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Determinants of Loan Repayment Performance: the Case of Addis Credit and Savings Institution in Kolfe Keranyo Sub-City, Addis Abeba

By

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Abbreviations and Acronyms

SSEs	Small scale Enterprises
AdCSI	Addis Credit and Saving Institution
MFIs	Microfinance Institutions
NBE	National Bank of Ethiopia
NGO	Non Governmental Organizations
CBE	Commercial Bank of Ethiopia
DBE	Development Bank of Ethiopia
IDA	International Development Association
AEMFI	Association of Ethiopian Micro Finance Institutions

Abstract

The study analyzed loan repayment among entrepreneurs of small and microenterprises financed by Addis Credit and Saving Institution in Addis Ababa, Kolfe Keranyo sub city. It specifically identified socio-economic characteristics of the respondents and quantitatively determined some socio-economic characteristics of these entrepreneurs that influence their level of loan repayments. A multi stage sampling technique was used to select 132 respondents in the study area and structured questionnaire administered on them to collect data. Descriptive statistics was used to analyze the socio-economic characteristics of the respondents while logistic regression was used to quantitatively determine the socio-economic characteristics that influence the level of loan repayment among entrepreneurs of small and micro enterprises in the study area. The result showed that, out of ten explanatory variables seven of them were found to be statistically significant. While age, household size, years of business experience, voluntary saving, type of business activity and educational background of the borrowers were found to be positively related; marital status found to be negatively related with loan repayment status of the borrowers. On the other hand, alternative source of income, financial recording and sex were found to be statistically insignificant to affect the loan repayment status of the borrowers.

Key words: small and microenterprise, Determinants, Demographic and Socioeconomic factors and Adcsi

Chapter One

1 .Introduction

1.1 Background of the Study

Lack of access to external finance is generally seen as one of the main reason why many people in developing countries remain poor. Usually, the poor have no access to loans from the formal banking system. This is because they cannot put up acceptable collateral. Recently, however, the poor in developing nations have increasingly gained access to small loans with the help of microfinance programs.

In developing countries like Ethiopia where the industrial and service sectors are at their infant stage, the role of small scale enterprises (SSEs) is significant in terms of their employment generation capacity, quick production response, adaptation to weak infrastructure, use of local resources and as a means of developing indigenous entrepreneurial and managerial skills for a sustained growth need (Aryeetey, 1994 in Fasika and Daniel, 1997).Despite their importance, many of them do not have sufficient access to credit from formal financial institutes. Their major source of finance, especially at the start up stage, is the informal sector (i.e. from friends, relatives, local money lenders, etc...). This poor credit access from formal financial source, based on the experience of some developing countries, arises partly from biased government policy, due to the operational practices and procedures of the formal financial institutions and the internal problems of small scale enterprises themselves. Alleviation of poverty and promotion of economic development can be facilitated through providing credit to small scale enterprises. However, Experience from Kenya, India, Bangladesh showed that small entrepreneurs are prone to default. Sometimes they make willful default; managerial ability is poor, they don't keep accounts and it is therefore difficult to monitor their operation by the financial institutions (Asrat, 1989).

Solving the major financial constraint of this important sub-sector of the economy is an important step towards achieving the national development objective of a country. For this to succeed, the problem of high default risk associated with them, which made the financial institutes reluctant to extend loan, has to be solved.

The probability of default of small scale enterprises credit from informal market is low because informal financial markets are much closer to their clients and potential clients, and through gossip and daily contact they are much more aware of their activities than a formal banker would ever be, thus they know the risks they are exposed to. On the other hand, small-scale credit scheme from formal financial markets has experienced a high rate of default in many developing countries. Banks in these countries hold a truly alarming volume of non-performing loans (Fry, 1995). Fry listed Brazil, Cote d'Ivoire, Mali, Benin, Liberia, India, Nigeria, Malawi, and Peru) as countries in which there are widespread payment delays.

The question about repayment of loan is critical because the strongest appeal of micro credit is the well-known success of some third world programs in achieving high repayment records in making very small loans to large numbers of disadvantaged entrepreneurs and their sustainability (Bhatt, 2002). In Ethiopia, although currently the establishments of sustainable and profitable microfinance institutions that serve large number of poor households are becoming a prime component of the new development strategy, different studies undertaken with this regard have shown deterioration of loan recovery rate. Its loan recovery rate declined dramatically from 38%and 64% in 1996/97 to 24% and 31% in 1999/2000 with and without non-performing loans respectively (Wolday, 2000). Furthermore, repayment rate of microfinance credit in the city of Addis Ababa has decreased considerably and averaged around 69 percent of the total loans due per year (Micha'el, 2006).

This necessitates the need for making an empirical investigation on the factors behind the default problem so that the lending unit could make an appropriate precaution in its lending decision as well as revise its screening criteria in order for potentially credit worthy borrowers not to be rationed wrongly and hence, the nation's resource will not be fruitless.

1.2 Statement of the Problem

Microfinance institutions have become increasingly important component of strategies to alleviate poverty (Hulme, 2000). The Ethiopian government has laid down a regulatory framework for the establishment of microfinance institutions (MFIs) by issuing proclamation No. 40/1996 that provides for the licensing and supervision of MFIs. As at the end of June 2007, twenty-seven microfinance institutions operate in the country, obtaining license from National Bank of Ethiopia. These MFIs aim at alleviating poverty through targeting specific groups (reaching the poor) using group based lending (Wolday, 2000, Befekadu, 2007). There are now a growing number of new microfinance institutions in Ethiopia.

It is generally accepted that credit, which is put to productive use, results in good returns. But credit provision is such a risky business that, in addition to other reasons of varied nature, it may involve fraudulent and opportunistic behavior.

The problem of loan default reduces the lending capacity of a financial institution. It also denies new applicants access to credit as the bank's cash flow management problems augment in direct proportion to the increasing default problem. In other words, it may disturb the normal inflow and outflow of fund of a financial institution.

In order to ensure institutional sustainability, every microfinance institution should, as much as possible, work to minimize the challenge to its sustainability. This can emphasize for factors which have impact on loan repayments. Since the overall repayment performance of micro enterprise run by borrowers financed by Kolfe Keranyo Sub-city credit and saving office seem unsatisfactory, the need to study factor affecting the repayment behavior of the borrower is very clear. By doing so it is possible to improve repayment rates of micro enterprise in order to reduce their dependency on microfinance institutions which in turn improve sustainability.

Despite the effort made so far by many scholars in examining the determinants of loan repayment of micro enterprises in Ethiopia, many of these studies focused on medium and large scale enterprises (Mengstu, 1997). In terms of the type of business activity, in majority of these studies, sample respondents were farmers who took agricultural type of loan (Abreham, 2002; Bekele *et al.*, 2003; Jemal, 2004). Furthermore, an attempt made by many of these studies fails to incorporate data in relation to the characteristics of borrowers like voluntary saving and borrowers' alternative income other than the income that they generate from their business activity. Therefore, this study is conducted to narrow the research gap of the above mentioned studies by paying attention to:

I. Micro[1] and small enterprises which do not use a high tech. consultancy and high tech. establishments unlike medium and large enterprises.

II. micro and small [2] enterprises which comprise activities that are independently owned and operated, managed by the owner and have a small share of the market; and accessible only to micro and small loan.

III. all the relevant variables as possible including variables in relation to the characteristics of borrowers like voluntary saving, borrowers'

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[1] **Micro Enterprises**: are those small business enterprises with a paid-up capital of not exceeding birr 20,000, and excluding high tech. consultancy firms and other high tech. establishments.

[2] **Small Enterprises**: are those business enterprises with a paid-up capital of above 20,000 and not exceeding birr 500,000, and excluding high tech. consultancy firms and other high tech. establishments.

alternative income and financial recording which were not taken to be examined as the determinant of loan repayment in the above mentioned studies .

1.3 Objectives of the Study

The major objective of the study is to assess the demographic and socio-economic determinants of loan repayment of small and micro enterprises financed by Addis Credit and Savings Institution

The Specific Objectives are:

- To identify the demographic and socio-economic characteristics of micro and small scale enterprises' entrepreneurs in the study area
- To examine the factors that influence loan repayment capacity among the respondents in the study area
- To draw policy implications for the proper utilization resources of the country to meet the envisaged development objectives and future development banking practice in the country.

1.4 Hypothesis of the Study

The repayment rate is expected to be influenced by borrowers' specific characteristics, the project specific characteristics, and other external factors.

Factors expected to affect the loan repayment performance of borrowers are identified on the basis of similar studies done before.

Variables that are hypothesized to be input determinants of loan repayment performance in this study are specified as follows:

H1: Female borrowers tend to repay in time much more than their counterpart.

H2: As educational level increases from primary to secondary and tertiary level the probability of defaulting will decrease.

H3: Borrowers who are found in a marriage have higher probability of repayment.

H4: Borrowers from small household size are more likely to repay the loan.

H5: An increase in borrowers' years decreases the probability of defaulting.

H6: Borrowers from production business activity are more likely to repay the loan

H7: Borrowers, who save more from their surplus, have higher chance of loan repayment

H8: Borrowers who use financial record while undertaking business activity are more likely repay the loan.

H9: Borrowers who have other source of income are more likely to repay the loan

H10: Borrowers with more business experience have a higher chance of loan repayment.

1.5 Scope and Limitation of the Study

The Scope of this study is limited to examining the determinant of loan repayment performance of micro and small business enterprises financed by Addis Credit and Saving Institution (AdCSI). The study will consider only those variables which are hypothesized as the determinants of loan repayment performance of small and micro enterprise. That is, the study is limited to the demand side factors which affect the repayment status of the borrowers. This study includes all clients whose repayment installment has been maturing. It does not include borrowers whose repayment installment has not yet matured because it would be premature to assess the real credit worthiness of the borrowers unless they are practically examined by their repayment record. Since the study focuses on small and micro enterprise clients of the bank, other clients such as clients who run medium scale enterprises and clients who borrow for house hold consumption are excluded from the study.

1.6 Significance of the Study

The findings of this study are expected to be significant for the following reasons. First, the analysis of factors affecting loan repayment performance of SSEs borrowers would help policy makers to formulate successful credit policies and programmes that enable them to allocate scarce financial resources to the development of basic sectors of the economy. Second, there is very limited research output and literature regarding to the demographic and socio-economic factors that affect the loan repayment performance of SSEs in Ethiopia. Academics, consultants, and government agencies may therefore use the study as a stepping-stone for further study in the area at an advanced level. Third, this study will contribute in filling the information gap by assessing the impact of social and economic variables influencing the repayment status of small and micro enterprises' entrepreneurs at city level and hence, it adds a body of knowledge in the area.

1.7 Organization of the study

The paper is organized under five chapters. The first chapter presented background of the study, statement of the problem, objective, hypothesis, significance, scope and the organization of the study. Chapter two focuses on review of theoretical and empirical work done in relation to loan repayment. Chapter three deals with the method of sampling, data collection and estimation technique employed to come up with empirical result. Chapter four deals with data analysis and presentation of the findings of the study. Finally, chapter five presents the conclusions drawn from the findings and the recommendations made to address the problems.

Chapter Two

2 Review of Literature

2.1 Theoretical Literature

2.1.1Evolution of Microfinance Institutions

Micro-finance is a new field which resulted from project related work done by NGOs and also developed based on examples provided by informal finance and formal and semiformal financial institutions; as well as a solid body of academic research (World Bank, 2002). The definition of microfinance institutions proposed by some authors and organizations are seemingly different from one another. However the essence of the definition is usually the same in which microfinance refers to the provision of financial services primarily savings and credit to the poor and low income households that do not have access to commercial banks (Arsyad, 2005).Legerwood (1999) defines it as the provision of financial services (generally saving and credit) to low income clients. Robinson (2001) defines it as small scale financial services primarily credit and saving provided to people who farm or fish or herd, who operate small enterprises or microenterprises where goods are produced, recycled, repaired or sold; who provide services; who work for wage and commission; who gain income from renting out small amount of land, vehicles, draft animals, or machinery tools; and other individual and groups at the local level of developing countries both rural and urban area.

Microfinance institutions consist of agents and organizations that engage in relatively small financial transactions using specialized, character-based methodologies to serve low-income households, micro-enterprises, small farmers, and others who lack access to the banking system. They may be informal, semi-formal (that is, legally registered but not under central bank regulation), or formal financial intermediaries. The Bank's strategy emphasizes incorporating these activities into countries' financial development strategies to expand the scope and raise the efficiency of financial intermediation. The intention is to ensure that access to financial services by poor households, micro-entrepreneurs, women, and farm households improves sustain ably over time, rather than on a one-time project basis (Pitamber, 2003). The above argument implies that traditional banking sector cannot reach millions of poor for whom small loans could make huge differences. There are several reasons for this. Most of the poor live in rural which have much dispersed settlements. They have low education levels, if at all. As a result, administrative cost of supplying loans to the poor population is extremely high. Another issue that makes it difficult to serve these customers through traditional banking is that the poor do not have any assets to use as collateral. As a result, the poor had access to loans only through local moneylenders at exorbitantly high interest rates. As Helms (2006) indicated, during the microcredit era of the 1970s the goal was to put these 'moneylenders' out of business because they often charges in excess of 10 percent per month on their loans. Originally when financing the poor was referred to microcredit in the 1970s, the informal institutions were rarely regulated and the borrowers could use their funds for whatever need they sought. This meant that moneylenders or pawnbrokers were the dominant source of capital for villages. Some of the time the loan was used for a microenterprise much like how microfinance is used today. However, microcredit was also used for other reasons like school fees, healthcare, or food. Today, moneylenders are used for the same purpose and are supported by the financial systems approach mentioned previously but are simply providing loans for credit needs. Modern microfinance is an approach in addition to informal lending that operates as a source of funds focused on microenterprise with the objective that people create a good or service that will allow them to repay the loan. Microfinance has broadened the breadth of microcredit in that MFIs provide services. Usually these include savings, insurance, and housing loans.

2.1.2 Microfinance Institutions and Micro enterprises

Small and Medium Enterprises (SMEs) have been defined in a variety of ways using various factors. Although many countries around the globe seem to be using common factors in their definitions, the degree of emphasis and measures used differ quite considerably. These factors include number of employees, volume of sales, and the capital value of the business. Generally there are two types of definitions -operational definitions, which are largely used for working purposes and theoretical definitions, which are generally, employed to characterize the sector. A definition of SME in the developed world would differ from how SMEs is defined in the third world. Despite the fact that there is no standard definition, however in operational terms it is already quite clear what is meant with each scale of enterprise. Recognizing that there are no standard definitions of SMEs and that their definitions vary from country to country depending largely on the size of the economy, the levels of development, culture and population size of a country involved, a working definition for the purposes of this paper is one given by the Ministry of Trade and Industry and Central Statistical Authority (CSA) which defines enterprises according to the number of employees and paid up capital. Ministry of Trade and Industry adopted official definition of Micro and a Small enterprise in Ethiopia is as follow: Micro enterprises are business enterprises found in all sectors of the Ethiopian economy with a paid-up capital (fixed assets) of not more than Birr[3] 20,000, but excluding high-tech consultancy firms and other high-tech establishments. Small Enterprises are business enterprises with a paid-up capital of more than Birr 20,000 but not more than Birr 500,000 but excluding high-tech consultancy firms and other high-tech establishments.

[3]**Birr** is an Ethiopian Currency (In the year 2011, 1 US$ ≈16 Birr)

Micro enterprises represent a significant portion of business activity in developing countries. The constraints to microenterprise development are as many and diverse as the actors in the process of change — governments, funding agencies, nongovernmental organizations (NGOs), and the entrepreneurs themselves. Such constraints include a lack of relevant laws and administrative procedures; a policy bias toward large firms and capital-intensive import-substituting industries; a lack of or limited access to institutional credit; exclusion from participatory processes; imperfect market information; and a lack of opportunities for skills development. Of the hurdles, the most formidable has been lack of access to credit. Inadequate collateral, insufficient legal status, a high level of transaction costs, and the inability of microenterprises to cope with the complexities of dealing with formal financial institutions are among the reasons why such enterprises have had difficulty growing (Amala, 2004; Marlow and Patton, 2005).

Microfinance and microenterprise are critically linked; microenterprise development is an essential extension of microfinance schemes. If microfinance is to have a sustainable impact on poverty eradication, it must eventually scale-up into creating a private sector of entrepreneurs who function in the formal economy. In other words, microfinance has the potential of formalizing the informal sector, empowering micro-entrepreneurs to participate and benefit from the formal economy (Micha'el, 2006). Microfinance is said to play significant role towards mitigating the problem of the poor. Several studies indicate that microfinance allows poor people to increase their incomes by starting new enterprises or expanding existing ones. The argument is that through diversified sources of income, the people could be able to shield themselves against external shocks. Savings and micro insurance services could also allow poor individuals to plan for future expenses, cope with stochastic crises and cover unanticipated expenses. Microfinance institutions could play an important role in meeting the financial needs of households and micro enterprises (Garson, 1998).

Growth in micro enterprises or small enterprises can be important means for employment generation and development of poor countries. High population growth rate and limited employment opportunities in the agricultural sector and the modern manufacturing sectors leaves a vast majority of the labor force without productive employment. Micro enterprises can play a significant role in employing the surplus labor force productively. Other than generating employment, Leegwater and Arthur (2008) identified unexplored primary and secondary pathways for micro and small enterprises to contribute to economic growth, including entrepreneurship, economic dynamism, linkages in value chains, and societal development. "Primary pathways" have greater and more direct impact on growth; they include promoting entrepreneurship and economic dynamism, and creation of value chains through linkages with large firms. "Secondary pathways" are the indirect channels through which micro and small enterprises may contribute to overall economic growth and include human capital improvement, financial market development, societal development, and contributions to other industry sectors.

To be successful, microenterprise entrepreneurs must possess managerial skills, knowledge of markets and prices, and the technical ability to create their product. Simple vending businesses require general managerial skills but little technical ability, whereas manufacturing businesses such as furniture making require an additional knowledge of the craft. Furthermore, the entrepreneur must have sufficient capital to finance the startup costs of the business, plus access to additional capital to fund further growth: "it is the lack of capital that most frequently keeps a person from becoming self-employed" (Pretes,2002).

In general, the development of microenterprises are affected by factors such as entrepreneurship, firm size, enterprise age, size of the firm, education, business environment and so on. Financial institutions have different characteristics, which affect the type of credit they disburse. Microenterprises also have different characteristics, which might affect their performance. The interaction of these factors when there is an intervention through appropriate credit facilities will lead to adoption and development of strategies that are appropriate and desirable for growth in sales, profit, number of employees and savings. Thus, performance can be improved when entrepreneurs belong to societies that provide accessible finance and promote microenterprises development (Adekunle 2007). Scholars also argue that ignoring the fungibility of money hurts both lender and borrower. Serious attempts to control loan usage create costs that no self-sustainable institution can bear, and successful usage restrictions only distort borrowers' choices. If donors want to ensure that microfinance has a positive impact on social welfare, then they should worry more about loan repayment than about loan usage. A loan can only improve a wise borrower's well-being, whether the loan buys an oven for a bakery or buys a cake for a birthday. A loan improves the intermediary's well-being only if repaid (Gibbons and Meehan, 2000).

2.1.3 Sustainability of Microfinance Institutions

Supporting the sustainable development of micro enterprises through financial markets requires self-sustainable financial institutions. Self-sustainability refers to the long-term ability to meet goals. For financial institutions and for firms, this requires private profitability: a return on equity, net of subsidy, which exceeds the private opportunity cost of resources (Schreiner, 2002). For MFIs to be successful, they should be sustainable both financially as well as institutionally. On top of sustainability, one has to include developmental effects like income on the target group as core measure of success. For agencies that are involved in the development or in assisting the development of a micro-credit institution, it is recommended that profitability and sustainability should be the final goals, and therefore the only indicators of success

(Robinson, 2001). Self-sustainability requires profits: revenue from interest and fees must cover interest costs, non-interest costs, and opportunity costs. Interest costs arise from the deposits or loans which fund the loan portfolio. Non-interest costs include operational expenses such as salaries, transportation, and loan losses. Opportunity costs are the return that the resources employed could have earned elsewhere (Khandker et al., 1995). According to Khandker et al. (1995) the concept of sustainability of micro finance can be divided into four interrelated ideas; namely, financial viability, economic viability, institutional viability and borrower viability. Financial viability relates to the fact that a lending institution should at least equate the cost per each unit of currency lent to the price it charges its borrowers (i.e. the interest rate). Economic viability relates to meeting the economic cost of funds (opportunity cost) used for credit and other operations with the income it generates from its lending activities. Institutional viability is related more to efficient management and decision-making process. Borrower viability however, refers to whether the borrowers of the institution have achieved higher flows of income over time and is able to repay back their loans. It is this concept of sustainability that is given more emphasis in this study.

Self-sustainability is more than a given financial institution's ability to provide a return on equity above its opportunity costs while providing products demanded by the self-employed poor. It is also the process of moving the entire financial system toward rewarding the supply of services useful to micro enterprises. Krahnen and Schmidt (1994) write that any good project in the field of finance should contribute to shaping or influencing the financial sector so that there will be financial institutions that are, and remain, able and motivated to provide quality financial services with moderate operating and transactions costs to large segments of the population.

Microfinance institutions are commonly praised for their better repayment performance in comparison to other forms of lending institutions. However, the existence of non-repayment in their loan portfolios will have wider social and economic implications on the national economy. Default rates i.e. the amount of loans not collected on current and past due loans for the reference period, for loans taken from credit institutions vary from country to country, region to region, sector to sector (Gibbons and Meehan, 2000). As Kashuliza (1993) in his study showed that all credits of developing countries were found to share one common characteristic; all suffer from a considerable amount of default rate. Therefore, whether default is random and influenced by erratic behaviors or if it is influenced by certain factors in a specific situation needs an empirical investigation so that the findings can be used by micro financing institutions to manipulate their credit program for the better (Khandker et al., 1995).

2.1.4 Micro Enterprises and Loan Repayment

The primary objective of microfinance institutions (MFIs) is to provide financial services (credit and saving) to the poor in order to release financial constraints and help alleviate poverty. Each MFI tries to maximize its repayment performance, whether or not it is profit oriented. As Oladeebo (2008) clearly indicated that high repayment rates are indeed largely associated with benefits both for the MFI and the borrower. They enable the MFI to cut the interest rate it charges to the borrowers, thus reducing the financial cost of credit and allowing more borrowers to have access to it. Improving repayment rates might also help reduce the dependence on subsidies of the MFI which would improve sustainability. It is also argued that high repayment rates reflect the adequacy of MFIs services to clients needs. They limit the incidence of cross subvention across the borrowers.

There are several factors that have been attributed to the high default rates in small-scale credit. Some argue that women, married, aged, more business experience, value of assets, timeliness of loan release, small periodical repayments, project diversification, and being a pre-existing depositor are positively related to loan repayment performance. On the other hand, loan in kind, smaller loan than required, long waiting period from application to loan release and availability of other source of credit have negative relation with loan repayment performance (Vigano,1993).With respect to gender influence in loan repayment Khandker and his colleagues argue that lending to women can lead to their economic empowerment and inculcate in them a culture of hard work and financial discipline, which in turn can lead to high loan repayment rates(Khandker etal.,1995).As far as the socio-economic homogeneity of group members, some argue that homogeneity of the group members may be conducive to loan repayment. Group members of many successful lending programs come mostly from similar socioeconomic backgrounds (Devereux and Fisher, 1983).

With respect to the borrowers' transaction cost of loans, the costs of borrowing include the real effective interest rate, the opportunity cost of time used in application and repayment, out-of-pocket fees, the costs of arranging for guarantees or collateral, the opportunity cost of forced savings, and, for group loans, the costs of group formation, maintenance, and monitoring (Levitsky, 1998). Transactions costs matter more to the borrower than interest rates because, especially for small loans, transactions costs usually swamp interest costs. As far as the business experience of the borrowers Kashuliza (1993), stated that entrepreneurs who have been in business longer are expected to have more stable sales and cash flows than those who have just started. Thus, those who have run their business longer have higher debt capacity.

Although there are few literatures which explain about the impact of social sanction on loan repayment, as demonstrated theoretically by Besley and Coate (1995), social sanction in group based lending can lead to increased in repayment rates. The threat of sanction by the programme management can also serve to enhance loan repayment. This sanction may include loss of access to future service, such as credit and saving facilities (Stiglitz and Weiss, 1981).As to the concern of education level of the entrepreneurs with respect to loan repayment rates, it seems there is general conclusion. Entrepreneurs with higher educational levels tend to have more knowledge and skills in such areas basic mathematics and accounting. Such human capital can assist entrepreneurs in better managing their business on a daily basis. Entrepreneurs with higher educational levels may also find easier to find par time jobs to supplement their incomes. This supplemental income may help the borrower to repay loan in the event of business failure (Chirwa, 1997).

2.2 Empirical Literature Review

Several African studies of loan repayment performance have estimated the determinants of loan performance with a binary loan outcome – defining borrowers as either current on their loan repayments or in default. Koophi and Bankshi (2000) used a discriminates analysis to identify defaulter farmers from non defaulters. Results showed that use of machinery, length of repayment period, bank supervision on the use of loan had significant and positive effect on agricultural credit repayment performance. In the other hand incidence of natural disasters, higher level of education of the loan recipient and length of waiting time for loan reception had a significant and negative effect on dependent variable. An empirical analysis made in Ethiopia by Birhanu (1999), showed that loan diversion, loan size and monthly income were undermining factors while beneficiary's age, perceived cost of default and suitability of repayment period were enhancing factors of loan repayment.

Oladeebo (2008) examined socio-economic factors influencing loan repayment among small scale entrepreneurs in Nigeria. Results of multiple regression analysis showed that amount of loan obtained by a borrower, years of experience with credit use and level of education were the major factors that positively and significantly influenced loan repayment. In most occasions, house hold size is assumed to have an adverse effect on repayment performance of borrowers, since it squeezes the resources available for repayment. Although borrowers of larger family could shoulder much burden than those with smaller number of or no dependents, they repay as good or bad as the other group. According to a study conducted by Njoku and Odii household size was determined to be inversely related to loan repayment (Njoku and Odii 1991). Kashuliza in his Tanzanian study obtained the same result (Kashuliza 1993). However, family size was determined to have no significant effect on repayment performance of microfinance borrowers in Addis Ababa(Michael,2006).

Chirwa (1997) specified a probit model to assess the determinants of the probability of credit repayment among smallholders in Malawi. The model allows for analysis of borrowers as being defaulters or non-defaulters. Various specifications of the X-vector were explored by step-wise elimination. However, only five factors (sales of crops, size of group, degree of diversification, income transfer and the quality of information) were consistently significant determinants of agricultural credit repayment. The explanatory power of the model is plausible with the log likelihood statistically significant at 1- percent. Four independent variables – gender, amount of loan, club experience and household size were not statistically significant in various specifications. Oni (1999) studied the proportion of loan repayment by smallholder farmers in Osun State. His explanatory variables were: amount of loan collected, expenditure on farm, interest rate, extent of farmers contact with bank, disbursement lag, cultivated land area and years of experience in farming. The result of linear and log form equations showed that the regression coefficients associated with amount of loan (+), disbursement lag (-) and extent of farmers' contact with banks (+) had expected signs and were statistically significant.

With regard to the impact of sanction and loan disbursement, an empirical analysis of micro credit repayment in Nigeria conducted by (Okorie, 1986) showed that an increase in penalty for lateness will reduce repayment rate by 0.88 percent, and delay of disbursement of loans reduced repayment rate by 0.98 percent. Field studies in Burkina Faso further indicated that repayment rates are high because of ex post peer pressure is carried to the extremes, and has even resulted in the forced sales of household items in order to recover loan amount (World Bank.1997). In other instance, in Bangladesh, default can result in public embarrassment, exclusion from social events and even community ostracism (Khandker et al., 1995)

2.3 Overview of Microfinance in Ethiopia

2.3.1 Evolution of Microfinance Institutions in Ethiopia

Financial development plays a central role in poverty reduction (Narayana, 2005). Microfinance is attractive and has been accepted as an important tool to help poor in improving the livelihoods, reducing vulnerability and fostering social as well as economic empowerment (Lousie, 2002). The delivery of financial services have been accepted as one of the poverty reduction tools in the development paradigm; because it helps the poor to increase income, improve educational and health status, improve housing condition, empowers the poor, provides confidence and social esteem if it is realized appropriately (Wolday, 2003). It is believed that poor households lack access to adequate financial services for efficient inter-temporal transfers of resources and risk coping. Without some financial support, these households do not have many prospects for increasing their productivity and living standard in sustainable way. Because formal financial sector do not have interest in lending to poor households due to lack of viable collateral and high transaction costs (Assefa *et al.*, 2005).

In Ethiopia, the potential demand for financial services, particularly micro-credit is huge. However, the existing supply of financial services to the poor is very limited. As a strategic tool in alleviating the problem, though provision of micro-finance services by government and non-government organizations were started in the past years, much emphasis was not given until the recent years (Micha'el, 2006). The origin of MFIs in Ethiopia is largely rooted in their NGO with a clearly defined mission of rural poverty eradication. Initially, micro credit started as a government and non-government organizations motivated scheme. Following the 1984/85 sever drought and famine, many NGOs started to provide micro credit along with their relief activities although this was on a limited scale and not in a sustained manner (IFAD 2001). The government also sporadically provided loans largely for the purchase of oxen through its Rural Finance Department of the Ministry of Agriculture and Cooperatives. But these loans were not based on proper needs assessment and no mechanism was in place to monitor their effectiveness. In many cases, these loans were not to be repaid and might have fostered a culture of not repaying loans (Getachew, 2005).

During the command economic system (1974-91), the Development Bank of Ethiopia (DBE) and the Commercial Bank of Ethiopia (CBE) were also involved in extending loans to cooperatives largely in response to the government's pressure. A massive default by the cooperatives following the demise of the command economy along with its extensive control systems, however, forced the CBE has continued to provide loans for the purchase of fertilizers and improved seeds on the basis of regional government guarantees. The DBE has also been providing loans to micro and small-scale operators in some selected towns. This scheme was, however, based on donors fund designed in the form of revolving fund, and essentially based on a limited scale in terms of the number of clients covered. Funds were simply been given from the DBE to clients identified and screened by the Trade and Industry Bureau of regional government which led to a low loan recovery rate (Tsehay and Mengistu, 2002).

In 1990, an agreement was signed between the Ethiopian government and International Development Association (IDA) for a Market Towns Development Project with the objective of tackling poverty through employment creation and income enhancement by providing credit (Meehan, 1999). But the operation was for the first time undertaken after 1994 in regulated form (Tsehay and Mengistu, 2002). Most of the borrowers were women during the time. Wolday (2003) indicated that financial schemes of NGOs and institutions that do not follow sound and sustainable financial principles and facilitate real economic growth might cause more harm than benefit. The study recommended that the government should develop national standards for NGO credit programs. Thus, the government took the initiative to establish the regulatory framework in order to facilitate sound development of the microfinance industry. Following this, the government of Ethiopia launched a Proclamation No. 40/1996 which requires all existing microfinance providers to register as either a microfinance institution, a saving and credit cooperative or an agricultural cooperative before the deadline of April 1999 (Proc. No 40/1996). It also provides a power to the National Bank of Ethiopia as the licensing and supervising authority. The majority of the NGOs in Ethiopia were terminated the delivery of financial services following the issuance of proclamation No. 40/1996 (Wolday, 2003). Recently, microfinance institutions are emerging rapidly in the country based on the new approach and in line with the new microfinance law. Almost all microfinance institutions have a common objective; poverty reduction through provision of credit and saving services using group based lending methodology (Meehan, 1999; Assefa *et al.*, 2005; Tsehay and Mengistu, 2002).

2.3.2 Sustainability of Microfinance Institutions in Ethiopia

In Ethiopia, several micro finance institutions (MFIs) have been established and have been operating towards resolving the credit access problem of the poor particularly to those participants in the petty business. One of the indicators of performance of a micro finance institution is its financial sustainability. Different literatures noted that financial sustainability is one of the areas that we need to look at to assess the performance of microfinance institutions. Meyer (2002) noted that the poor needed to have access to financial service on long-term basis rather than just a one time financial support. Short-term loan would worsen the welfare of the poor (Navajas et al., 2000). Meyer (2002) also stated that the financial unsustainability in the MFI arises due to low repayment rate or un-materialization of funds promised by donors or governments. For MFIs to be successful, they should be sustainable both financially as well as institutionally. Loan repayment delinquency is recognized as the major threat to maintain the value of fund. A high rate of non-repayment erodes the value of the loan portfolio and reduces income, which undermines the hope of achieving sustainability (Awoke, 2004). Most successful microfinance institutions have a good record of repayment rate. Gramean Bank for instance has loan recovery rate of 98% in 1994 (Rahman, 1986). Similarly in most best managed MFIs the loss amount 2-3% of the value of the portfolio. It is indicated that, for viable MFI losses shall not be more than 5% of the value of loan portfolio (Kereta, 2007).

In Ethiopia, although currently the establishments of sustainable and profitable micro finance institutions that serve large number of poor households have becoming a prime component of the new development strategy, different studies undertaken with this regard have shown deterioration of loan recovery rate. Its loan recovery rate reduced dramatically from 38%and 64% in 1996/97 to 24% and 31% in 1999/2000 with and without non-performing loans respectively (Wolday, 2000). To tackle this problem, Hailu Legese (2000) argues that credit analysis and appraisal should at least cover the following points: Client background, past and existing client institution relationship, purpose of loan, group pressure (collateral), business plan, risk analysis and recommendation. After the disbursement of loan, credit monitoring is important in ensuring that loan proceeds are directed to the intended purpose and provide appropriate advice to the borrowers. Hailu also concluded that credit and risk management deserves special emphasis because it determines the survival of the institution offering credit services.

2.3.3 Studies on Microfinance in Ethiopia

Repayment problems are among the main topics treated by researchers in microfinance since they weaken the financial health of the microfinance institutions. They handicap their missions while putting in danger their capitals. Although the repayment rate of MFIs in Ethiopia is relatively better, it does not give the true picture of efficiency and financial health of MFIs. The limited data on ageing, loan write-off, loan loss reserve, and adjusted cost of subsidy affects the portfolio quality estimation procedures (Wolday, 2000). Despite the growing importance of provision of microfinance to the productive poor people, there are few studies made in the area. Although many of the studies conducted dealt with the impact assessment (focusing on household impact), assessment of the performance of microfinance institutions with respect to loan recovery are very limited. But some researchers have attempted to study the determinants of loan repayment performance of microfinance institutions in Ethiopia. Here, some of the studies are presented in the following manner.

Table 2-1 Studies on the Determinants of Loan Repayment in Ethiopia

Study	Coverage	Methodology	Results
Berhanu (1999)	Small-scaleBusiness Opportunities in Addis Ababa	Probit Model	While education, timely loan granting and the use of accounting system negatively affect the proportion of loan funds diverted, loan size, dependency ratio and consumption expenditure positively affects loan diversion.
Michael (2006)	Micro-finance Repayment Problems in the Informal Sector in Addis Ababa	Multinomial logit	Better repayment performance is strongly and directly associated with educational level of the borrower. Insufficiency of the loan granted and unplanned engagements in the business activity do also reduce repayment performance. Government owned and not-for-profit non Governmental microfinance institutions were found out to face relatively larger non-repayment due to credit attitude of borrowers towards the loan, as if it were grant, instead of a liability at the time of difficulty.
Mengistu (1997)	Micro enterprises in Bahir Dar and Awasa	Probit Model	Number of workers employed has positive relation with full loan repayment for both towns, while loan size and loan diversion were negatively related. Age and weekly repayment period had positive relation with repaying loan in full for Awasa. In the case of Bahir Dar, loan expectation and number of workers employed have a positive relation with full repayment, while loan diversion and availability of other sources of credit have a negative impact.
Abreham (2002)	Determinants of Loan Repayment Performance Private Borrowers around Ziway	Tobit Model	Education, access to other sources of income, and related work experience prior to taking the loan was found to enhance loan diversion while loan diversion, being male borrower and giving extended loan repayment period are undermining factors of loan recovery performance.
Bekele (2003)	Borrowers of Input loan in Oromia and Amhara Regions	Logistic Regression	Borrowers who took larger loans were able to show better repayment performances. Ownership of livestock was also a positive factor affecting loan Repayment performance. On the other hand, late disbursement of inputs was found to be a problem
Jemal (2004)	Loan repayment in Gebreguracha town,Oromia-region.	Two limit Tobit Model.	Education, income, loan supervision, suitability of repayment period, availability of other credit sources and livestock are important and significant factors that enhance the loan repayment performance, while loan diversion and loan size are found to significantly increase loan default. In addition female borrowers were found better in terms of loan repayment.

From summary of the studies (Table 2.1) on the determinants of loan repayment one can observe that majorities of these studies were conducted in rural areas. From the presented studies, it was the study of Birhanu and Michael that were conducted in Addis Ababa. In majority of these studies, sample respondents were farmers who took agricultural type of loan. Therefore results of these studies may not fully explain the repayment problems of business enterprises found in cities like Addis Ababa. Furthermore the variables that considered to be studied were both supply and demand side factors. Although it is very important to see the repayment problems from both demand and supply side, it will create problem of managing many variables at a time and study in a detail manner. Thus the results may not fully reflect the reality about the repayment problems.

2.4 Conceptual Framework

Micro financing is being practiced all over the world as a tool to deliver financial services to the poor with the broad objective of attacking poverty. According to Kim (1995) providing the poor and low income earners access to financial institutions is the only way to transform the economy. Lidgerwood (1999) argued that micro financing is growing for several reasons. Some of them are identified as follows: (i) microfinance activities can support income generation for enterprises operated by low-income households; (ii) microfinance activities can help to build financially self-sufficient; (iii) microfinance activities sometimes mimic traditional systems; (iv) microfinacing activities can strengthen existing formal financial institutions by expanding their markets for both credit and savings.

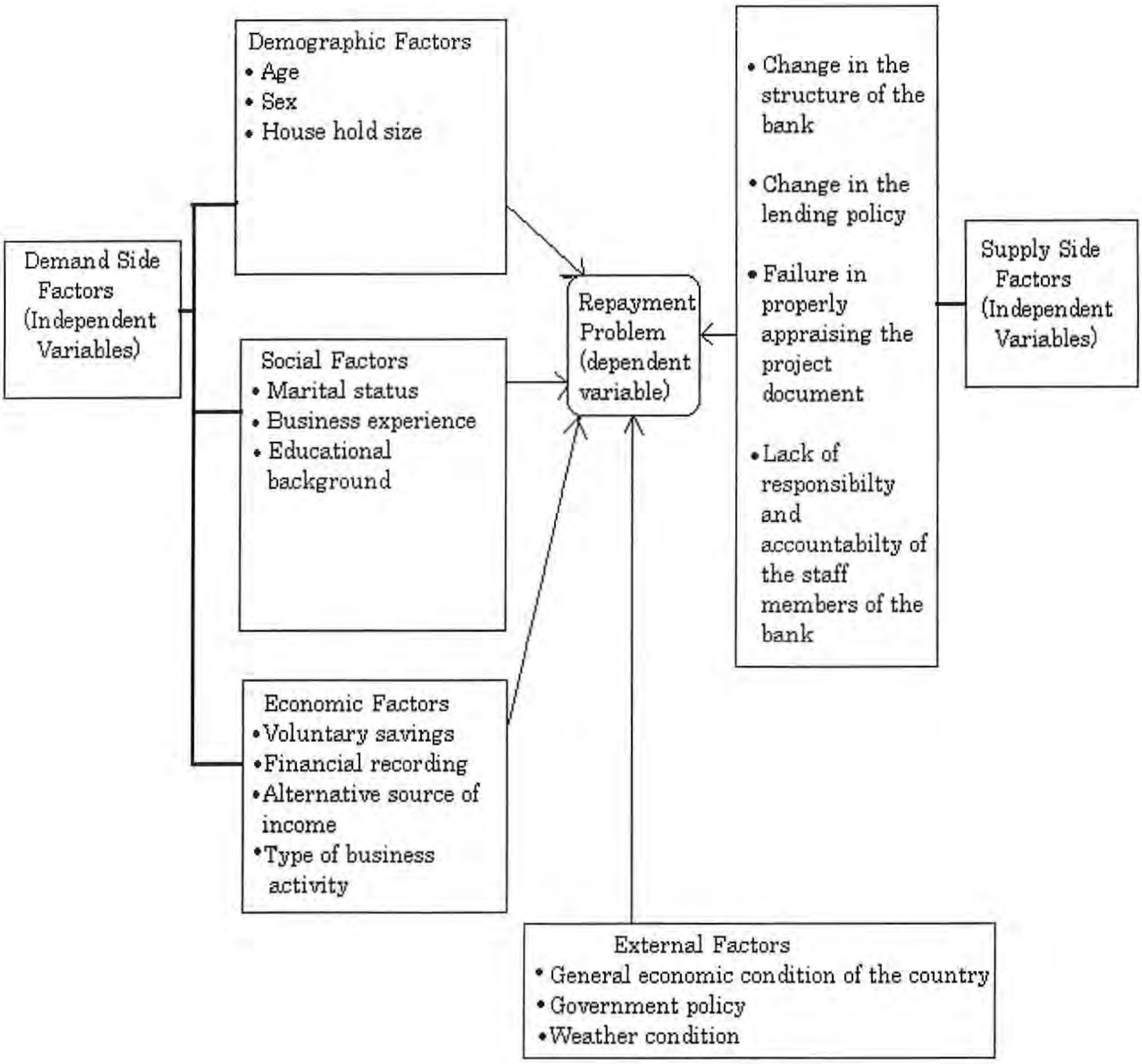
However, in order to provide efficient financial services MFIs should operate at a profit. To be a successful, financial intermediary that provides services and generate domestic resources must have the capacity to meet high performance standards. They must achieve excellent repayments and provide access to clients.

The explanatory variable used to explain the repayment performance small and microenterprises can be categorized into three. These are supply side (loan deliver) or the demand side (loan receiver) and the environmental factors. The demand side factors include the set of borrowers' characteristics such as age, sex, educational level, household size, management capacity, loan utilization, availability of other source of income, bank credit experience, specific situation of the enterprise (i.e. market condition, technical capability, specific location, e.t.c.) while external factors mainly refers to the general economic condition of the country, government policy and weather condition (Okorie, 1986; Njoku and Odii 1991; Michael,2006; Oladeebo 2008).

There are those who argue that the failure of lending agencies in playing their roles in loan disbursement and recovery process is a major contribution to loan default. The supply side problems include change in the structure of the bank, change in the lending policy, failure in properly appraising the project document (i.e. in assessing the background of the promoter, technical capability, marketability, financial and economic viability of the project) and lack of responsibility and accountability of the staff members of the bank. (Okorie, 1992; Vigano, 1993; Fry, 1995). Balogun and Alimi (1988) identified the major causes of loan default as loan shortages, delay in time of loan delivery and poor supervision.

The selection of these particular factor groups was motivated by desire to establish which factors from the side of the client (demand), loan deliver (supply) and environment affected repayment problem. Therefore, the finding depends on the relationship and outputs of the independent and dependent variables. The following diagram shows the relationship between independent and dependent variables.

Figure2- 1 Conceptual Relationship between Independent and Dependent Variables



For the purpose of this study the variables that are taken to be the determinants of the loan repayment are the demographic and socio-economic factors. Lending institutions, either public or private, consider certain characteristics of potential borrowers before loan/credit of any kind is granted.

These include economic characteristics (their capacity to make good use of additional capital, so as to generate funds for repayment of the loan in the time specified) and their personal characteristics (their likely reliability in repaying the loan, given the means to do so). Evaluation of the vectors of these factors forms the framework of decision by lending body to grant loan to intending beneficiaries on the expectation of full recovering. As such, the finite number of potential borrowers seeking credit from lending body has different probabilities of either repaying or defaulting irrespective of the credit contract, which specify the condition of lending. Strategic defaulting is associated with personal characteristics of the borrowers whereby there is a willful decision by the borrower to default- moral hazard, even when the benefiting business has yielded enough revenue to effect repayment (Poulton *et.al,*1998)

Chapter Three

3 Methodology

3.1 Sampling, Data collection Mechanism and Method of Analysis

3.1.1 Sources and Types of Data

The study was conducted in Kolfe Keranyo Sub-city of Addis Ababa Administration. The study used both primary and secondary sources of data. The primary sources of data were collected from small and micro business enterprise entrepreneurs in the sub city, small and micro enterprises' development officers at sub-city and Kebele levels, reports and statistical data of the sub city, officials from the Kebeles and AdCSI. The study included all clients whose repayment installment has been maturing. It did not include borrowers whose repayment installment has not yet matured because it would be premature to assess the real credit worthiness of the borrowers unless they are practically examined by their repayment record. Since the study focuses on small and micro enterprise clients of the bank, other clients such as clients who run medium scale enterprises and clients who borrow for house hold consumption are excluded from the study.

For background discussion and theoretical explanation, the study relied on secondary data. Variety of books, reports of various governmental and non governmental organizations such as AEMFI (Association of Ethiopian Micro Finance Institutions), websites, reports and newsletters of AdCSI were reviewed to make the study fruitful. On the other hand the primary data was collected through structured questionnaires to get information about the determinants loan repayment among small and micro enterprises.

The questionnaires were designed and distributed to the selected sample respondent including defaulters and credit worthy borrowers.

Information acquired from interview of concerned officials of the Kebele administration and AdCSI officials include:

- The support of Kebele administration to the development small and micro enterprises
- Measures taken to tackle default problems
- Information with regard to types of loan and savings

Information obtained from the survey questionnaire includes:

- Demographic characteristics such as age, sex, household size, marital status
- Types of business activities, sources of income and profitability of the business
- Borrowers' attitude towards default etc...

3.1.2 Data Collection and Sampling

The primary data were gathered through a survey carried out among the Addis Credit and Saving Institution of Kolfe Keranyo Sub-city branch office borrowers. The survey was carried out between January and February 2010. A multi-stage sampling technique was used to select 140 small-scale entrepreneurs from 3 Kebeles. The first stage was a purposive selection of Kolfe Keranyo sub-city from the existing 10 branches of AdCSI because of the fact that it is difficult to manage the study when the whole sub cities are taken in the study. Furthermore, it is the area where diversified economic activities being are carried out. The borrowers' composition will also be from diversified activities. The second stage involved again a purposive selection of three Kebeles from the sub city. The sub-city has 10 Kebeles and out of which three Kebeles were included in a sample frame because in other Kebeles, many of the enterprises are related with agro processing activities (found in agricultural loan type) that require large amount of loan. The last stage involved random selection of 140 respondents from the selected Kebeles based on stratified sampling where borrowers were selected in such a way that it comprises a diversified business ventures. In 2009/10, a total of 852 borrowers (small and microenterprise) were the clients in the selected Kebeles (local administration) of AdCSI, out of which 140 were new clients whose maturity period was not reached. As a result of this 140 sample respondents were selected from the remaining 712 clients. The sample selection was proportional to each selected Kebeles and sex distribution.

Table 3-1 Sample Respondents' Distribution Over the Case Study Area

Name of the kebles	No. of members	Questionnaires distributed	Questionnaires not collected	Percentage
Keble 01\05	311(44%)	62	3	95%
Keble 10\11	269 (38%)	53	4	92%
Keble 06\07	132 (18%)	25	1	96%
Total	712	140	8	94%

Source: Own Survey

As it can be seen from the above table (Table3.1), from the total sample respondents 44% were selected from Keble 01\05 and the remaining 38% and 18% were selected from Keble10\11 and Keble06\07 respectively .As far as the questionnaires distributed and could not be returned concerned, it was only 132(94%) questionnaires were collected from the total 140 questionnaires. To augment the analysis, an interview was also held with credit officers so as to find out the loan repayment problem among small and micro enterprises.

3.1.3 Method of Analysis

Descriptive statistics such as frequency distribution, means and percentages were used to analyze the socio-economic characteristics of the sampled respondents. An Econometric analysis is employed to analyze factors affecting loan repayment of small and micro enterprise entrepreneurs.

This paper investigates the effect of borrowers' demographic and socio-economic characteristics on loan repayment performance of Addis Credit and Saving Institution. The characteristics have been hypothesized in the literature to be important determinants of loan repayment of microfinance institutions. These characteristics are i) gender ii) other sources of income iii) age iv) years in business v) educational level vi) type of business activity vii) household size viii) marital status ix) financial record x) voluntary saving

3.1.4 Model Specification

A logit model is used to find the factors influencing loan repayment performance. Dependent variable is defined as whether the borrower did not have delayed repayment of loan installments to AdCSI. Hence, if client did not have any delayed repayment, value of dependent variable will be one and otherwise zero. For analytical purpose, selected borrowers were classified into two mutually exclusive groups as, good credit risk and default[4] borrowers (including delinquent[5]), based on their credit status of the sampling date in the respective AdCSI Kolfe Keranyo sub-city branch offices. The general approach followed is intended to explain why a particular population group falls under the two credit repayment categories.

The loan repayment equation is specified based on the assumption that the decision of the i_{th} borrower whether to repay loan or not depends on a number of independent variables. As stated in chapter one of the scope of the study, this study will examine the effects of the following variables on loan repayment among the small and micro entrepreneurs.

[4] **Defaulters** are those clients who did not repay fully three months after the due date

[5] **Delinquents** are those clients who repaid within ninety after due date days

Independent variables include:

X1= Gender

X2= Age of respondent

X3= Experience of respondent

X4= Alternative sources of income of respondent

X5= Educational level

X6= type of the business activity

X7= Household size

X8= Voluntary saving

X9= Marital status of the borrower

X10= Financial record

Since probability of repaying loan is expected to be non-linearly related to a set of explanatory variables, the estimated probabilities lie in the [0, 1] range. Therefore, one can easily use the Cumulative Frequency Distribution (CFD) to model regressions where the response variable is dichotomous, taking 0 and 1 values. For historical as well as practical reasons, the CFDs' commonly chosen to represent the 0 and 1 response models are (1) the logistic and (2) the normal, the former giving rise to the logit model and the latter to the probit (or normit) model (Gujirati, 1995,Hosmer etal,1989).

The logit model for repayment performance:

Binary logistic regression is a type of regression analysis where the dependent variable is a dummy variable. In the OLS regression:

$$Y = \alpha + \beta X + \varepsilon \qquad \text{where } Y = (0; 1)$$

- ε is not normally distributed because Y takes on only two values
- The error terms are heteroskedastic
- The predicted probabilities can be greater than 1 or less than 0

The "logit" model solves these problems in such a way that:

If Pi, the probability of client had not any delayed repayment, is given by :

$$Pi = E(Y = 1|Xi) = \frac{1}{1+e^{-(\alpha+\beta Xi)}} \qquad (3.1.1)$$

For simplicity, we can rewrite (3.1.1) as:

$$Pi = \frac{1}{1+e^{-Zi}} = \frac{e^{Zi}}{1+e^{Zi}} \qquad \text{where } Zi = \alpha + \beta Xi \qquad (3.1.2)$$

Equation (3.1.2) represents what is known as the (cumulative) logistic distribution function. It is easy to verify that as Zi ranges from $-\infty$ to $+\infty$, Pi ranges between 0 and 1 and that Pi is nonlinearly related to Zi (i.e., Xi). This means that we cannot use the familiar OLS procedure to estimate the parameters. On the other hand, if Pi the probability of client had not any delayed repayment, then (1 – Pi), the probability of default. That is:

$$1 - Pi = \frac{1}{1+e^{Zi}} \qquad (3.1.3)$$

Therefore, we can write equations 3.1.2 and 3.1.3 as:

$$\frac{Pi}{1-Pi} = \frac{1+e^{Zi}}{1+e^{-Zi}} = e^{Zi} \qquad (3.1.4)$$

Now Pi/ (1 – Pi) is simply the odds ratio and if we take the natural log of equation (3.1.4), then we can get:

$$\ln\left[\frac{Pi}{(1-Pi)}\right] = \alpha + \beta X + \varepsilon \qquad (3.1.5)$$

- p is the probability that the event Y occurs, p(Y=1)
- p/(1-p) is the "odds ratio"
- ln[p/(1-p)] is the log odds ratio, or "logit" where the independent variables are linearly related to the logit of the dependent variables.
- Y is dichotomous dependent variable which can be explained as;

$Y = 1$, if borrower had not a delayed repayment of loan installments, and $Y = 0$, otherwise.

Marginal effect of independent variables indicate probability variation of being in group if changes one unit.

$$ME = \frac{\partial Pi}{\partial Xi} = \frac{e^{\beta Xi}}{(1 + e^{\beta' Xi})^2} \qquad (3.1.6)$$

Thus the model for loan repayment can be given as:

LR = f (AGE, SEX, EDU, EXP, OTHINC, MARST, HHSS, VOLSAV, FINREC, BUSEC, ἐ)

The variables together with their definitions are given as:
LR= loan repayment (1, if borrower had not a delayed repayment of loan installments, and Y = 0, otherwise).

AGE = age of the respondents (in years)

SEX = sex of the borrowers

0= male 1= female

EDU = education level of borrowers

1= Illiterate

2= Grade 1-8

3= Grade 9-12

4= Above grade 12

EXP = borrowers' business experience

1=below a year

2= from one year up to five years

3 = from five years to ten years

4= ten years and above

OTHINC= other sources of income other than the business revenue

(1 if borrowers have other source of income, and OTHINC=0, otherwise)

BUSSEC= type of business activity

(1 if the borrowers' business activity is production activity, and SEC=0, Otherwise)

HHSS= household size (in number)

VOLSAV= voluntary saving

(1 if borrowers have voluntary saving, and VOLSAV=0, otherwise)

FINREC = financial record

(1 if borrowers apply financial recording in their business activity, and FINREC=0, otherwise)

MARST =marital status

1= if the borrower is single

0= if the borrower is married

3.1.5 Explanation of each of the variable

- Gender: It is argued that lending to women can lead to their economic empowerment and inculcate in them a culture of hard work and financial discipline which can lead to a high repayment rate. Hence, women borrowers may have a high repayment rate.
- Age: It is argued that older borrowers are wiser and more responsible than younger borrowers. On the other hand, young borrowers are argued to be more knowledgeable and independent. Hence, age might have positive or negative effect on loan repayment rates.
- Years in business: Micro-entrepreneurs who have been in business longer are expected to have more stable sales and cash flows than those who have just started. Thus, those who have run their business longer may have higher repayment capacity.
- Other sources of income: Micro entrepreneurs may use cash inflows from non business activities and sources, such as income from other jobs or income generated by other family members, to make loan repayment.

Thus, borrowers with other sources of income may have a higher chance of repaying their loan.

- Marital Status: Borrowers who are married have high family and social responsibility including loan repayment. Hence, we expect positive relationship between married borrowers and loan repayment performance. On the other hand, married borrowers may have high number of household size as compare to single borrowers. This will erode the loan amount when a considerable amount of loan is diverted to household consumption. Hence, there could also be negative relationship. In general both positive and negative signs are expected
- Financial Record: Borrowers who undertake their business activity with accounting record can understand the trend of their business performance and hence able to take proactive decision before they face a failure in business activity. Therefore, borrowers who use financial record while undertaking business activity have high chance of repayment. Hence, we expect positive sign.
- Educational level: Small and micro-business entrepreneurs may need more formal education in order to comprehend complex information, keep business records, conduct basic cash flow analysis and generally make the right business decisions. Thus, borrowers with higher level of education may have high repayment rate.
- Type of Business Activity: Loans extended to finance production activities are expected to face loan default problem because they are more exposed to risk and uncertainty relative to other sectors of the economy. Hence, the variable is expected to have negative sign.
- Household size: large household size implies more consumption expenditure which may erode the fund that will be available for loan

repayment. Hence, it is expected to have negative effect on loan repayment.

- Voluntary Saving: Borrowers who voluntarily save their surplus other than the compulsory saving have high chance of repayment. Therefore, positive sign is expected.

3.2 The Study Area

Since Proclamation 40/1996 for licensing and supervision of MFIs came into effect in July 1996, considerable number of MFIs have been registered and licensed by the National Bank of Ethiopia (NBE). Majority of the regional administrations now have their own MFIs. Some of them are region-based MFIs, with a specific objective of enhancing the living conditions of poor households in their respective regions.

One of the region based microfinance institutions in Ethiopia is Addis Credit and Saving Institution. This institution is operating in Addis Ababa where many small and micro enterprises are found. Addis Credit and Savings Institution (AdCSI) evolved from "Small Scale Job Opportunity Creation Project" which was established in 1995 to provide credit facilities for small-scale projects in region of Addis Ababa. Addis Credit and Savings Institution was legally registered in January 2000 by the National Bank of Ethiopia, according to Proclamation No. 40/1996 with future expansion plan to serve people residing in the City of Addis Ababa. a paid up capital of Birr 517,000. The shareholders include Addis Ababa City Administration, Addis Ababa Youth and Women association, Addis Ababa Teachers Association and Karaola Farmers Associations. AdCSI operates its activities in all sub cities of Addis Ababa City Administration with 88 service posts and now it is in the process to expand its scope from being micro financing institution to banking institution. According to Wolday (2006) in the year 2004 the number of clients served was reached to be 30,000 and the gender sensitivity of this data shows that 18% and 82% of the clients were male and females, respectively. The interview that the researcher held with officials of AdCSI indicates that AdCSI is delivering both installment and term loan services. The maximum loan term is 36 months and the minimum loan term is allowed for 7 months. The lending agency is delivering the service using both group collateral and personal guarantee. Some of the economic activities financed so far:

Production activities:

- Diary product production selling
- Poultry products production and selling
- Ready made and cultural cloth, shoes, plastic sheets production
- Traditional food and drinks production and selling
- Spice production and selling
- And many others

Services

- Hair dressing/beauty saloons and barbers
- Tailoring
- Small restaurants
- Plumbing and maintenance of electronic equipment and shoes, cloth washing
- Mechanics, cart transport
- Grain and cereal selling
- Selling of electronic equipment
- Newspapers, books and lottery vending
- Firewood selling
- Street vending

As far as the target clients are concerned, AdCSI in all sub cities has the following focusing areas.

- Micro and small enterprise owners and unemployed youth and women with strong commitment towards self-employment.
- Legally registered cooperatives;
- Community-based organizations such as 'Iddirs'. The Iddir selects the poorest among its members;
- New business start-ups such as graduates of high schools, colleges or even universities shall receive the services provided that they can engage themselves in income generating activities and want to take the loan on the basis of group collateral. Such borrowers shall be recruited or selected by the credit and savings committee of their respective local administration (Kebele).

With regard to savings products, AdCSI mobilizes savings from loan clients (both compulsory and voluntary savings). The objective of saving is to help clients to gradually build up income, improve their asset position and eventually be able to run their business from own sources, with out requiring credit. The following table was the summary of the interview that the researcher held with the AdCSI officials about the saving products.

Table 3- 2 Saving Products

Type of savings	Interest	Remark
Borrower's compulsory savings	4%	10% of loan amount at the time of taking the loan is deducted followed by fewer amounts of regular savings thereon.
Individual borrower's voluntary savings	4%	The amount depends on the capacity and willingness of the depositor

Source: AdCSI

In AdCSI, 10%-20% of the loan approved deduct from each client and deposited into saving account. To write off the loan, in case of death of a client, the client is required to pay 1% up front as insurance premium of the loan for the year.

Chapter Four

4 Data Presentation and Analysis

4.1 Descriptive Analysis

The regression analysis models explain the technical aspects of loan repayments. However, the regression analysis does not often provide full explanation of the impact of demographic and socio-economic variables on loan repayment status of small and micro business entrepreneurs. A full explanation may be obtained through the combination of descriptive analysis. To the effect of this, the following section describes the demographic and socio-economic characteristics of sample respondents and analyzed their behaviors with respect to loan repayment performance.

4.1.1Demographic and Socio-Economic Characteristics

The demographic distribution and socio-economic characteristics such as age, marital status and educational background will help to determine whether there is a direct or indirect relationship with loan repayment status of sample respondents.

Table 4.1 shows that the majority of beneficiaries are between 20-29 years of age that constitutes 31.8% and 40-49 years of age with 32.6% of the total respondents. This indicates that the lending agency (AdCSI) has better loan delivery scheme in terms of age distribution. On the one hand, the institution is lending for young age groups who can actively undertake their business venture that enables them to repay their loan. Furthermore, the institution is also providing for those portion of society found in aged category that have a high degree of social responsibility including the responsibility to repay the loan.

Table 4-1 Demographic and Socio-economic Characteristics

Variables	Category	Frequency	Percent	Cumulative percent
Age	20-29	42	31.8	31.8
	30-39	27	20.5	52.3
	40-49	43	32.6	84.8
	50-59	20	15.2	100.0
	Total	132	100.0	
Marital Status	Single	63	47.7	47.5
	Married	69	52.3	100.0
	Total	132	100.0	
Educational Status	Illiterates	43	32.6	32.6
	Grade1-8	19	14.4	47.0
	Grade 9-12	40	30.3	77.3
	Higher Education	30	22.7	100.0
	Total	132	100.0	
Sex	Male	35	26.5	26.5
	Female	97	73.5	100.0
	Total	132	100.0	

Source: Own Survey

From the summary of Table 4.1, it can be seen that there is proportional distribution of loan delivery with respect to marital status.47.7% and 52.3% of the sample respondents are single and married clients. The educational status of the clients has an impact on the business activity. Thus, the educational background of the respondents is an important factor to be considered with regard to making business. Although more than half of the sample respondents have at least the general ability to read and write, significant proportion of the sample respondent (32.6%) are found to be illiterates. About 14% of the respondents have a primary school educational background. Sample respondents who are in or have completed senior secondary constitute 30.3% of the total sample respondents. About 22% of respondents have a higher educational background. This, of course, in relative terms shows that there is high literacy level. The demographic distribution of sample respondents indicates that around 73% of the total respondents were females. This sample proportion is also indicated in the total population distribution of the target group. From the total number of microfinance clients in AdCSI of Kolfe Keranyo sub-city branch, around 76.8% are estimated to be female. This shows that majority of the clients are female.

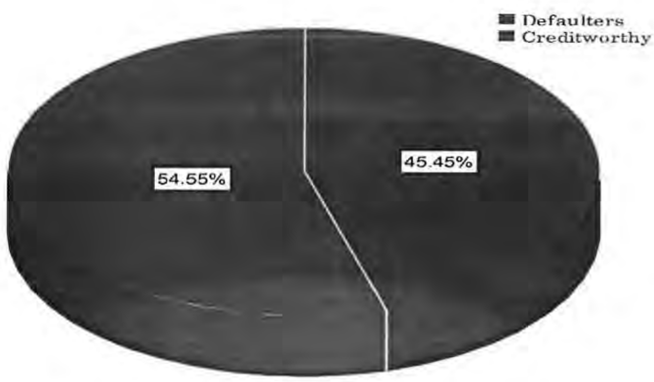
4.1.2 Descriptive Analysis of Creditworthy Vs Defaulters

The following section compares creditworthy borrowers with defaulters, so as to identify the factors that influence the loan repayment behaviors of borrowers. To the effect of this, analysis of variance between the mean values of each explanatory variable between creditworthy borrowers and defaulters is conducted.

1. Loan repayment performance classification of sample respondents

In order to identify the demographic and socio-economic factors that influence the loan repayment performance, 132 sample respondents were selected. As table 4.2 reveals, 72(54%) of the total sample respondents were defaulters. On the other hand, 60(45%) of the total sample respondents were credit worthy borrowers.

Figure4: 1 Loan repayment performance classification of sample respondents



2. Performance of Loan Repayment Status by Age

With regard to the distribution of age and loan repayment performance, table 4.3 and table 4.1 shows, as the client's age increases, the performance of loan repayment also increases. The mean comparison of the different age group with respect to being defaulter and creditworthy, shows their disparity among their loan repayment status. And this difference was also statistically supported at 5% level of significance.

Table 4-2 Mean Comparison of Borrowers by Age

Loan repayment Vs. age	Mean	Std. Err	Std. Dev.	[95% Conf. Interval]	t_{value}
Defaulters	1.77	.10	.89	1.4877 .85673	7.354
Creditworthy	2.95	.11	.92		

Source: Own Survey

Furthermore, from table4-3, we can see that the proportion of defaulters is highest in the age range of 20-29 and the lowest is shown in the age range of 50-60 categories from the total defaulters.

Table 4-3 Percentage of Loan Repayment Status by Age Distribution

loan repayment Vs age of the borrowers	age of the borrowers				Total
	20-29	30-39	40-49	above50	
Defaulters	35(83.3)	21(77.8)	13(30.2)	3(15.0)	72(54.5)
Creditworthy	7(16.7)	6(22.2)	30(69.8)	17(85.0)	60(45.5)

( ) Percentage
Source: Own Survey

3. Performance of Loan Repayment by Marital Status

To test if the mean proportion of single borrowers differed, according to defaulters and creditworthy borrowers, a group mean comparison test was used. Then the computed averages were compared using a t-test.Table4-4 shows the results of the t-test where the loan repayment status of single respondents is significantly different between defaulters and creditworthy borrowers (-t=7.981, $p<0.05$).The mean difference of defaulters and creditworthy borrowers shows that single respondents have registered less amount of loan repayment rate.

Table4-4 Mean Comparison of Borrowers by Marital Status

Loan repayment Vs marital status	Mean	Std. Err	Std. Dev.	[95% Conf. Interval]	t_{value}
Defaulters	.73	.05	.44	-.428298 - .710590	-7.981
Creditworthy	.16	.04	.37		

Source: Own Survey

The relative frequency comparison of those credit worthy and defaulters also shows that the higher (84.1%) relative frequency default has been made by those single respondents. On the contrary to this, married respondents have the higher (72.5%) loan repayment relative frequency. This indicates that married clients have high chance of loan repayment rate.

Figure 4-5 Percentage of Loan Repayment Status by Marital Status

Loan repayment Vs marital status	Marital status		Total
	married	single	
Defaulters	19(27.5)	53(84.1)	72(54.5)
Creditworthy	50(72.5)	10(15.9)	60(15.9)

() Percentage

Source: Own Survey

4. Performance of Loan Repayment Status by Educational Background

From the summary of table 4.6,we can observe that the mean loan repayment status of those respondents who could at least read and write have greater proportion of mean in creditworthy category when it is compared with those respondents who have at least the general ability to read and write and fall under the defaulters category.

Table4-6 Mean Comparison of Borrowers by Educational Background

Loan repayment Vs educational background	Mean	Std. Err	Std. Dev.	[95% Conf. Interval]	t_{value}
Defaulters	1.79	.11	.94	1.7304 1.0861	8.6503
Creditworthy	3.2	.11	.91		

Source: Own Survey

When we see each level of educational background in terms of defaulters and creditworthy borrowers, the highest variation are exhibited among respondents who have no general ability to read and write. As table4-7 reveals, respondents who have no formal educational background have 88.4% share from the total defaulters. The survey result shows that the share of default from the total defaulters decreases as the educational background of defaulters increases.

Table4-7Percentage of Loan Repayment Status by Educational Background

Loan repayment Vs educational background	Educational background				Total
	illiterate	1-8	9-12	higher education	
Defaulters	38(88.4)	14(73.7)	17(42.5)	3(10.0)	72(54.5)
Creditworthy	5(11.6)	5(26.3)	23(57.5)	27(90.0)	60(45.5)

( ) Percentage
Source: Own Survey

5. Performance of Loan Repayment by Business Experience

The survey result shows that the mean proportion of respondents with relevant years of business experience is 3.08 in creditworthy category and only 1.43 in defaulters' category. The t statistic 10.668 is large sufficiently to reject the null hypothesis of no mean difference between two groups (p<.0000).

Table 4-8 Mean Comparison of Borrowers by Business Experience

Loan repayment Vs years of business experience	Mean	Std. Err	Std. Dev.	[95% Conf. Interval]	t_{value}
Defaulters	1.43	.053	.45	1.9595 1.3460	10.668
Creditworthy	3.08	.059	.46		

Source: Own Survey

Furthermore from table4-9, one can observe that the proportion of defaulters is the highest for borrowers who have less than one year experience. The share default of inexperienced respondents from the total defaulters reaches about 91.5%. Borrowers who have 1-5 years of experience have about 50.0% share from the total defaulters and creditworthy borrowers under this classified years of business experience. The remaining borrowers who have 6-10 years of relevant experience have 22.6% and 77.4% of share in the defaulters and creditworthy categories respectively. Borrowers with above 10 years of experience are found to have 11.5 % and 88.5% relative share in the defaulters and creditworthy categories. Similarly to the above result, as business experience of the small and microbusinesses entrepreneurs increase their chance to be defaulters will decrease.

Table4-9 Percentage of Loan Repayment Status by Business Experience

Loan repayment Vs years of business experience	Years of business experience				Total
	below a year	1-5	6-10	above 10	
Defaulters	54(91.5)	8(50.0)	7(22.6)	3(11.5)	72(54.5)
Creditworthy	5(8.47)	8(50.0)	24(77.4)	23(88.5)	60(45.5)

( ) Percentage
Source: Own Survey

6. Performance of Loan Repayment by Sex

As it was explained in the previous section, 26.5% and 73.5% of the sample respondents are male and female borrows and hence it is proportional to the target population. As to the concern of the proportion of defaulters, 94.29% and 40.21% of the sample respondent are male and female clients respectively. The summary table also shows that from the total female respondents 59.79 % are female respondent and 5.71 % are male respondents who fall under the creditworthy category. This reveals that female respondents are clients who pay back the loan on time as compare to their counterpart (see table4-10)

Table 4-10 Percentage of Loan Repayment Status by Sex

Loan repayment Vs voluntary saving	sex		Total
	male	female	
Defaulters	33(94.29)	39(40.21)	72(54.55)
Creditworthy	2(5.71)	58(59.79)	60(45.45)

( ) Percentage
Source: Own Survey

Furthermore, table4-11 shows that the mean loan repayment status of female borrowers has high repayment performance as compare to male borrowers and this result was also found to be statistically significant at 5% level.

Table 4-11 Mean Comparison of Borrowers by Sex

loan repayment Vs sex	Mean	Std. Er	Std. Dev.	[95% Conf. Interval		t_{value}
Defaulters	.54	.059	.50	.55999	.29000	6.2286
Creditworthy	.96	.02	.18			

Source: Own Survey

7. Performance of Loan Repayment by Alternative Income

The survey summary shows that from the total number of those respondents who have no additional alternative sources of income, 62.2% and 37.8% respondents are found to be defaulters and creditworthy borrowers respectively. Table 4.12 depicts that no significant difference in the percentage proportion of defaulters and creditworthy borrowers of sample respondents who have additional alternative source of income.

Table 4-12 Percentage of Loan Repayment by Alternative Income

loan repayment Vs othe sources of income	Alternative sources of income		Total
	no	yes	
Defaulters	51(62.2)	21(42.0)	72(54.5)
Creditworthy	31(37.8)	29(58.0)	60(45.5)

( ) Percentage
Source: Own Survey

Furthermore, surprisingly, the survey summary shows that from the total sample of credit worthy borrowers about 29(51.6%) of the respondents were found to be respondents who payback their loan on time without having other additional alternative sources income. On the other hand, from the total creditworthy borrowers, it was only 49.4% respondents who able to payback on time and have additional sources of income other than the income generated from business venture that they are running.

In support of the above result the t-test summary of loan repayment shows that mean proportion of respondents with alternative sources of income is .48 in creditworthy category and only .291 in defaulters' category. However, the confidence interval is seen to capture the value of no difference (Ho: diff = 0), running as it does from .35740 to .0259. The observed difference is thus non significant. (for a 95% confidence interval, this is non-significance at the 5% level)

Table 4-13 Mean Comparison of Borrowers by Alternative Income

loan repayment Vs other sources of income	Mean	Std. Err	Std. Dev.	[95% Conf. Interval	t_{value}
Defaulters	.291	.053	.45	.35740 .0259	2.287
Creditworthy	.48	.06	.50		

Source: Own Survey

However, for the above mentioned difference, the possible reason may relate with the borrowers' attitude to cost of default. All of the 132(100%) respondents reported that cost of default is high. With regard to the perceived costs of default 74(56.06%), i.e. the majority of the borrowers responded social sanction as the most important factor forcing them to repay their loans in time. Therefore, the culture of the society is against those who default. Hence, social sanctions are important factors affecting loan repayment performance of borrowers by serving as social collateral for the lending institution.

Table 4-14 Perceived Cost of Default

Perceived cost of default	Frequency	Percent
Claims against personal wealth	16	12.12
Social sanctions	74	56.06
Fear of loosing another round of loan	36	27.27
Others	6	4.54
Total	132	100

Source: Own Survey

8. Performance of Loan Repayment by Types of Business Activity

Borrowers from the service enterprises constitute about 52% of the sample respondents, while borrowers from the production enterprises comprise about 47% of the total sample respondents. Table 4.15 shows that from the total respondents who are engaged in service business activities the proportion of defaulters accounts 73.9% and the credit worthy borrowers share has been found to be 26.1%. On the other hand, from the total sample respondent who are engaged in production business ventures, 33.3% and 66.75% fall under the defaulters and creditworthy categories. This shows that borrowers from the production enterprises are better payers as compare to respondents engaged in the business activity to deliver services.

Table 4-15 Percentage of Loan Repayment Status by Types of Business Activity

loan repayment Vs type business	Alternative sources of income		Total
	service	production	
Defaulters	51(73.9)	21(33.3)	72(54.5)
Creditworthy	18(26.1)	42(66.7)	60(45.5)

() Percentage

Source: Own Survey

Furthermore table4-16 shows problems that the sample respondents, who fall in default category, face with their related business activity. About 38% of defaulters who engaged in the production sector claim that low sales volume is their problem to be profitable. 47.62% and 14.29 responded as, increase in input price and lack of knowledge are their problems respectively while they are running their business. On the other hand, 62.75%,27.45% and 9.8% of those defaulters who are engaged in the service sector responded as low sales volume, increase in input price and lack of knowledge are their problems respectively to be profitable in the competitive market. This shows that for majority of defaulters ,who are engaged in the production sector, their business activity problem arise from an increase in the price of input while for the majority of defaulters, who are engaged in the service sector, their business activity problem arise from low volume sales.

Table 4-16 Problems Related with the Business Activities

Type of business activity	Problems related with the business	Frequency	Percent
Production	Low Sales	8	38.1
	Increase in input price	10	47.62
	Lack of knowledge	3	14.29
	Total	21	100
Service	Low sales	32	62.75
	Increase in input price	14	27.45
	Lack of knowledge	5	9.8
	Total	51	100

Source: Own Survey

9. Performance of Loan Repayment by Voluntary Saving

With regard to the information from interview that the researcher held with official of AdCSI in the Kolfe Keranyo Sub city, one of the objectives of AdCSI is mobilization of saving and allocation of resources for productive purposes. This is supposed to be undertaken by encouraging clients to save their surplus other than borrowers' compulsory saving. When we see the impact of voluntary saving on loan repayment, the survey summary in table 4.17 indicates that respondents from the total respondents who are not saving more than the compulsory saving, 70.5% are defaulters while 29.5% are creditworthy borrowers. On the other hand, from the total respondents who are voluntarily saving, 31.5% and 68.5% are found to be defaulters and creditworthy borrowers. From this one can understand that individuals who are voluntarily saving have a positive impact on loan repayment.

Table 4-17 Percentage Loan Repayment Performance by Voluntary Saving

Loan repayment Vs voluntary saving	Voluntary saving		Total
	no	yes	
Defaulters	55(70.5)	17(31.5)	72(54.5)
Creditworthy	23(29.5)	37(68.5)	60(45.5)

( ) Percentage
Source: Own Survey

In addition to the above survey summary, Table 4.18 shows that the mean loan repayment for borrowers who have voluntary saving and fall under defaulters category constitutes 0.23 while the mean loan repayment for borrowers who have voluntary saving and fall under creditworthy category accounts 0.61. The statistical significance of the result also shows that t statistic 4.7622 is large sufficiently to reject the null hypothesis of no mean difference between two groups (p<.0000).

Table 4-18 Mean Comparison of Borrowers by voluntary saving

Loan repayment Vs voluntary saving	Mean	Std. Err	Std. Dev.	[95% Conf. Interval	t_{value}
Defaulters	.23	.05	.42	.53865 .22245	4.7622
Creditworthy	.61	.06	.49		

Source: Own Survey

10. Performance of Loan Repayment by Household Size

According to the survey result, the mean number of household dependents of the sample respondents was 6.45 with minimum of 1 and maximum of 20. According to the survey result, the mean number of household dependents of the sample respondents was 6.45 with minimum of 1 and maximum of 20. Table 4.15 reveals that borrowers who have 1-5 household size have about 77 % share in the defaulters and 22.4% creditworthy categories. The remaining borrowers who have 6-10 household size have 52.1% and 77.4% of share in the defaulters and creditworthy categories respectively. Borrowers with above 10 household sizes are found to have 25.7 % and 74.3% relative share in the defaulters and creditworthy categories. This shows that as the household size of the borrowers increases, the clients of the bank have a higher tendency to payback on time what they borrowed.

Table 4-19 Percentage Performance of Loan Repayment by Household size

loan repayment Vs household size	household size			Total
	1-5	6-10	above 10	
Defaulters	38(77.6)	25(52.1)	9(25.7)	72(54.5)
Creditworthy	11(22.4)	23(47.9)	26(74.3)	60(45.5)

( ) Percentage
Source: Own Survey

When we see the mean loan repayment, from Table4.20, the mean loan repayment has greater share in the creditworthy category as compare to the defaulters category where household size range between 6-10 and above 10.

Table 4-20 Mean Comparison of Borrowers by Household size

loan repayment Vs household size	Mean	Std. Err	Std. Dev.	[95% Conf. Interval]		t_{value}
Defaulters	1.59	.08	.70	.90393	.40161	5.1419
Creditworthy	.61	.06	.49			

Source: Own Survey

11. Performance of Loan Repayment by Financial Records

One of the factors that are required to be considered in this study is whether the use of business financial record has positive or negative influence on loan repayment status of borrowers. The survey summary indicates that about 59.3% are defaulters and 40.7% are creditworthy borrowers from the total respondents who have no financial records. On the other hand, from the total respondents who have financial recording system while they are undertaking their business, 66.7% and 33.3% are found to be creditworthy and defaulters.

This indicates that entrepreneurs who are running a business venture with a financial recording system have a higher tendency to payback on time what they borrowed from the bank.

Table 4-21 Percentage Performance of Loan Repayment by Financial Records

Loan repayment Vs accounting records	Accounting records		Total
	no	yes	
Defaulters	64(59.3)	8(33.3)	72(54.5)
Creditworthy	44(40.7)	16(66.7)	60(45.5)

( ) Percentage
Source: Own Survey

However, when we see the analysis of the same data with different statistical tool, the mean loan repayments for borrowers who undertake business venture with financial recording system have high chance to pay their debt but the t statistic 2.3373 with confidence interval captures the value reflecting 'no effect' (Ho: diff = 0), this represents a difference that is statistically no significant (for a 95% confidence interval, this is non-significance at the 5% level).

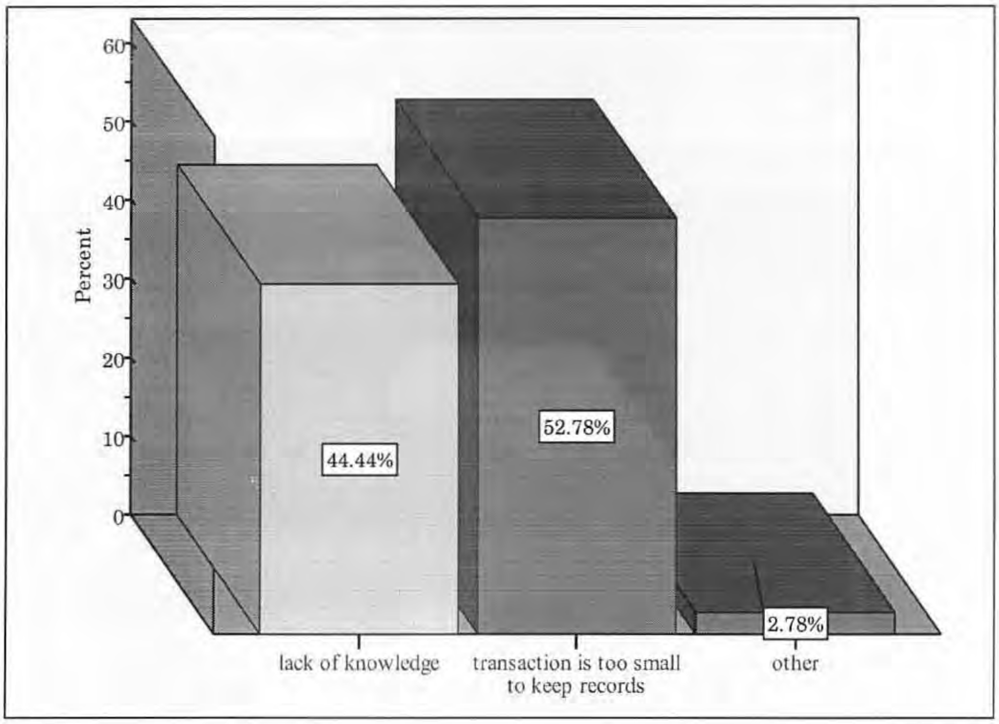
Table 4-22 Mean Comparison of Borrowers by Financial records

Loan repayment Vs accounting records	Mean	Std. Err	Std. Dev.	[95% Conf. Interval]		t_{value}
Defaulters	.11	.03	.31	.28722	.02388	2.3373
Creditworthy	.26	.05	.44			

Source: Own Survey

With regard to the reason that borrowers are undertaking their business activity without financial records, 52.77% claim that the business transaction is too small which does not require financial recording and 44% of the responded as they have no knowledge about how to perform financial recordings. This indicates that the lending agency has more to do in delivering continuous training and supervision so as to improve the repayment performance of clients.

Figure 4- 2 Reasons for Undertaking Businesses without Financial Record



Source: Own Survey

Table 4.23 shows the response of clients whether they took training either from the Addis Credit institution or from the Small and Micro enterprise Development office of the respective Kebeles. The survey summary shows that 74% from the total sample responded as they did not get any training from the lending agency or the Keble Administration. When the researcher held an interview with both the AdCSI and Keble officials, their response confirms that as there is no regularly designed training program. This implies that the branch office specifically and the main lending agency in general are busy in delivering credit service without considering the repayment performance of clients with regard to the knowledge of the borrowers in terms running the business venture effectively.

Table 4-23 Provision of Training

Have you provided training?	frequency	percent
Yes	34	25.75
No	98	74.24
Total	132	100

Source: Own Survey

4.2 Econometric Analysis

In this section the logistic regression model estimation will be presented and the estimation results will be discussed in detail. An attempt will be made to compare the results obtained from the descriptive analysis given in the previous section with those obtained from the econometric estimation.

4.2.1 Testing the model

For the purpose of determining the effect of borrowers' characteristics on the probability of default, the researcher applied the econometric approach that relies on the logistic regression model. The dependent variable is dichotomous where Y = 1, if borrower had not a delayed repayment of loan installments, and Y = 0, otherwise.

One of the problems that might overestimate the result of the estimated coefficient of the independent variable is the interrelationship of the explanatory variable. Therefore, one has to check first the seriousness of multicollinearity among the explanatory variables. According to Gujarati (1995), when the value of the correlation coefficient of the two independent variables is greater than 0.8, this shows that there is high degree of correlation between the variables. In this study, the researcher was tried to see the possibility of the existence of this problem and the result shows that the correlation coefficient among all independent variables was found to be less than 0.8.

With regard to the goodness of fit of the model (how effectively the model describe the outcome variable), it was tried to evaluate through the computation of Hosmer-Lemeshow goodness of fit statistic (Hosmer, 1989).The result shows that the value of the Hosmer-Lemeshow goodness of fit statistic computed for the model was 1.88 and the corresponding p-value computed from the chi-square distribution with 8 degrees of freedom was 0.9844.This indicate that the model seems to fit well.

4.2.2 Results of Estimation

As stated in chapter one, the main purpose of this study is identifying the demographic and socio-economic factors that affect the loan repayment status of the small and micro enterprises entrepreneurs. To the effect of this, from various literatures possible factors were selected to examine their effect on the loan repayment of status of the above mentioned borrowers.

The following table shows that the chi-square random variable with 8 degrees of freedom and the associated p-value with this test is p[Wald X^2 (10) > 160.37]< 0.05,thus we have convincing evidence that variables in the model are significant in predicting the outcome variable. The estimation result below shows that seven variables were found to be significant out of the stated ten explanatory variables.

A negative coefficient shows that the variable is associated with a higher probability of being in the delinquent or default category than that of being in the good credit risk category.

Table 4-24 Estimate of a Logistic Regression Model for Loan repayment

VARIABLES	COEF.	STD. ERR.	Z	P>|Z|
AGE	3.1593019***	1.221992	2.59	0.010
MARSTATUS	-6.8547531**	2.815286	-2.43	0.015
EDUC	1.9008067**	.7983031	2.38	0.017
HHSS	2.0334275*	1.234649	1.65	0.100
EXP	2.1613135**	1.020784	2.12	0.034
SEX	3.9142887	2.612356	1.50	0.134
OTHINC	-3.0087528	2.320913	-1.30	0.195
SEC	3.1791248**	1.601933	1.98	0.047
VOLSAV	3.8602767**	1.929777	2.00	0.045
ACCREC	.33939507	1.806187	0.19	0.851
_cons	-23.819359***	8.507925	-2.80	0.005

Pseudo R^2 = 0.8817

Log pseudo likelihood = -10.762136

Wald $chi^2(10)$ = 160.37

Prob > chi2 = 0.0000

Number of observation = 132

* Significant at .1 level
** Significant at .05 level
*** Significant at .01 level

Demographic and Socioeconomic Determinants of Loan Repayment

1. Age of the borrowers

Looking at the credit worthy borrowers' parameters estimate, the age of the borrowers has positive relationship with loan repayment and statistically significance at 1% level. This implies that as the age of the borrower increases it is least likely to fall under delinquent or default category. This was in line with apriori expectation. That is, age of the borrower is believed to be positively related with repayment performance. This is because with increase in age, the borrower may acquire stability as well as a business experience (Vigano, 1993). Relatively older borrowers are assumed to be credit conscious and risk avert due to social and personal characteristics, than younger borrowers. This was contrary to the view that credit institutions might be willing to give loan facility to young and dynamic farmers who are more likely to adopt new innovations than the older farmers (Oladeboo, 2008)

2. Marital Status

As we can see from table 4.21, the marital status of the borrowers was also found to be statistically significant at 5% level. Similarly this was also found significant in the descriptive summary explanation. However, the sign of the coefficient of the indicated variable shows the negative relationship with loan repayment status of the borrowers. This implies that, borrowers who found in a marriage have higher chance of loan repayment as compare to single borrowers.

3. Educational Background of Borrowers

The educational background of borrowers turns out to be positive and significant at 5%.That is those educated borrowers have higher chance of loan repayment. This is consistent with many findings. Entrepreneurs with higher educational levels tend to have more knowledge and skills in such areas basic mathematics and accounting. Such human capital can assist entrepreneurs in better managing their business on a daily basis. This supports the finding of Michael (2006) in his study "Micro-finance Repayment Problems in the Informal Sector" in Addis Ababa. Borrower who has attended, primary, secondary or tertiary level education has a lower chance of falling under the default category and increases probability of being under good credit risk category (Ibid).

4 Household Sizes

Household size of the respondents entered the model with a positive sign and it was statistically significant which indicates that household size impacts positively on the loan repayment performance of small business entrepreneurs in the study area. And this will be contrary to the expected sign and the assumption of borrower who has a large family size may divert some of the borrowed fund to unintended purposes for the household consumption. Furthermore, the study of Michael (2006) shows that the number of dependents in the household was not found to be statistically significant.

5. Years of Business Experience

This variable was fond to be positive and statistically significant at 5% level. Furthermore, the parameter has the expected positive sign which indicates that borrowers with more business experience have a higher chance of loan repayment.

The positive effect of business experience on loan repayment may be due to the fact that small business entrepreneurs are becoming more knowledgeable in business practices which can increase their level of income and hence loan repayment capacity. This confirmed the finding of Oladeebo (2008) in his study "Determinants of loan repayment among small-holder farmers in Ogbomoso agricultural zone of Oyo state, Nigeria".

6. Type of Business Activity

One of the factors that affect the loan repayment performance of borrowers is the type business venture that borrowers are undertaking. From table 4.24 we can understand that this variable has positive relationship with loan repayment and it is also statistically significant at 5% level. That is, borrowers who they are engaged in the production sector have a lower chance of falling in the default category. This is also explained in the descriptive analysis. However, this finding is in contrast to the finding of Roslan (2009) that indicated in his study of "the Determinants of Micro Credit Repayment in Malaysia: The case of Agrobank"

7. Voluntary Saving

Similar to the descriptive analysis, this variable is found to be significant at 5 % level with positive sign. This implies that borrowers who save their surplus voluntarily in the lending agency, have less probability to default as compare to borrowers who are saving only the compulsory saving.

Chapter Five

5 Conclusions and Recommendations

5.1 Conclusions

This paper examines the demographic and socio economic factors that affect the loan repayment status of small and micro enterprises entrepreneurs who borrowed from Addis Credit and Saving Institution. For the analysis purpose both descriptive and econometrics methods were employed.

The investigation of this study shows that about 73% of the clients of AdCSI in Kolfe Keranyo are female borrowers. This shows that the lending agency has good gender sensitive policy that supports the empowerment of women in the city. However, as it was explained in the descriptive analysis, large numbers of female respondents were found to be defaulters. This may related with marketing problem, mainly due to the presence of many competitors with identical products, change in demand, and absence of market linkages.

With the aim of identifying the determinants of loan repayment, an attempt was made to compare defaulters with non-defaulters. Borrowers who have other alternative income source are found to show better loan repayment record. This implies that income from the specific business activity under consideration alone couldn't be able to properly meet their debt obligation. This some how reflects how their business activity has limited financial capital which aggravate their loan default problem. Similarly, business experience in related economic activity found to be significantly and positively affect loan repayment. Therefore, it can be concluded from the result, as years of business experience increases riskiness of the borrower decreases. The positive effect of business experience on loan repayment may be due to the fact that whenever entrepreneurs are becoming more knowledgeable in business practices which can increase their level of income and hence loan repayment capacity.

In most cases, house hold size is assumed to have a negative effect on repayment performance of borrowers, since it squeezes the resources available for repayment. However, the number of dependent in the household was found to be significantly affecting loan repayment with positive sign in this study. This shows that clients of the bank from large family size have a higher tendency to payback the loan on time. This could be attributed to several factors. Primarily, clients from large family size have a higher probability to get family labor which reduces the cost of running their business venture and hence maximizes the intended profit. Secondly, borrowers from large family size have a greater opportunity to diversify the area of the business which reduces risk and uncertainties. On the other hand, insignificance of the financial recording system characteristics entails that, repayment performance does not depend on the performance of financial recording system. This could be attributed to the fact that transaction is too small to keep record and lack of knowledge which gives the direction of training to be given to clients of the bank.

Furthermore, it was found that the type of business activity that borrowers are engaged in it has positive and significant effect on the loan repayment status of borrowers. Borrowers who involved in production sector are found to be relatively creditworthy borrowers as compared the service sector. The possible reasons that could be attributed to weak repayment performance of borrowers who engaged in the service sector are poor prices, poor local demand, strong competition from experienced groups and inadequate capital .This finding is found to be contrary to the general belief that production activities and projects are more subjected to risk and uncertainty.

Another variable that significantly affects loan repayment status of borrowers is the willingness of borrowers to save their surplus other than what the lending agency enforces them to save as compulsory saving. Therefore, if the lending agency applies different incentives to those who save more their surplus, it is possible to reduce the probability of default and improve the loan recovery status of the lending agency. On the other hand, the positive effect of business experience on loan repayment may be due to the fact that the more educated borrowers are supposed to have the necessary knowledge to select the profitable projects and to manage them appropriately thereafter. This knowledge is hoped to reduce borrowers' delinquency.

With regard to the borrowers' perception toward default, it was found that majority of the borrowers responded social sanction as the most important factor forcing them to repay their loans in time. Therefore the culture of the society is against to those who found in default and hence, social sanctions are important factors affecting loan repayment performance of borrowers by serving as social collateral for the lending institution.

5.2 Recommendations

It has been asserted that the proportion of female borrowers is significantly increasing and they were found to be better payers. However, significant portion of them were also found to be defaulters. Therefore, the lending agency should adjust its screening method that may not affect its gender sensitive policy.

Although microfinance institutions have historically been thought as development intervention that address gender bias in credit market and ,as such, working best with women borrowers, their primary objectives may not be achievable through the provision of loan. Accessing women to the credit market may not bring the intended objective and hence the concerned government and lending institution officials should incorporate the mechanism that enable female borrowers to do not engage in high risk and low return activities.

Borrowers who engaged in the production sector are less likely to be defaulters. However, in urban areas majority of the enterprises are related with the service activities. If these large portions of the lending agency clients have higher chance of default, then this will erode the microfinance institutions loan recovery performance and institutional sustainability in general.

The positive and significant association between education and loan recovery rate seems to suggest the need for training to small scale entrepreneurs so as to develop their entrepreneurship and managerial capacity. Further the loan size should also be limited in such away as to fit with the managerial capacity of borrowers.

Borrowers with more voluntary saving are less likely to be defaulters reflected by positive and significant relation with loan repayment. This leads to suggestion that microfinance institutions should design a way that attracts the borrowers to save more of their surplus in such a way that the institutions can reduce the default rate.

The last suggestion but not the least is that microfinance institutions are required to adopt effective sanctioning mechanisms against loan default. While social pressure is found to be significant effect on those borrowers who default, such mechanism may work less in borrowers who have less social capital.

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Annex

Addis Abeba University School of Graduate Studies College of Development Department of Regional and Local Development Studies

Dear Sir/Madam

Subject: Survey Questioner for assessing the demographic and socioeconomic determinants of loan repayment of small and micro enterprises financed by Addis Credit and Saving Institution of Kolfe Keranyo sub city

Your response to this Questionnaire will serve as source of information to the research paper to be done for thesis purpose. To this end, I have prepared a self – administered questionnaire to help me gather the pertinent information from the randomly selected borrowers of AdCSI in Kolfe Keranyo sub city. The quality of the result of this research is based on the accuracy of the information you provided. Any response you provide here is strictly confidential and will be used exclusively for the research purpose. Your honesty in responding the right answer is vital for the research outcome to be reliable.

Eventually, I promise you, the information your will provide me is going to be reported and communicated in aggregate and utmost care will be taken for its confidentiality.

Thank you for your cooperation

Questionnaire No.: ________________

Date: ________________

I. BORROWER'S CHARACTERISTICS

1.1. Borrower's Name ________________________
1.2. Address
Keble ____________
1.3. Age __________________

1.4. Sex: female ☐ male ☐

1.5. Marital Status

Single ☐ married ☐ divorced ☐ widowed☐

1.6. Education

Illiterate ☐

Primary education☐

Secondary education ☐

Tertiary education (above grade 12) ☐

Others (specify) ____________________________________

1.7. Household Size (Number of dependents in the household)________

1.8. How many individuals being supported by the borrowers outside household members? ________________

II. THE PROJECT

2.1. Name ________________

2.2. Type of Activity ________________

2.3. Location
Sub-city ____________ Keble ____________

2.4. How much distance is the Project from the branch office? ________

2.5. How much is it distant from the borrower's residential place?_____

2.6. Is it accessible to road transport? Yes ☐ No☐

III. Business Experience

3.1. Are you the manager of the enterprise?

Yes ☐ No ☐

3.2. If your answer to Q. 3.1. is no, what is the educational level of the manager?

Illiterate ☐

Primary education ☐

Secondary education ☐ Tertiary education ☐

Others (specify) --

3.3. How much years of experience the manager or you have?

Less than 1 year ☐

From 1-5 years ☐

5-10 years ☐

Greater than 10 years ☐

IV REPAYMENT PERIOD

4.1 Is the repayment period set by ADCSI suitable in your opinion?

Yes ☐ No ☐

4.2 If no, recommend a suitable repayment period:_________________

V. Grace period

5.1. How long grace period is given for the project by the lending institute?_________________

5.2. Was the grace period given enough for the implementation of the project? Yes ☐ no ☐

5.3. Was the project fully implemented with in the intended period of time?

Yes ☐ no ☐

VI. SANCTION

6.1What is the status of recent loan?

Fully repaid ☐ Repayment on schedule ☐ Repayment in arrears☐

6.2 Do you perceive the cost of default to be high?

Yes ☐ No ☐

6.3 If your answer for question 6.2, which of the following is the most important in forcing you to repay the loan in time?

Claim against personal wealth ☐

Claim against guarantee ☐

Social sanctions (e.g. loss of social status) ☐

Fear of losing another loan in future ☐

Other (specify)________________________________

VII. SUPERVISION VISITS

7.1Did you get any training before receiving loan?

Yes ☐ No ☐

7.2. When the bank visiting the project after you started operation?

Regularly ☐ Only when default occurs ☐
Others (specify) ____________________________

7.3. Have you ever gone to the bank after you took the loan?

Yes ☐ No ☐

7.4. If your answer to Q. 7.3 is yes, how many times? if no why?______________

7.5. If your answer to Q.7.3. is yes, what benefit you derive from the advice?

____

7.6. Do you consider supervision as being important for loan repayment?

Yes ☐ No ☐

VIII: INCOME AND WEALTH

8.1 Did you have a source of income (cash income) for your household before joining the program loan?

Yes ☐ No☐

8.2 Do you have other/new sources of income currently?

Yes ☐ No ☐

IX. SAVING AND ACCOUNTING RECORD

10.1 Did you have a saving account before participating in the credit scheme of ADCSI?

Yes ☐ No ☐

10.2 Do you have a saving account after program participation?

Yes ☐ No☐

10.3 Do you keep accounting records?

Yes ☐ No☐

10.4 If yes, for what purpose?

To evaluate profit and loss ☐

For loan repayment purpose ☐

Other (specify)________________________

10.5 If no, explain the reason(s) of not keeping records?

Lack of knowledge ☐

Transaction too small to keep a record ☐
Other (specify)________________

IX. Situation of defaulters (Only for the defaulters)

11.1. Have you ever failed to repay according to the schedule?

Yes ☐ no ☐ 11.2. If your answer to
11.1. is yes, how many times?

Once ☐ twice ☐ three and more times ☐
11.3. If your answer to Q 11.1 is yes, what was the reason for failure?

Low sales volume ☐

Increase in price of input ☐

Lack of knowledge ☐
Others (specify) ____________________________

Thank you

Checklist for Key Informant Interview for AdCSI Officials

1. How was the history and background of AdCSI?
2. What are the main services provided by AdCSI?
3. What types of loan can AdCSI provided?
4. Did you provide training for clients before and after loan provision?
5. How was your term of loan and term of repayment?
6. What was your mechanism used as collateral in loan provision?
7. If a client may fail to pay his loan, how can you manage the arrears?
8. Is there insurance service for clients?
9. How many times do you provide training for clients on the average in a single term of loan?
10. Is there any controlling mechanism for clients whether they use their loan for the intended purpose?

11What alternative measures were taken on the side of the bank to improve the repayment situation?

12. Were the measures taken brought an improvement in repayment status of the project?
13. Is there any feedback mechanism from clients to assess their needs?
14. What are the main problems claimed by clients?
15. What are clients' opinion in your service provision and the amount in both loan and saving interest rates?
16. Did you provide the necessary services for clients in satisfactory way?
17. What is the main source of income for the institution?
18. What are the main challenges (problems) for the institution?

STATEMENT OF DECLARATION

I Mulualem Yakob Ayalew, declare that this study entitled as "Determinants of Loan Repayment Performance: the Case of Addis Credit and Savings Institution in Kolfe Keranyo Sub-City, Addis Abeba", is my own work. I have carried out independently the research work with the guidance and support of the research advisor. This study has not been submitted to any degree/diploma in this or any other institution. It is done in partial requirement of the M.A Degree in Regional and Local Development Studies.

Declared by:

Name Mulualem Yakob

Signature________________

Date: ____________________

Confirmed by Adivisor:

Name Issac Paul(Dr.)

Signature________________

Date: __________________

Confirmed by Examiner:

Name Bamelaku Alameraw

Signature______________________

Date: _____________________