. The financial intermediaries reduce

recurrent transaction costs by replacing a multiple small loans to individuals with large group loans, Zeller (1996).

Zeller,(1996) argue that the probability the most important rationale for group lending is the information and monitoring advantage that group based lending at community level have compared to individuals contract between the lenders and the borrowers. Group members get information like reputation, indebtedness and asset ownership of loan applicants at a lower cost. They can also easily monitor individual effort made towards insuring repayments.

In addition group may also have comparative advantage in enforcement of loan repayment. Group members can potentially employ social sanctions or even seize physical collateral from defaulters (Beley and Coate, 1995). Moreover, group members appears to be in a better position to assess the reason for default and to offer insurance to members who are experiencing shock that are beyond their control, zeller, (1996).

Members also try to identify and select who they trust in forming a group with, that is they want to form a group with those individuals having the capacity to pay loan and those having good history of loan repayment performance.

Despite all the above mentioned benefits, group lending is not without its problems. There are several factors that may undermine the repayment performance in group lending. Since risk of loan defaulter is shared by his/her peers, a member may choose a riskier project compared to that in the case of individual contract and may count on other members to repay the loan.

Reikne (1996) as cited in Jemal in 2003 investigated the factors that result in failure of group based lending mechanism in urban areas and recommended accredit system for better repayment. He concluded high geographical mobility ,low attachment to specific neighborhoods and peer groups consisting of competitors are the factors that destroy solidarityof groups in urban and group lending more applicable to rural society than urban.

2.1.13 Factors Affecting LoanRepayment Performance

The literature on factors influencing loan repayment performance among MFIs is very sparse and limited mainly to micro finance experience in low income countries (Derban et al, 2005). Based on the past literature, the factors affecting repayment performance of

MFI's can be divided into four, namely, borrower's factor, firm's factor, loan's factor and institution's factor (Mohd Noor Mohd Shariff, 2010).

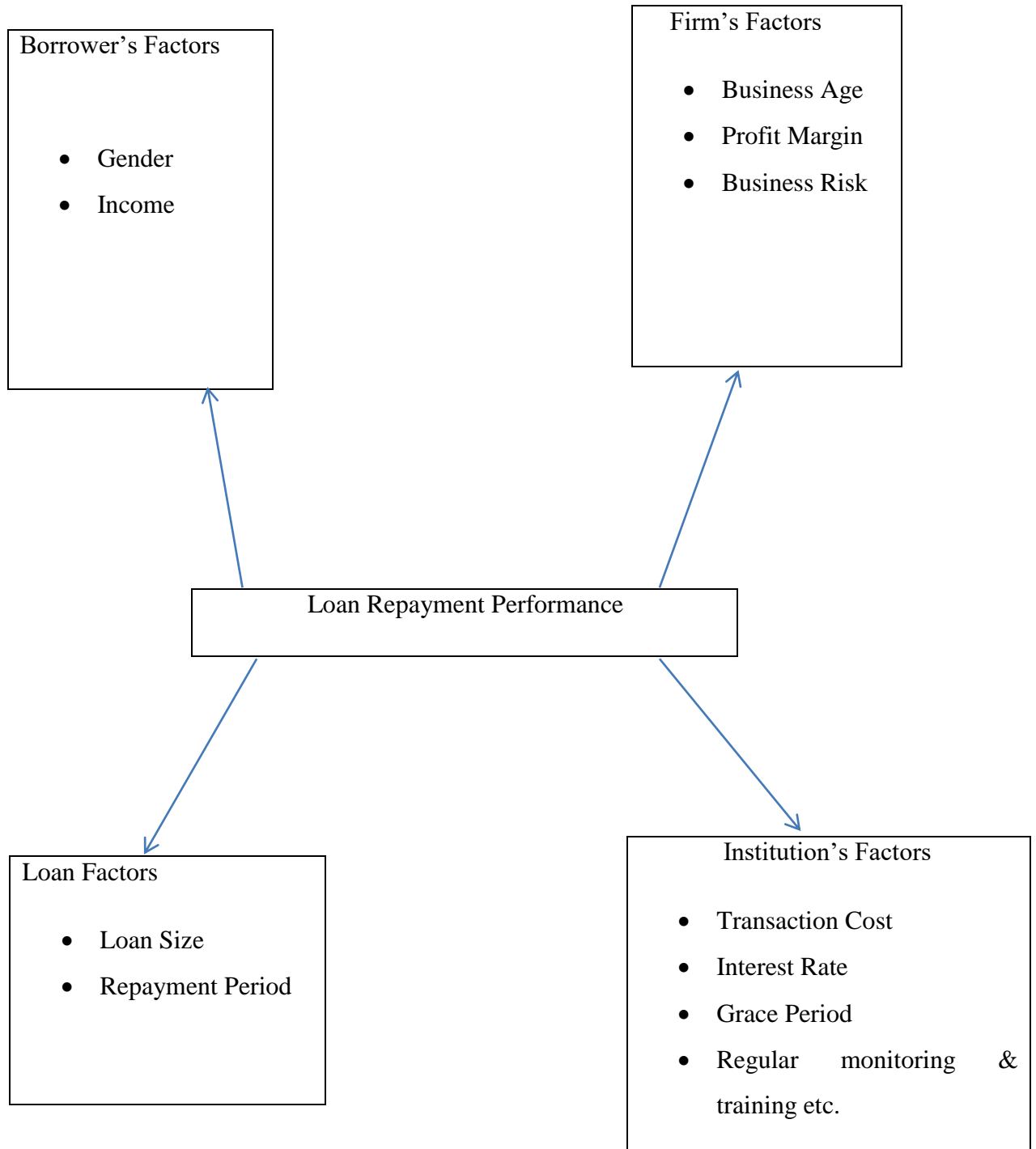


Figure 2.1: Determinants of Loan Repayment Behavior (Source: Author (2019))

2.1.14 Credit Market

Credit market and ordinary market for goods and services differ at least in two ways. The first difference lies in the fact that in ordinary market a number of agents take part in merchandising. The second lays in the fact that handover of purchased items and monetary value payment takes place side by side.

Opposite to this, credit received today promised to be paid in future. Because of frequent broke of promise due to individual difference in keeping it there is no objective way of determining the promise to be kept. This affects future loan repayment (Jaffe and Stieglitz, 1990). Taking such basic difference between standard and credit markets, thinking to apply the supply-demand is not totally appropriate for analyzing the market for promises.

2.2 The Empirical literature review

2.2.1 Studies in Other Countries

Following the discussion on the theoretical literature on MFI we expect that joint liability, especially through peer selection, peer monitoring and peer pressure should be associated with better repayment performance. Group homogeneity and social ties are also expected to increase the repayment performance. Group homogeneity as a result of effective peer selection and as a mean to increase peer monitoring (group homogeneity in terms of interest, economic power... Stieglitz, 1990) should go together with higher repayment rate.

Although studies have been conducted in diferrent develooing countries regarding micro credit performance in in terms of loan repayment and impact we begin by those that focus on loan repayment. Ayayi(1992) employed correlation and multiple regration analysis in his study about factors affecting default in residential mortage of of the Federal Mortgage Bank of Nigeria. His result revealed that cost of construction, monthly repayment, loan to value ratio, market value of property, age of borrower, and annual income of borrower enhance loan default , while expected rental income from property reduce loan default.

Nijoku and Odi (1991) identified determinants of loan repayment under the Social Emergency Loan Scheme in Nigeria .This study indicated late release of loan, red tape in

loan disbursement loan diversion to non- agricultural enterprises, low enterprise return resulting from low adoption rate of improved agricultural technologies and emphasis on political consideration in loan approval contributed to poor loan repayment performance of small holders. Loan volume, years of formal education, household size, and interest rate were found to be negatively and significantly affect loan repayment while year of farming experience, loan period, farm size, farming as major occupation, farm output and value of asset were negatively and significantly affect loan repayment.

Arene (1992) also conduct important study as others did. He evaluated credit delivery system of supervised agricultural credit scheme among small holder maize producing farmers in Nigeria employing multiple regression analysis. The analysis shows that loan size, farm size, income, age, farming experience, level of formal education and adoption of innovation are significantly and positively related to loan repayment rate. Distance between home and source of loan, house hold size and credit needs were found to be negatively related to loan repayment performance.

Kashuliza (1993) used a linear regression model to analyze determinants of loan repayment on small holder agriculture in the southern high lands of Tanzania. His study revealed that education, attitude towards repayment, farm income and off-farm income positively affect loan repayment with farm income being significant while age, household expenditure and household size have negative influence on repayment performance.

Zeller,(1996) use information on 146 credit groups in Madagascar and provides evidence in favor of group lending. He shows indeed that the group generates insurance which leads to a better repayment performance. Other set of variables to be documented in studies on the determinants of repayment rate are the characteristic of the area and the borrowers. Rural electrification, road, primary educational infra-structure and commercial banks density are positively correlated with a low default rate.

We can infer from this that the economic derives of the area positively influence the repayment rate. Questioning the impact of the characteristics of the borrowers, he showed that traditional priors against women, young borrowers, and high family size could not be used as a signal of repayment ability.

Zeller(1996) as cited in Jemal (2003) also analyzed the determinants of loan repayment of credit groups in Madagascar with the purpose of quantifying the effect of inter-group

pooling of risky asset or project by controlling for community level and program design factor that influence the repayment rate of group loan. He employed Tobit model using a data set on group from six different lending schemes.

The result shows that socially cohesive groups pool risks by diversifying the members' asset portfolio so that their repayment performance is improved even in communities with high risk exposure. The result also indicates that it is not the level of physical and human asset of group members but the degree of variance of such asset among members that leads to better repayment by pooling risk among group members.

Hunte (1996) in his study examined repayment behavior of borrowers and the credit rationing techniques of lenders in rural financial institutions. He estimated loan rationing and repayment equation using tobit model and found out only 33% of the criteria used identified credit worthy borrowers implying that the screening techniques used was not efficient enough.

Examining the impact of credit scheme is important to assess the success of the program whether or not it brings the desired benefit to the target group. Currently impact assessment becomes an increasingly important aspect of development activity as agencies and aid donors have sought to ensure that funds are well spent (Hulme, 2000).

Study conducted by Habteab in, (2004) in Eretria examines adverse selection and moral hazard in group based lending. He divided MF lending method in to two; individual and group based lending. According to him, in group lending all members of the group are responsible for loan repayment which means they support the principle of joint liability. Different theories indicated that repayment is related to screening, monitoring and enforcement of group members. He further investigated the difference in monitoring activities of group lenders via other groups members make difference to repayment of the groups.

Joaquin (2014) conduct a study on micro finance loan repayment performance in Bangladesh by employing probit model to estimate the probability of borrower LRP. The result showed that the age of borrowers and loan size have negative impact on LRP. In addition, female borrower coefficient in his study was positive but not significant proving obtaining positive sign did not yield significant better repayment performance.

Mokhtar et al. (1996) as stated in Fitsum (2014) analyzed the determinants of loan repayment problem among TEKUN and YUN borrowers in Bangladesh using logistic regression model. The finding indicated that LRP is higher for female than for male. They stated male borrowers are less responsible and disciplined in repaying their micro credit loan than female.

2.2.2 Studies in Ethiopia

In Ethiopia empirical studies on the analysis of determinants of loan repayment and their impact are insignificant. To rise few of them an econometric estimation was conducted by Mengistu (1977) based on survey data on the determinants of loan repayment performance and efficacy of screening mechanism in urban Ethiopia, taking the case of micro finance enterprise in Hawasa and Bahir Dar towns. The analysis deals with estimation of two different equations, that is for loan repayment and for loan rationing. The estimation result using binomial probit model revealed that for Hawasa the number of person employed and weekly installment repayment period are significantly and positively related to repaying loan in full while loan diversion is significantly and negatively related.

In terms of the probability of falling in either of the group it was found that there was 53% probability of repaying loan in full. In the case of Bahir Dar loan expectation and the number of workers employed had a positive relation with full loan repayment while loan diversion and availability of other sources of credit have negative impact. The predicted probability of full repayment in this case was 78%. He used 352 sample beneficiaries for the case of Hawasa and 409 for Bahir Dar.

Concerning the loan rationing mechanism, for the case of Hawasa, seven out of nine variables were statistically significant. Loan size, supervision visit, weekly repayment period and loan diversion were positively related with loan rationing ratio. In the case of Bahir Dar, loan size, expectation for another loan and availability of other credit sources were positively related with loan rationing ratio while number of workers employed supervision visit and loan diversion had negative impact. The result from the two equations implies that for the case of Hawasa, literate and old borrowers were incorrectly rationed despite being good payers while loan diverters and large loan applicants were not rationed but they were actually non-credit worthy borrowers.

The analysis result from the Project Office for the Creation of Small Scale Business Opportunities (POCSSBO) in Addis Ababa, Berhanu (1999) using probit model found that education, timely loan granting and the use of accounting system are negatively related to loan fund diverted proportion. Though loan size, number of dependents in the household and consumption expenditure is positively related to loan diversion. From his report, it was seen that loan diversion and loan size are negatively related to full loan repayment while age is positively related.

Bekele (2001) hypothesized fifteen variables to explain the LRP of small holders in Amhara and Oromia regional states. His logistic regression model showed that seven of them were significant while the remaining eight were less powerful in explaining the dependent variable.

Abraham (2002) investigated determinants of repayment status of borrowers and criteria of credit rationing taking the case of private borrowers around Ziway area who were financed by DBE using Tobit model. From the estimation result, having other sources of income, work experience before loan and other economic activities different from agriculture are enhancing while loan diversion, being male borrowers and giving extended loan repayment period are undermining factors of loan recovery performance.

Jemal (2003) conducted study on micro finance loan repayment performance of OCSSCO employing probit model. His finding showed that out of twelve variables included in the study, age, income after loan, suitability of loan repayment period, and adequacy of supervision were positively and significantly related to LRP while loan size, sex number of dependents and loan diversion were negatively and insignificantly related to LRP. He also noted that females were better in repaying loan as compared to males.

The study by Amare (2005) by employing the two limit Tobit model on the determinants of formal source of credit LRP of small holders in North Gondar showed, live stocks are important asset that improve RP. Experience of participating in different agricultural activities is positively related to LRP while loan size is negatively related to LRP.

Fikirte (2012) conducted study on LRP of Addis Credit and Saving Institution (ACSI) in Addis Ababa, by using binary Logit model for analysis. From here findings, out of eleven variables, sex business and experience were positively related to LRP but family size lending method are negatively related to LRP.

Abebe (2013) analyzed factors that influence Micro Finance LR and evaluating the loan rating mechanism in OCSSCO using probit model. His finding magnified that out the variables included in the study, education level, income, loan supervision, repayment period, other credit source and livestock are positively related to LRP while loan diversion and loan size are negatively related to LRP. In addition, the study showed females are better in repaying loan as compared to males.

Fitsum (2014) carried out study on determinants of MF loan repayment performance on Omo MFI by using binary logit model for analysis of the variables that determine LRP. The study result showed sex, age, income before loan, lending method, loan size, sustainability of installment period, timeliness of loan release were positively related to LRP. Family size, distance from the institution residential area and frequency of collection are negatively related to LRP.

Finally, even though various studies had been conducted on LRP of MFIs in different countries in general and Ethiopia in particular, they got certain limitations. For example, majority of them were carried on rural beneficiaries although some of them includes urban. Even in Ethiopia the previous studies conducted in line with MFIs regarding loan repayment got their own limitations. For example, the study conducted by Mengistu, (1997) focus only on urban area of Ethiopia, Abreham, (2000) on Ziway, Berhanu,(1999) the analysis of POSCSSBO in Addis. But this study will be conducted in Oromia which is different from previous in regional/zonal ecological nature the result that can be obtained from the study may make difference.

The study conducted by Jemal, (2003) on similar issue also focused only on the district's poor (rural and urban). But this study is going to include Government Employees in addition to the previous target group which needs different sampling technique from the previous study. In general, this study included some additional variables not included in the previous works which can significantly affect loan repayment performance and could contribute its share towards narrowing the gap.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1 Description of the Study Area

The study was conducted in Kuyu district of North Shoa Zone of Oromia Regional State which is located at a distance of 156km from Addis Ababa on the way to Bahir Dar. The district's Agro-Ecological zone can be divided into Dega/ high land (40%), Weyina Dega/Temperate (50%), and Kolla/low land (10%) (KDARDO, 2000).

The major economic activities are mixed agriculture and off-farm activities mostly practiced by urban dwellers. Due to uni-modal type of rain in the district, crop production is limited to meher season. Some of the crops grown in the district includes: Wheat, bean, peen, chick pea, sorghum, teff, barley, maize, and lentil and oil seeds. Animal rearing is also practiced amongst majority of farmers and the common ones are: cattle, goat, sheep, horse, mule and donkey.

There are 24 PAs and 2 kebeles in rural and urban areas of the district respectively. The two urban kebeles are found in the administrative capital of the district, Garba Guracha. The estimated population of the district is 134,141 out of which the total number of farm household is 24,172 (KDARDO,2002). And the estimated family size is 6.2 persons per household. The district has 6 health centers, 15 health posts, 3 private clinics and 1 public hospital. Currently, there are 4 commercial banks and two MFI including OCSSCO serving the population of the district. There are two local market places in the district, one in Garba Guracha town the capital city of the district and the other in one of the Pas of rural area, Birate sub- town. The district has infrastructure facilities like telecommunication, postal service; electric power and road though it is not reliable and well developed in most of the cases.

Generally, the study area bears problems like soil erosion, animal and plant (crop) disease, pests, frost, rain fall variability and low rate of technological adoption in using modern production inputs which result in low productivity level and food shortage. As a result, majority of the farmers and some of the urban dwellers of the district cannot cover their requirement throughout the year.



Kuyu district

Figure 3.1: The study Area

Source: Oromia Region (www.ocha-eth.org/Maps/downloadables/Oromia.pdf)

3.2 Data type and Sources

This study used mainly primary data which is cross sectional in nature. The primary data has been collected from OCSSCO’s borrowers and credit committee members. Some important secondary data used in this study was also taken from OCSSCO’s official records. The loan disbursed for ten rounds (from 2009 to 2018/19) was considered by the researcher and finally the data of the loan disbursed in the year 2018/19 was taken since it yields the current information. The data that was collected is more tangible because the researcher uses loans of which the maturity time was passed.

3.2.1 Sampling Techniques

The study adopted stratified sampling and simple random sampling to select the respondents for the study. The total population was divided into 3 strata based on the nature of the borrowers. Strata one consists of rural borrowers, strata two urban borrowers and strata three GEs.

3.2.2 Population of the Study

Both the two kebeles in Garba Guracha town and sixteen of the PAs in the rural are embraced by OCSSCO's credit scheme. Both the two kebeles of the urban and 8 PAs from the rural were purposively selected to generate the necessary data. According to the data obtained from the institution's record, there are 730 rural and 220 urban borrowers including government employees in the year 2018/19. OCSSCO deliver loan also for 70 GEs in the year 2018/19. Hence, the total population used for the study constituted 730 individuals from rural, 150 from urban and 70 GEs becoming totally 950.

3.2.3 Sample Size Determination

The sample for the study was drawn from the three strata following the method of proportional allocation in which the size of the sample from the stratum relatively kept proportional to the size of the strata. Cochran's (1977) sample size determination formula was adopted to get sample respondents in estimating the mean or proportion of the finite population.

$$N_o = \frac{z^2(p)(q)}{d^2}$$

Where: n_o = sample size, Z = value of selected alpha level of 0.025 in each tail (for 95% degree of Confidence) = 1.96, $(p)(q)$ = estimate of variance = 0.25, d = accepted margin of error for proportion being estimated (9%) = 0.09

Thus, $n_o = 118$

But this is not the final sample size; to obtain the final sample size the total target population should be considered. Hence, Cochran's correction formula was used to obtain the final sample size of the survey.

$$n = \frac{n_o}{1 + \frac{n_o}{N}}$$

n = final sample size of the survey

N = total population of the study

n=105

3.3 Methods of Data Collection and procedure

Most important data for this study has been collected using structured questioners to be administered using trained enumerators. Four enumerators who complete grade 10 and know culture and social values of the respondents and the local language were employed to carry out the survey. At first they were given appropriate training and well oriented about the objectives of the study, the content of the questioner and how to approach the respondents to collect the required information. Pre- testing of the questioner was carried out on five respondents and depending on the result some adjustment was made to the final version of the questioner. The survey questioner was adapted from some related studies like Jemal, 2003; Amare, 2005 and Fitsum, 2014 and revised as it fits the current study. The study also uses interview during collection of data from OCCSSCO's credit committee and document review to obtain secondary data used by the branch office.

3.4 Method of Data Analysis

Quantitative data which was already collected was prepared, edited, coded and entered in to computer for analysis. Descriptive statistics and econometric methods were employed for the analysis of the data using STATA 12.0 soft wares.

3.4.1 Descriptive Statistics

Sample mean, frequency, standard deviation, percentage parameters and charts were used in order to describe and compare different categories of the sample unit with respect to the desired characteristics. Furthermore, t-test and χ^2 -test were used to supplement or testify significance of result obtained from the model specified in differentiating defaulters and non-defaulters.

3.4.2 Econometric Analysis

The goodness of fit model was checked and regression analysis was carried on dependent and independent variables on the basis of specified models. In addition, correlation coefficient test was carried out to check the severity of multicollinearity between explanatory variables. Then after probit model estimation was carried out.

3.5 Empirical Model Specification

3.5.1 Loan repayment performance

Loan repayment performance is not as such continuous variable and cannot be analyzed using linear regression model like continuous variables. When the dependent variable in a regression model is binary in nature the analysis can be conducted using linear probability, logit or probit model. Here loan repayment equation can be specified on the basis of the assumption that the decision of a given borrower either to pay loan in full or not is probabilistic and depend on some unobservable variable (utility index) U_i which can be explained by a set of variables.

This utility index which indicate the probability of repaying loan in full or not can be represented by the equation:

$$U_i = \beta' X_i + \epsilon_i \dots \dots \dots 1$$

Where: U_i = Utility index

β' = Vector of parameter

X_i = Vector of explanatiry variable (Madala, 1983)

The utility index is used to analyze loan repayment performance because a given borrower repay loan if there exist some benefit from repying. The U_i indicates the prabability of repaying loan in full and will be greater if its value is larger. (Mengistu, 1997).

The value of loan repayment (LRP) lies between 0 and 1 and fit well to the non-linear relation between the variables (Gujarati, 2003). For this reason, it is best to use logit or probit model for analysis.

To relate U_i with LRP_i let the following assumption holds;

$LRP_i = 1$, if $U_i > 0$ (borrower pay loan in full) and

$LRP_i = 0$, if $U_i < 0$(borrower did not repay loan in full)

Where LRP_i is loan repyment for i^{th} borrower.

Assuming U_i to be normally distributed with zero mean and variance δ^2 , the probability that $U_i > 0$ can be computed as ;

$$P_i = \text{Prob}(U_i > 0) = F(U_i) = F(\beta X_i) \dots\dots\dots 2$$

Where $F = \text{CDF}$ = Cumulative Distribution Function

Hence the joint probability is given by: (Madala, 2003)

$$L = \prod_{LR_i=1} P_i \prod_{LR_i=0} (1-P_i) \dots\dots\dots (3)$$

The probability of loan repayment in full is non-linearly related to a set of explanatory variables giving rise to the estimated probability be lay in the interval 0 to 1. This type of expectation gives us CDF from which the logistic and the normal CDF generated.

The CDF give rise to logit and probit model respectively (Gujarati, 2003; Rubinfeld, 1981). The researcher uses probit model for simplicity of obtaining the marginal effect of the coefficients in this study

Thus the model for loan repayment can be represented by:

$$LRP = f(SEX, SRP, INC, FS, LS, SPV, LDR, RA, GP, \Phi) \dots\dots (4)$$

Where, Φ = random variable.

$$LRP = \text{probit } p = \alpha + \beta_1 \text{sex} + \beta_2 \text{srp} + \beta_3 \text{inc} + \beta_4 \text{Fs} + \beta_5 \text{Ls} + \beta_6 \text{spv} + \beta_7 \text{ldr} + \beta_8 \text{Ra} + \beta_9 \text{Gp} + \Phi.$$

4. Income from activities financed by the loan (INC): The higher the income from such activities, the higher will be loan repayment (Kashuliza, 1999). But in a situation where loan delinquency happened the variable can have negative effect. Hence this variable may have either of the two sign.

5. Suitability of Repayment Period (SRP): Borrowers who will found the repayment period suitable perform better. In such a case positive sign will be expected. On the other hand if the repayment period is not suitable, negative sign is expected.

6. Loan Supervision (SPV): If there-exist a continuous supervision follow up in borrower's loan utilization, it encourages borrowers and enhances repayment. Therefore positive sign will be expected.

7. Households Family Size (FS): This is measured by counting the total number of people living in the respondent's house. It is argued that household with large family size have high consumption expenditure and have low income left over to repay loan and negatively affect repayment. In this regard the variable is expected to have negative sign.

On the other hand, the larger the family sizes the more the labor force available for production purpose. The family with larger labor force would be expected to low probability of defaulting (Schereiner Nagarajan, 1997). Therefore, the effect of family sizes on loan repayment may be indeterminate a priori.

8. Borrower's Residential Area (RA): This variable is a dummy capturing the fact that borrowers live in rural or urban area. Borrowers in rural area need the loan to engage in agricultural activities in most of the case. Loan extended to such activities will expect to face problem of default due to risk and uncertainty tied to agriculture. Hence negative sign will be expected.

9. Grace Period (GP): Grace period is the time given by financial institutions to the borrower before the first installment is made. It is the time between when the loan was disbursed to the loan applicant and when the first installment is paid. Most FIs tend to provide a grace period of one month only which was seen not be sufficient for borrowers to realize enough revenue for repayment. Hence short grace period contributes negatively to LRP.

CHAPTER FOUR

4. RESULT AND DISCUSION

4.1. Descriptive Statistics

Descriptive statistics analysis made use of tools such as mean, percentage, standard deviation and frequency distribution. Beside t and Chi-square test statistics were employed to compare defaulter and non- defaulter group with respect to explanatory variables. As it was indicated in the preceding chapter, OCSSCO disbursed loan for 950 borrowers in the year 2018/19. From these total populations 105 respondents were randomly selected.

Table 4.1: Description of Demographic and Socio-economic characteristics of Respondents

Variables	Obn.	Mean	SD	Min	Max
INC	105	2774.095	1059.712	600	6000
FS	105	5.38	1.82	1	10
LS	105	5120.95	1581.364	3000	9000
SPV	105	.714	.4539	0	1
LDR	105	.7238	.4492	0	1
RA	105	.7428	.439	0	1
GP	105	.7238	.4492	0	1
SEX	105	.7333	.4443	0	1
SRP	105	.781	.4155	0	1

Source: Computed from Own Survey (2019)

According to table 4.1 above, the number of observation is 105. The average (mean) income gained from activities financed by the loan is 2774.095 birr per year, with the maximum income gained from activities financed by loan is 6000 birr and the minimum income gained is 600 birr. This indicates the average income each and every borrower obtains from activities financed by loan is 2774.095 birr per year. The mean loan size disbursed to the borrower is 5120.95 birr yearly. Family size is 5.38 on average with the maximum and minimum family size is 10 and 1, respectively. Suitability of repayment

period is 78.1%, this indicates more time is suitable for repayment and more peoples pay their loan than default. Grace period given to the borrowers if 0.72 on average, it implies short period (less than one year) which result for default. From the above table grace period is less than one year which results default for loan repayment.

Table 4.2: Loan Repayment Performance of Respondents

Borrowers Nature	Gender			Loan Repayment Performance					
				Defaulters			Non-Defaulters		
	F	M	Total	F	M	T	F	M	T
Rural	14(20%)	67(80%)	81(100)	8(7.2%)	11(14%)	19(21.6%)	6(12.6%)	56(66%)	62(78.3%)
Urban	4(12%)	14(88%)	18(100)	0	4(24%)	4(24%)	2(12%)	10(64%)	12(76%)
GEs	4(33.3%)	2(66.7%)	6(100)	1(16.6%)	0	1(16.6%)	5(16.6%)	2(66.7%)	7(83.3%)
Total	22(19%)	83(81%)	105(100)	9(6.3%)	15(15%)	24(22%)	13(16%)	68(84%)	81(78%)

Source: Own Survey Result (2019)

NB. D = Defaulters, ND = Non-Defaulters

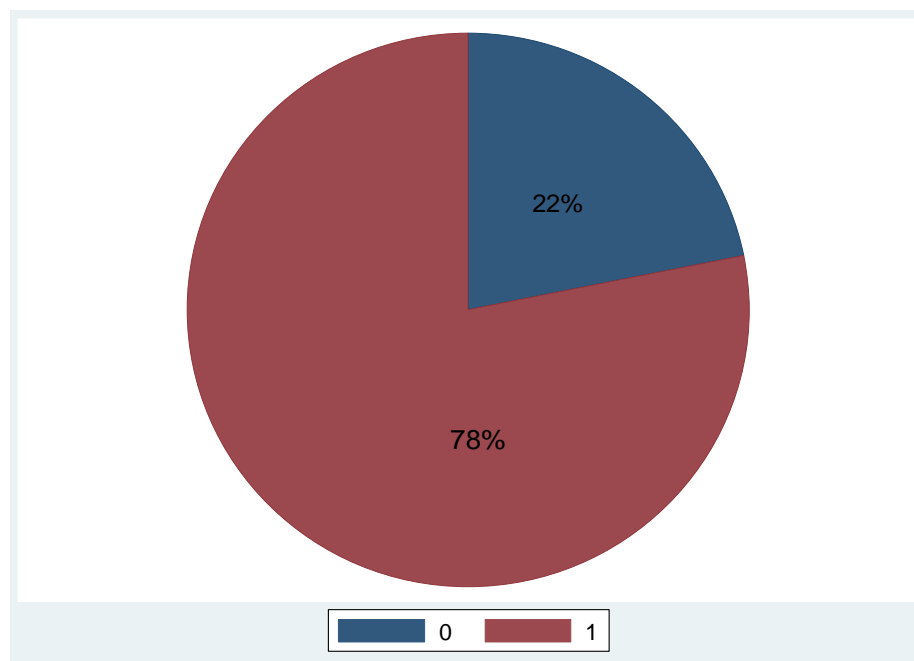
From the above table (table 4.2), 18 respondents are selected from urban while 81 are selected from rural peasant associations of the district.

Out of total respondents 22(19%) are female and the rest, 83 (81%) are male borrowers. Carefully examining the urban and rural borrowers shows that 4 (16%) of the urban respondents are females and 14 (84%) of them are males. In similar fashion 14 (20%) of rural respondents are females while 67(80%) are male respondents.

From the total respondents, 81(78%) have repaid their loan while 24(22%) of them become defaulters. From the survey result, 4 (22.5%) of the urban borrowers failed to repay their loan while 19 (21.6%) of the rural borrowers defaulted.

As compared to the other classes, GEs performed well in loan repayment since only one client become defaulter. The proportion of female borrowers is higher in rural than in urban.

Figure 4.1: Graphical presentation of LRP



Source: Own Drawing (2019)

NB. 1 = Non-Defaulter 0 = Defaulter

This pie chart displayed that from the total respondents, 24(22%) are defaulters while 81 (78%) are non- defaulters.

Reason	Number	Percentage
Loan Diversion	3	9.7
Disaster	8	37.7
Activities financed by The loan not profitable	9	39.8
Personal problem	2	6.5
Different celebrations (Wedding etc.)	2	6.5

Table 4.3 reason for default

Source: Own Survey (2019)

Table 4.3: revealed the main reason for the default. From the survey response 3 (9.7%) respondents default due to loan diversion, 8 (25.8%) natural disaster, 9 (51.6%) due to non- profitability of activities financed by the loan, 2 (6.5%) due to personal problems like sick and 2 (6.5%) due to ceremonial celebrations like wedding, teskar, mahiber etc.

Table 4.4: Respondents by Area and Purpose of Borrowing

Purpose of Borrowing	Residential Area		Total
	Urban	Rural	
Purchase of agricultural inputs	0	32	32
Purchase of farm oxen	1	28	29
Petty trade	15	0	15
Animal Fattening	0	8	8
Fattening and petty trade	2	0	2
Education fee	3	6	9
House construction	3	0	3
Other	0	7	7
Total	24	81	105

Source: Own survey (2019)

The need to construct this table is to relate the purpose of borrowing and loan repayment performance by accessing whether the borrowers use the loan for intended purpose or not. Accordingly, 15 (64.5) of urban borrowers need the loan to conduct petty trading and 28(31.5%) of the rural borrowers need the loan to purchase farm oxen, 32 (49.5%) for purchase of agricultural inputs like fertilizer and improved seeds, and the rest for specified purposes in the above table.

Table 4.5: Some Selected Demographic, loan and institutions factor that affects LRP

Variable	Response	Urban			Rural		
		D	ND	Total	D	ND	Total
Marital Status	Single	0	0	0	3	3	6
	Married	7	17	24	8	31	39
	Widowed	0	0	0	4	25	29
	Divorced	0	0	0	4	3	7
FR	Yes	4	9	13	10	17	27
	No	3	8	11	5	49	54
SPV	Yes	4	16	20	17	52	69
	No	2	2	4	7	5	12
SRP	Yes	3	18	21	8	63	71
	No	1	2	3	6	4	10
LDR	1	2	20	22	10	60	70
	0	2	0	2	4	7	11
GP	Yes	3	14	17	6	59	65
	No	1	6	7	4	12	16

Source: Own survey (2019)

Based on the data displayed by table 4.5 the following explanation and discussion can be made about the issues and variables specified.

Marital Status: All the respondents from the urban are married and no single, widowed and divorced respondent. From urban borrowers 7 (22.5%) respondents become defaulter while 17(77.4%) respondents repaid their loan on time. This shows that majority of urban respondents are non-defaulters.

Regarding the rural borrowers 6 (5.4%) respondents are single and 3 of them become defaulted. From the same table 39(44%) respondents are married and 8 of them did not repay their loan while 31 (36.9%) of them repay their loan fully. In addition, 29 (35%) respondents are widowed and the number of defaulters and no-defaulters from these is 4 and 25 respectively. Finally, 7 (15%) got divorced from which 4 are defaulters and 3 non defaulters.

Financial Record Keeping (FR): From the above table 13 (74%) respondents from urban keep financial recording while 11 (26%) did not keep financial recording. The number of defaulters and non-defaulters from respondents who keep and did not keep financial record is 4 and 3 respectively. This shows keeping financial record facilitates loan repayment.

From the same source, out of total rural borrowers 27 (33%) of them keep financial record while 54 (67%) did not keep financial record. And 10 borrowers from those who keep financial record become defaulters and the rest repay their loan. From borrowers who did not keep financial record only 5 (4.5%) become defaulters while 49 (62%) repay their loan. This shows rural borrowers who did not keep financial record perform well in loan repayment.

Adequacy of Supervision (SPV): From table 4.5 20 (90%) urban respondents reported the supervision time was adequate while only 4 (10%) of them said the supervision time was inadequate. 4 (19%) respondents who said the SPV is adequate become defaulter while 16 (71%) are non-defaulters. From respondents who said SPV is inadequate, 2 (4.5%) become defaulter and the rest 2 (4.5%) repay their loan.

From rural respondents, 12 (8.8%) said the supervision period is inadequate and 69 (91.2%) of them said the supervision time is adequate. Out of respondents who said the supervision time is inadequate, 7(6.3%) become defaulters while 5(4.5%) of them repay their loan. Concerning respondents who said the supervision time is adequate, 17(10.3%) of them become defaulters and 52 (89.7%) repay their loan. This indicates that adequate supervision facilitates loan repayment.

Suitability of Repayment Period (SRP): Table 4.5 shows that 21 (93.5%) of urban respondents said the repayment period is suitable and 3 of them said that repayment period is not suitable. From those who said repayment period is suitable 3(6.5%) of respondents become defaulter, and only one respondent from who said repayment period is not suitable was become defaulter. Similarly, 71 (82%) of rural respondents favor the option that says the repayment period is suitable and 8 (7.2%) of them failed to repay loan while 10 (18%) of them reported the repayment period is not suitable out of which 6 (14.4%) become defaulters and 4 (3.6%) non- defaulters. This shows that adequate supervision facilitates loan repayment performance.

Loan Diversion Rate (LDR): According to table 4.5, 22 (94%) urban respondents diverted the loan while only 2 (6%) become non-diverters. From respondents who diverted the loan, 2 (16%) individuals become defaulter and 20(77.4%) repay their loan fully. Both of the non- diverters failed to repay the loan.

From rural respondents, 70 (81%) diverted the loan while 11 (19 %) used the loan for intended purpose. Among the diverters, 10 (9%) failed to repay loan while 60 (72%) repay loan. From non-diverters 4(12.6%) failed to repay loan while 7(6.3%) repay their loan.

Grace Period (GP): As indicated in the same table 4.5, 17 (77.4%) urban respondents answered the grace period is sufficient while 7 (22.5%) said not sufficient. From respondents who said sufficient, 3 (19%) become defaulters and 14 (58%) repay their loan. Out of respondents who said the grace period is not sufficient, only 1 (3.22%) defaulted.

Similarly, 65 (76.6%) of rural respondents said the grace period is sufficient while 16 (23.4%) said the grace period is not sufficient. From respondents who said the grace period was sufficient, 6 (14.4%) defaulted. Concerning respondents who said not sufficient,4 (7.2%) become defaulters while 12(16.2%) repay their loan.

4.2 Defaulters VS Non-Defaulters

Under this section the researcher attempts to compare credit worthy borrowers and non-credit worthy borrowers. This is done by identifying the determinants of loan repayment with respect to the two categories.

Table 4.6: Summary statistics & t-test of significant continuous variables

Variables	Loan Repayment Performance Status				Mean Difference	T-Test
	Non- Defaulters		Defaulters			
	Mean	SD	Mean	SD		
Inc	2532.658	934.3604	1561.297	939.5413	-971.361	-4.0862*
Fs	4.846847	1.844886	5.774194	2.679673	0.93	2.2241**
Ls	5120.95	1581.36	5056.79	1560.92	-64.16	0.08*

NB. * = 1%, ** = 5%,***=10%

Source: Own Survey (2019)

Table 4.7: Discrete Variables which significantly determine LRP

Variable		RA		LRP				Total D	Total ND	p-value
				D		ND				
		R	U	R	U	R	U			
Sex	Male	59	26	6	6	53	20	12	73	4.02 P=0.044**
	female	12	8	8	4	4	4	12	8	
Ldr	1	60	29	10	5	50	24	15	74	4.36 P=0.037**
	0	11	5	4	5	7	0	9	7	
Ra	1	-	41	-	17	-	24	17	24	3.52 P=0.061***
	0	64	-	7	-	57	-	7	57	
Gp	1	59	14	10	6	49	8	16	57	19.49 P=0.000*
	0	25	7	7	1	18	6	8	24	

NB.*= 1%, ** = 5%, *** = 10%

Source: Own Survey result (2019)

As it can be seen from table 4.6 above, defaulters and non-defaulters differ substantially with respect to the specified variables. Out of 3 continuous variable included in the equation the group differ significantly (at 1, 5& 10% level) in all of them. On the other hand table 4.7 indicates that out of 4 discrete variables used in the model defaulters and non-defaulters are different significantly (at 1%, 5%&10%) in 5 of them. Accordingly, the t-test and chi-square test were used to compare defaulters and non-defaulters and the values confirmed the difference between the two groups is significant.

In addition, as it was clearly described in the preceding sections, there was significant number of defaulters in the sampled respondents. 81 (78%) of the surveyed sample borrowers have repaid their loan fully while 24 (22%) have been defaulted.

Regarding loan size, the mean loan size of non-defaulters is birr 5120.95 and that of defaulters is 5056.79. This shows as the loan size increases LRP decreases and there is a negative relationship between high loan size and loan repayment performance.

The above table 4.7 implies that from the four significant discrete variables included in the model Grace Period is negatively related to loan repayment, while other variables are positively related with loan repayment.

Table 4.8 Summary statistics on general issue after the scheme

General information	Borrower Residential Area								
	Rural			Urban			Total		
	increase	Decrease	Same	Increase	Decrease	same	Inc	Dec	Sam
Level of income	75	5	1	21	1	2	96	6	3
Access to education	75	0	6	24	0	0	99	0	6
Access to health	68	8	5	20	0	4	88	8	9
Status of diet	77	0	4	22	0	2	99	0	6

Source: Own Survey (2019)

According to the data in table 4.8 above, almost all respondents replied that household income, access to education, access to health facilities and status of family diet increased due to the program.

4.3 Econometric Analysis

4.3.1 Test of heteroscedasticity

This type of test is used in order to examine the pattern of the error terms variance are Constant or to test the assumption heteroscedasticity. Heteroscedasticity is present in variance or error term is not constant or different variance for different segment of the population or sample size. In probit model heteroscedasticity problem is checked by the following test.

$$\text{chi2 (1)} = 34.30$$

Prob> chi2 = 0.0000

From the above estimation result, we can compare critical p-value or the value of $\text{prob}>\text{chi}^2$ less than 0.05. This show that there is problem of heteroscedasticity because $0.05 > 0.000$. Hence the robust standard was employed (as shown in Appendix 4).

Series problem of multicollinearity is occurred if the correlation is about 0.8 or larger (Gujarati 2003). Then the hypothesized explanatory variables were checked for the existence of multicollinearity, a serious problem in cross sectional data. It is a problem raised if at least one of the independent variables is a linear combination of the others. The existence of multicollinearity can cause the estimated regression coefficient to have wrong sign and small t-ratio leading to wrong conclusion.

The decision rule for multicolliniarity test is that when its value is above 0.8 (approaches 1) there is a severe problem of association between dummy and explanatory variables. If its value is less than 0.8, this indicates that there is no severe problem of association among the discrete variables.

Table 4.9: Correlation Coefficient

	lrp	sex	srp	inc	fs	ls	spv
lrp	1.0000						
sex	0.6947	1.0000					
srp	0.5054	0.3055	1.0000				
inc	0.3825	0.2353	0.3527	1.0000			
fs	-0.2193	-0.0872	-0.2318	-0.1058	1.0000		
ls	-0.1338	-0.0782	-0.0822	0.0253	-0.0399	1.0000	
spv	0.2838	0.2384	0.1238	0.0524	-0.0997	-0.1697	1.0000
ldr	0.1343	0.0128	0.1364	0.0500	-0.0112	-0.0351	-0.0135
ra	-0.0079	0.0394	-0.0482	-0.0308	0.2199	0.0868	0.1585
gp	-0.0284	-0.1317	-0.0696	-0.0281	-0.1052	0.0475	-0.1078

	ldr	ra	gp
ldr	1.0000		
ra	0.0752	1.0000	
gp	-0.0005	-0.1198	1.0000

From the above table sign of spearman correlation coefficient indicate the direction association of loan repayment with sex, ldr, srp, ra, gp, spv, ls, fs, Inc. all the correlation result from the above are less than 0.8, indicate there is no a serious multicollinearity problem.

Table 4.10: Maximum likelihood estimate of probit model for Loan Repayment Performance

Probit Estimate

Number of Obs=105

Wald Chi² (9) =87.43

Prob>Chi²=0.0000

Pseudo R²=0.8550

Log Pseudo likelihood=-7.4107

Lrp	Coefficient	St.Err.	Z-value	P >/z/	dy/dx
Sex	11.39656**	4.9	2.47	0.013	.49549
Srp	6.526**	3.058	2.37	0.018	.2253
Inc	0.0411**	0.0018	2.55	0.011	.0567
Fs	-.8973855	0.464	-1.60	0.110	-.01774
Ls	-.011982**	.00054	-2.22	0.027	-.0149
Spv	.244544	.556	0.25	0.806	.09099
Ldr	3.2462**	1.558	1.97	0.049	.0755
Ra	1.8325	0.96	1.45	0.148	-.0046557
Gp	3.1536**	1.52	1.98	0.048	.0621699
_cons	-11.196**	4.77	-2.28	0.023	.4352

** Significant at 5% *** Significant at 10%

According to table 4.12, six of the nine explanatory variables included in the estimation of the econometric model of loan repayment performance were found to be significantly influence the probability of being non-defaulter or defaulter of the borrowers. These are sex of the borrower (SEX), income from activities financed by the loan (INC), loan size of the household (LS), suitability of repayment period (SRP) loan diversion rate (LDR and grace period (GP).

The remaining other; family size (FS), residential area (RA) and adequacy of supervision (SPV), were found to have no significant effect on loan repayment performance but related either positively or negatively to it.

Sex; On the basis of the estimate, sex is significant at 5% and positively related to loan LRP. The marginal effects shows that, on average ,being male increase loan repayment by 49.5%.At first, it was difficult to decide the sign of this variable because, some researcher believe that females are better payers than male borrowers (Vigano, 1999) while others found the opposite result. This study yield male borrowers are better in repaying their loan as compared to females. The positive sign shows male borrowers performed better in loan repayment.

Suitability of repayment period; Suitability of repayment period is one of the factor that affect loan repayment performance of the borrowers and its significant at 5%. If repayment period is suitable, borrows are able to repay their loan by agreed time, and if not they become defaulter. Its positively related to the loan repayment, and from the above table, if repayment period is suitable borrowers loan repayment increase by 22.53%.

Income from activities financed by loan; Income from activities financed by the loan is one of the factors which affected LRP of the borrowers and significant at 5%level. An increment in income of household from activities financed by the loan increases the probability of being non-defaulters. This enhances a borrower capacity to repay loan. It was difficult to determine the sign of the variable prior, but now the study result showed that this variable affected LRP positively. On average the probability of loan repayment increase by 5.67% if income from activities by loan increases by 1%, as compared to income from other sources. This implies that borrowers pay timely if they obtain profit from income they obtained by lo

Loan Size; Loan size is also one of the factors that affected LRP of the borrowers negatively with significance level of 5%. It was expected that the variable will have negative sign taking the case of large loan size. Hence, the estimated result of the model coincided with the expected sign. This implies that larger loan size need high interest payment which results in decrease income of the borrowers. On average the probability of loan repayment decrease by 1.49%, as the size of loan increase by 1%, holding other variables constant.

Loan Diversion; Moreover, loan diversion is another borrower's factor which affected LRP positively and is significant at 5 % level. It was expected that this variable has

negative sign if the loan is diverted to less productive activity than the intended one and positive sign if it is diverted to more productive activity. From the model estimate, loan diversion has positive sign indicating loan is diverted to more productive purposes. On average this study show that if loan is diverted the probability of loan repayment is increased by 7.5%.

Grace Period; Finally grace period is the variable that affects LRP positively and significantly at 5% level of significance. This indicates that the shorter the grace period the more the borrowers become defaulters. On average from this study we conclude the probability of loan repayment increase by 6.2%, if grace period is long. This implies that if longer period is given to the borrowers by institution they become profitable from income they borrowed. The estimated result coincides with the expected sign.

Generally, loan size, is a significant factors that negatively affect and undermine loan repayment performance while sex of the borrower's, income obtained from activities financed by the loan, suitability of repayment period, grace period, and loan diversion are significant factors which positively affect LRP and enhance loan repayment performance

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

In today world, the issue of poverty has become a crucial challenge of many societies in developing countries. In Ethiopia, poverty is a severe problem lifting thousands of people below poverty line in both rural and urban areas. So it is better to do multi-dimensionally in order to eradicate poverty. In this line, financial service availability plays significant role in creation of self-employment opportunities for the portion of people with low income.

One of the reasons for people to live in vicious circle of poverty for long period is lack of access to financial services. This limited access is also aggravated by poor repayment performance. Increasing default is one of the major problems of poor performance of financial institutions in many developing countries.

This study is aimed at identifying and analyzing the determinants of loan repayment performance in MFIs with particular reference to OCSSCO in Kuyu district. In addition an attempt was made to compare non-defaulters and defaulters in the institution and accessed the benefit of the scheme on the livelihood of the borrowers.

Hence, a total of 105 sample respondents were made to be included in the survey to generate the data needed for this study. All necessary data was collected through questioners, interview and document review. Both descriptive statistics and econometric analysis was carried out during the course of data analysis process.

5.2 Conclusion

From the total sample population 22 (19%) and 83 (81%) of the sampled population is female and male respectively. 4 (16%) of urban sampled population and 14 (19.87%) of the rural sampled population are female indicating a lot have to be done in initiating and participating women in the program.

24 (21.83%) respondents were from urban and 81 (78.17%) were from rural area of the district. Most of rural borrower 32 (49.5%) need the loan to purchase agricultural inputs and majority of urban borrowers 15 (20%) need the loan to conduct petty trade.

Regarding the loan size, the mean loan size disbursed by the institution is birr 5120.95 with birr 3000 and 9000 minimum and maximum respectively.

More than half of the sampled respondents reported that the installment period was suitable. In addition, 88 (86%) respondents reported that the loan was released timely.

Regarding suitability of repayment period, 75 (76.43%) respondents reported the repayment period was suitable. This indicates as if it has a positive impact on LRP. Similarly, most of the respondents reported that the loan was released timely. The findings of an econometric model revealed that out of nine explanatory variables included in the model sex, income from activity financed by the loan, loan size, loan diversion, suitability of repayment period, and grace period were significant determinants of LRP. Among these, loan size is factors that were negatively related to the LRP and hence reduce the probability of being non-defaulter while the rest are factors that related and affected positively LRP.

5.3 recommendation

On the basis of the analysis and description of demographic and socioeconomic characteristics of borrowers, loan related factors and institution factors that determine LRP the following recommendations can be made.

The result of the study has shown that out of total respondents, only 22(19%) are women and this shows men clients benefited more than women, which contradicts the policy objectives of OCSSCO. The institution should improve women participation both in rural and urban areas since the current data is inconsistent with OCSSCO's objectives in particular and that of the country in general.

From the survey result, out of 105 respondents included in the study, 24 (22%) become defaulted while 81 (78%) repaid their loan. So borrowers have to repay the loan on time so that the institution become sustainable and deliver the next loan. To this end the institution should take great care during screening not to exclude credit worthy borrowers and include non -credit worthy borrowers. The government also should stand along the institution in case of default and enforce the defaulters to repay the loan.

The evidence from the study revealed that the main reason for the default is non-profitability of the activities financed by the loan, so the institution have to strength its training and supervisory follow up on how to use the loan and invest on productive

activities. Above all, government employees performed well in loan repayment hence the institution should increase their participation.

The evidence in the study has reflected that the credit scheme has contributed positively in improving the household's income, access to health facilities and nutritional status of the borrowers and hence plays significant role in poverty reduction. Therefore the government and the institution have to expand the system.

The regression analysis revealed that, loan size, suitability of repayment period, loan diversion, sex, income from activities financed by loan, and grace period are significant determinants of LRP. Besides, the larger the family size, the more their consumption expenditure and the less the probability to settle down loan. Regarding borrowers residential area, urban borrowers are on average performed better in LRP.

Grace periods is the most significant (0.048) at 5% and positively determine LRP, indicating the grace period is on average sufficient. But from total defaulters 22(71%) individuals reported the grace period was not sufficient. So researcher recommends that the institution should revise its grace period.

The other significant that determine positively the LRP are sex of the borrower, income from activities financed by the loan, and loan diversion. Concerning sex of borrower, (proportionally male borrower) performed better. Regarding income, as the borrower earn more and more income they built a potential to repay their loan easily. Moreover, the loan diverted to more productive activities than the intended one helps to bring additional income and capacitated the borrowers to repay his/her loan.

Finally there are some important points that may need further study. As it was seen during the survey, a type of interdependence was observed between OCSSCO's credit scheme and local money lenders operating in the study area. Hence further study will be needed if this services as a source of credit for poor groups and fill the gap of limited access of financial services. Further study to be carried on similar issue should stress on grace period, loan diversion and method of lending to determine their impact on LRP and evaluate the consistency of my result.

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- a) Rural Borrower: M_____ F_____ T_____
- b) Urban borrower: M_____ F_____ T_____
- c) GE M_____ F_____ T_____

13. What is (are) the reason for the default in your opinion? (Multiple answers is possible)

1. Loan Diversion
2. Lack of follow up by loan officers
3. Weak legal measure on defaulters
4. Using the loan for non-profitable activities
5. Other (specify) _____

14. Please mention (if any) some of the major difficulties you face during loan collection.

15. Your overall suggestion and recommendation about OCSSCO as MFI _____

II. KEY QUALITATIVE QUESTIONS FOR DEEP INTERVIEW

1. What are the factors that determine loan repayment performance?
2. Which lending methodology is used by OCSSCO and why?
3. Borrowers of which residential area (urban or rural) do you think are more effective in loan repayment?
4. Generally speaking, which group of borrowers (rural & urban poor or GE) do you believe is more effective in repaying loan? Why?
5. What measure is taken by OCSSCO on defaulters?

I. QUANTITATIVE QUESTIONNAIR TO BE FILLED BY OCSSCO BORROWERS

Dear Respondents:

My name is Bedasa Taddessa. First I would like to present you my heart full greeting. I am assigned to conduct a research on “Determinants of loan repayment in MFI : The case of OCSSCO Kuyu branch” for the partial fulfillment of the degree of Art in Economics. So your response to this questionnaire will serve me as a source of useful information to the research paper to be done for degree purpose. Any response you provide here serve only for the research purpose, so you are expected to fill confidentially. Your honesty in responding the right answer is crucial for the reliability of the research.

Thank You!

PART-A: CLUSTER INFORMATION

A-1.Woreda _____

A-2 Kebele_____

A-3 Enumerator _____

A-4 Date _____

PART-B: SOCIO-DEMOGRAPHIC CHARACTERISTICS

B-1. Sex of the borrower____ : 1. Male 0. Female

B-2. Age of the borrower_____

B-3 Level of education: 1. Illiterate 2. Grade 1-8 3. Grade 9-12 4. > 12th grade

B-4. Marital Status: 1. Single 2. Married 3.Widowed 4. Divorced

B-5 Total Family Size_____

B-6 Number of dependents_____

B-7 Household's head: 1. Male 0. Female

B-8 Occupation: Main _____ Second _____

B-9 Borrower's residential area : 1. Urban 0. Rural

PART-C INFORMATION RELATED TO LOAN,ITS UTILIZATION AND REPAYMENT

C-1 when did you join OCSSCO? Month _____ Year _____ E .C

C-2 Lending method you are entitled to: 1.Group 0. Individual

C-3What is the number of individuals in your group? A. 4 B. 5 C. 6 D. 8

C-4 How is the group formed? 1. Based on borrowers interest 2. By randomly assigning

3. As per the agreement of CSO 4. Other
(specify)_____

C-6 Was the loan disbursed timely? 1. Yes No

C-7 If your response to question 8 above is no, what is its impact on repayment?

1. Positively affect it 0. Negatively affect it

C-8 What amount of loan size you obtain from OCSSCO is? _____ birr.

C-9 If the loan size is small in your opinion, what measure do you take to meet your objective?

1. Borrow from informal sectors 2. Use the loan for other purposes

Other (specify)_____

C-10 Did you use the entire loan for intended purposes? 1. Yes 0. No

C-11 If no, for what purpose did you use the loan? 1. For household consumption

2. For d/t ceremonies 3. Other (specify)_____

1. I am profitable 2. To keep social status 3. To get the next loan 4Other
(specify)_____

C-12 If your response to C-16 is no, what makes you not to pay the loan on time?

1. I was not profitable 2. Due to low supervision 3. Personal problems 4. Due to disaster

5. I used the loan for non-productive purposes 6. The repayment period is not suitable

7. Other (specify) _____

C-13 Is the repayment period arranged by OCSSCO suitable in your opinion? 1. Yes
2. No

C-14 If no, what is the impact of this on repayment?

1. Positively affect repayment 0. Negatively affect repayment

PART-D INFORMATION ON SUPERVISION AND TRAINING

D-1 Have you ever been given certain advisory visit about loan utilization by OCSSCO staff?

1. Yes 0. No

D-2 If yes, how often? 1. Monthly 2. Quarterly 3. Semi annually

D-3 Is the supervision time adequate in your opinion? 1. Yes 0. No

D-4 Do you consider adequate supervision as being important for loan repayment? 1. Yes 0. No

D-5 Did you get some training on how to use the loan by the OCSSCO officers? 1. Yes 0. No

D-6 How does training affects loan utilization and repayment in your opinion?

1. Affects positively 0. Affects negatively

PART-E INFORMATION RELATED TO INCOME AND WEALTH

E-1 Do you have other source income than the loan obtained from OCSSCO? 1. Yes 0. No

E-2 If yes, what is/are the source/s and estimated level of it?

Source Annual Income

Agriculture _____ Birr

Trade _____ Birr

Iddir/Iqub _____ Birr

Monthly Salary _____ Birr

Other (specify) _____

E-3 Do you think this helps you in repaying your loan? 1. Yes 0. No

E-4 What is the amount of income (money) you obtain from activities financed by OCSSCO

during the past one year? _____ birr.

PART-F INFORMATION ON SOME GENERAL ISSUES

F-1 Do you and your family have access to education currently? 1. Yes 0. No

F-2 How many of your children (if you have) were gone to school before joining OCSSCO? ____

F-3 What about after joining OCSSCO? _____

F-4 Did you observe a change? 1. Yes 0. No

F-5 If yes, what do you think is the reason? _____

F-6 If your response to G-1 is no, what is the main reason?

1. Distance from education facilities
2. Low level of income
3. Lack of awareness
4. Unaffordable cost
5. Other (specify)

F-7 Do you and your family have access to health facilities currently? 1. Yes 0. No

F-8 Do you believe your access to medical service has improved after joining OCSSCO'S

Credit scheme? 1. Yes 0. No

F-9 If yes, please state the reason.

F-10 If no what is the main reason? 1. Low level of income 2. Shortage of the facility
3. Unaffordable cost 4. Lack of awareness 5. Other (specify)

F-11 What is the status of the household's diet?

a. Before joining OCSSCO? 1. Poor 2. Good

b. After joining OCSSCO? 1. Improved 2. Same 3. Worsened

F-12 If improved what do you think is the main reason? _____

F-13 What is your opinion about OCSSCO's credit scheme? 1. Necessary 0. Not necessary

F-14 Is your income and living condition improved due to program participation? 1. Yes 0.No

F-15 Do you have saving account before joining OCSSCO? 1. Yes 0.No

F-16 What about after joining OCSSCO's credit scheme? 1. Yes I have 0.No, I haven't

F-17 Do you believe that you are saving better after the program participation? 1. Yes 0. No

F-18 Do you keep your account record? 1. Yes 0. No

F-19 If yes, for what reason? 1. To evaluate my business operation 2. For loan repayment purpose 3. Other (specify)

Appendix 2

Correlation Coefficient

| lrp sex srp inc fs ls spv

-----+-----

lrp | 1.0000

sex | 0.6947 1.0000

srp | 0.5054 0.3055 1.0000

inc | 0.3825 0.2353 0.3527 1.0000

fs | -0.2193 -0.0872 -0.2318 -0.1058 1.0000

ls | -0.1338 -0.0782 -0.0822 0.0253 -0.0399 1.0000

spv | 0.2838 0.2384 0.1238 0.0524 -0.0997 -0.1697 1.0000

ldr | 0.1343 0.0128 0.1364 0.0500 -0.0112 -0.0351 -0.0135

ra | -0.0079 0.0394 -0.0482 -0.0308 0.2199 0.0868 0.1585

gp | -0.0284 -0.1317 -0.0696 -0.0281 -0.1052 0.0475 -0.1078

| ldr ra gp

-----+-----

ldr | 1.0000

ra | 0.0752 1.0000

gp | -0.0005 -0.1198 1.0000

Appendix 3

. mfx

Marginal effects after regress

y = Fitted values (predict)= .80952381

```
-----  
variable | dy/dx Std. Err. z P>|z| [ 95% C.I. ] X  
-----+-----  
sex*| .4954955 .06046 8.20 0.000 .377002 .613989 .733333  
srp*| .2253211 .06753 3.34 0.001 .092956 .357686 .780952  
inc | .0567 .00003 2.26 0.024 7.5e-06 .000106 2774.1  
fs | -.0177456 .01447 -1.23 0.220 -.046112 .010621 5.38095  
ls | -.0149 .00002 -0.93 0.352 -.000046 .000017 5120.95  
spv*| .090991 .05805 1.57 0.117 -.022777 .204759 .714286  
ldr*| .0755177 .05557 1.36 0.174 -.033388 .184423 .72381  
ra*| -.0046557 .05944 -0.08 0.938 -.121162 .111851 .742857  
gp*| .0621699 .05611 1.11 0.268 -.047802 .172142 .72381  
-----
```

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