MICROENTERPRISE CREDIT AND POVERTY ALLEVIATION IN ETHIOPIA: THE CASE OF THE PROJECT OFFICE FOR THE CREATION OF SMALL SCALE BUSINESS OPPORTUNITIES (POCSSBO) IN ADDIS ABABA

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Microenterprise Credit and Poverty Alleviation in Ethiopia: The Case of The Project Office for The Creation of Small Scale Business Opportunities (POCSSBO) in Addis Ababa

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ABSTRACT

The study examined the contribution of POCSSBO's microfinancing scheme to poverty reduction (based on descriptive analysis) and investigated the determinants of loan repayment performance (based on a recursive model) using primary data, collected from a sample of 241 individual beneficiaries in Addis Ababa. The results indicate that, the credit scheme has contributed positively towards poverty reduction. By creating employment opportunities for many program beneficiaries the credit scheme has contributed positively to a rise in household income, as verified by the Wilcoxon Non-Parametric Test. By increasing ability to pay, the credit scheme has also contributed positively toward improved access to health and educational facilities as well as in improving the nutritional status of households. However, the performance in the area of saving mobilization was not satisfactory due to the non-attachment of saving facility with the credit scheme and poor effort in encouraging saving.

POCSSBO's loan repayment performance was not satisfactory and the binomial probit model results indicate the existence of several factors that significantly influence the probability of full loan repayment. While loan diversion, loan size, and monthly income from business financed by the loan are found to be repayment performance undermining factors, beneficiary's age, perceived cost of default and suitability of repayment period are found to be repayment enhancing factors.

For greater contribution towards poverty alleviation, there is a need for an effective saving mobilization strategy as well as a more transparent selection criteria in order to improve targeting efficiency. For improved loan repayment performance and overall sustainability of the credit scheme, credit provision should be based on non-subsidized interest rate since interest free credit has negative demonstration effect and incentive problems. Also the office should consider repayment enhancing and undermining factors in designing a more effective loan repayment mechanism.

CHAPTER ONE

INTRODUCTION

1.1 Background

1.1.1 Poverty in Ethiopia

Ethiopian economy is an agricultural economy whose performance has been constrained by, among others, frequent occurrence of drought; high population growth, which has implications for environmental and socio-economic problems; inadequate infrastructure; low technology base and, until 1992, domestic policy mismanagement that discouraged private investment. These and a multitude of other factors have resulted in a slowdown in the economic growth of the country. For instance, the average growth rate of GDP declined from 2.7% in the 1965-80 period to 0.9% in the 1980-87 period (Helleiner, 1992, p. 52).

The consequence of such economic slowdown is deterioration of the living conditions of its people. "Poor economic performance, rapid rate of population growth, low technological base, periodic drought and famine and, internal displacement have continued to exacerbate poverty in the country" (Yohannes, 1996, p.31). Many people consider short falls in the reasonable minimum level of economic welfare as poverty. However, complete definition of poverty should consider basic social conditions such as health, education and social security in addition to economic welfare. This implies measurement and analysis of poverty is very complicated. There are issues of aggregation across commodities, across persons within a household or overtime. It should be noted that the measurement of poverty has been the

main concern of current literature and there are, in fact, a large number of aggregate poverty indices suggested for the measurement of the extent of poverty such as Head-Count Ratio (H), Income Gap (I), the Sen Index (S) (Abebe and Bereket, 1996).

Ethiopia is one of the poorest countries in the world (Trufat, 1996;Mekonnen, 1996). In relation to the extent of poverty, Mekonnen (1996, p.215) argued, " although there is no comprehensive assessment of the extent of poverty in the country, available indicators show that quite a sizable percentage of the population lives in abject poverty." Also Yohannes (1996) reported that according to current studies over half of the country's population lives in abject poverty. Trufat (1996) noted that according to a recent World Bank estimate about 27.3 million people or 51% of the total population of Ethiopia are poor, a result which supplements the finding by Yohannes (1996).

Basic social indicators are among the worst in Sub-Saharan Africa and "show the worsening situation of poverty in Ethiopia" (Trufat, 1996, p.5). According to the Country Profile report compiled by the Ministry of Foreign Affairs (1997, p.87), it is indicated that:

> *"although significant achievements have been made in the area of literacy during the last two decades, basic education is still out of the reach of the majority of the Ethiopian people. Enrollment of school-age children in primary, secondary and tertiary education is only 39.3%, 45% and 13.9%, respectively. The great majority of the Ethiopian population is exposed to rampant and fatal diseases and malnutrition. The health service coverage is below 45% with wide disparities between rural and urban from region to region. Only 12% and 26% of the population has access to safe drinking water and proper sanitation facilities, respectively. In consequence, the under - five mortality rate is 159/1000, which is among the highest in the world. Family planning coverage has reached a mere 2% and only 16% of the pregnant women register for ante natal care and less than 2% of all deliveries are attended by trained health personnel. Life expectancy at birth is 49 years."*

Also the failure of macroeconomic policy of the previous regime is reflected partly in the proliferation of "informal sector" enterprises. Expansion of the "informal sector" was noticed as the formal economy has progressively failed to deliver enough income capable of supporting an individual and his families.

Addis Ababa is a major destination of the rapid rural-urban migration which, coupled with the rapid average annual population growth[1], have exacerbated the unemployment problem in the city. According to CSA (1998, p.115), "the in-migrants substantially contributed to the observed higher average annual population growth rate of Addis Ababa which is 3.8%." The 1994 population census has estimated the city's rate of unemployment to be 35% of the economically active population aged 15-64 (CSA, 1998). Infant mortality is reported to be high in the city associated with poor health care, absence of safe drinking water, poor sanitation, and malnutrition of mothers and children. About 65% of the children are reported to be suffering from stunted malnutrition which is reported to be the leading cause of infant and child mortality (Goitom, 1996). He indicated that about 6% of the population lack access to clean water and around 29% of the residents have no toilet facilities. Also, he showed that health care and education coverage in the city stand at around 46 percent and 50 percent, respectively.

These socio-demographic indicators imply that the extent of poverty is severe in Addis Ababa. In fact, a study by Goitom (1996) indicated that about 1.3 million people (63% of the total population of the city) have been identified as poor and about 35% are reported to be affected by primary (food) poverty.

To reverse the economic decline and worsening poverty situation in the country with the ultimate goal of putting the economy on long term growth path, the Government of Ethiopia has implemented Structural Adjustment Program(SAP) in 1992. Since the introduction of SAP, the government has been implementing policy aimed at creating market oriented economic system, promoting private sector growth and participation in the total economy, restoring efficiency in public resource management and reallocating public expenditures in favour of the priority sectors of primary health care and primary education. In order to address the social cost of the adjustment program the government has introduced a safety-net program as a component of SAP. This mostly relates to retrenched workers, which have been left redundant from the new restructuring. Accordingly, some were organized in to groups to start-up their own business through a loan program provided by the Ethiopian Social Rehabilitation and Development Fund and others are paid a monthly allowance until they can be permanently employed.

The government has devalued the currency, abolished price and distribution controls, eliminated export taxes except coffee, reformed the financial sector, simplified licensing procedures, implemented privatization, etc. Also the government of Ethiopia has introduced Agricultural Development Led Industrialization Strategy, which bases agriculture as a springboard for the overall industrialization of the country. Moreover, participatory-based new extension system is introduced with coordinated supply of land augmenting inputs and techniques.

Policy makers believed that the implementation of these reforms and development strategies would result in better macroeconomic performance and growth with gradual reduction of

[1] According to the 1994 census the population of Addis Ababa has been growing at an average annual rate of

poverty and, in fact, following the introduction of SAP and associated policies; ADLI; and the new extension system as well as due to the then favorable climatic conditions improvements in GDP growth rate was recorded. A report by the Ministry of Foreign Affairs (1997, p.110), showed that "over the three-year period (1992/93 to 1994/95) real overall GDP growth averaged 6.5 percent."

Although the reform programs and policy changes resulted in economic recovery and growth in GDP, the achievement towards eradication of poverty was not satisfactory. Experience with structural adjustment have shown that macroeconomic adjustment may not always result in the desired supply response, especially as regards private investment (Helmsing A.H.J et.al., 1996) so that the possibility of reducing poverty may be marginal. This is because of the fact that without ensuring adequate private sector activities, thereby creating higher employment opportunities, it is difficult to reduce the existing unemployment problem in the country.

In fact, the retrenchment from public enterprises, following the reform, has contributed to a certain extent to the growth of unemployment in the country. Goitom (1996) has reported that there is indication that 15% of the total public sector employment have been retrenched and added to the pool of unemployment. Such generalization, however, seems unrealistic because part of the retrenched labor force was organized in to some income generating safety-net schemes. Since the private sector has also absorbed part of it, it is better to consider the retrenchment as only having a certain contribution for the rise in unemployment. Also, the removal of price and distribution controls, to a certain extent, have affected the urban poor who have been benefiting from previous government rationing of goods through

3.8 percent during the last ten years (CSA, 1998, p.115).

kebele shops at administered prices which are mostly cheaper (not forgetting the problem of shortage associated with the rationing system). To support their living a lot of such people have joined the informal sector by opening small shops or business premises near their residential areas.

Studies in West Africa have indicated that shrinking public budgets following structural adjustment, high population growth rate and large-scale urban migration, in addition to adverse structural forces such as high level of illiteracy and lower level secondary school enrollment, higher rate of infant mortality and child malnutrition, have placed great demand on jobs in the region, that can not be satisfied by the formal enterprise sector. Rather it is reported that the informal sector have provided employment for most people who sought jobs in the region (Fidler and Webster, 1996).

1.1.2 The Informal Sector and Microfinancing in Ethiopia

There is no universally accepted definition of the informal sector. In the early 1970's ILO used the term informal sector to refer to informal economic activities. Current literature used the term in two senses: the first refers to illicit or illegal activities by individuals operating outside the formal sphere to evade taxes and regulatory practices and the second consider the term as a shorthand for very small enterprises with ten or fewer employees that use low-technology modes of production and management without reference to legal status. The latter definition seems to be more common among development policy analysts.

Fidler and Webster (1996, p.6) employed this definition in their study of the informal sectors of West Africa and consider the sector to include" survivalists (very poor people who work

part-time in various non-farm, income-generating activities); self - employed people who produce goods for sale, purchase goods for resale, or offer services; and very small businesses (microenterprises) that usually operate from a fixed location with more or less regular hours." In Ethiopia microenterprises are defined as those very small enterprises with ten or fewer employees using low-technology modes of production and management and representing the vast majority of non-farm small businesses operating outside the formal sector (Ministry of Trade and Industry, 1997).

Although the actual number of informal sector operators is not known, a paper compiled by the Ministry of Trade and Industry, based on the recent microenterprise survey by CSA, showed that there are 584,913 and 2,731 informal sector activity operators and small scale manufacturing industries in Ethiopia. It is reported that over 89% of the informal sector operators are engaged in manufacturing, trade, hotel and restaurant activities, with manufacturing accounting for the lion's share (47%). Of the total small scale manufacturing industries covered in the survey about 85% are reported to be engaged in manufacturing of food, fabricated metal, furniture and wearing apparel (Ministry of Trade and Industry, 1997).

Similar to other developing countries the sector is considered to be a major job creator compared to the medium and large-scale industries of the country. As indicated in the Micro and Small Enterprises Development Strategy Paper "the number of people earning their livelihood from the informal sector activities and small scale manufacturing industries is eight times larger than those engaged in the medium and large scale industrial establishments" (Ministry of Trade and Industry, 1997, p.ii). About 739,900 persons are reported to be engaged in the informal sector activities and small scale manufacturing industries compared to the persons engaged in the medium and large scale manufacturing

industries (i.e. 90,213). The same paper indicated that the sector's contribution to value added was Birr 8.3 million in 1996, which is around 3.4% of GDP based on the 1992/93 data.

It should be noted that the contribution of the micro and small enterprise sector to employment creation and income generation is far from satisfactory and a number of factors are reported for such poor performance. In the strategy paper it is indicated that:

> *"the increased role and contribution that the MSE sector could have provided to the national economy is largely constrained by the various policy, structural and institutional related problems and bottlenecks. Lack of smooth supply of raw materials and working premises were reported to be the major bottlenecks facing small scale manufacturing industries, while lack of sufficient capital and working premises were the leading problems of the informal sector operators to start their businesses" (Ministry of Trade and Industry, 1997, p.ii).*

Informal lending has been the most important source of finance for the urban as well as rural poor (informal sector operators) in Ethiopia. It has assumed increased prominence mainly due to the excessive rules and regulations of the formal financial sector (Solomon, 1996). Dejene (1993, p.18), in examining the role and functioning of the iqqub in Ethiopia, argued that "its continued spread is explained, among others, by the repressed character of formal institutional credit to the private sector." However, there are certain limitations associated with informal credit sources. "Not only is there scarcity of loanable funds for investment, but the interest rate charged on these loans is often exorbitant" (Solomon, 1996, p.310).

In recent years, considering that poor people have limited access to credit from the formal financial market and recognizing that lack of finance is the major problem of informal sector operators to start their business, some NGO's such as the Relief society of Tigray, Ethiopian Relief Organization, Redd Barna (Norwegian), National Association for Development and

Action Aid-Ethiopia have tried to extend credit to poor households in some parts of the country (Mengistu, 1997).

Wide scale microfinancing started in March 1990 following the signing of credit agreement between the government of Ethiopia and the International Development Association (IDA) " to improve infrastructure in towns considered market and service centers for the agricultural hinterland and to alleviate problems of urban poverty" (Mengistu, 1997, p.6).

The microfinancing scheme under the Market Towns Development Project (MTDP) was planned to be implemented in sixteen towns (excluding Addis Ababa) and the coverage has increased to 59 towns up to now.[2] Under the scheme IDA deliver credit to Development Bank of Ethiopia (DBE) at 6% interest rate and DBE is responsible for extending credit facilities to microenterprises at the prevailing market rate. The concerned regional trade and industry bureaus are responsible for promoting, organizing and screening microenterprises for the credit scheme, tasks which needs specialized and trained personnel in the field. The question that arises, however, is with regard to the institutional capability of the offices to carry out such tasks.

It should be noted that the Market Towns Development Project microfinancing is group based credit scheme. Under the scheme households with a monthly income of less than Birr 100 and who voluntarily organize themselves in-groups of five are considered eligible for loans. Four to six groups form a cooperative and the Zonal Trade and Industry Offices organize and license these microenterprise cooperatives. The offices prepare business plan

[2] At the start of the program towns which were considered centers for agricultural activities were covered in the scheme and coverage has increased from time to time to incorporate other backward regions in the country. So Addis Ababa was excluded based on this consideration.

for each borrower in a cooperative. Then the business plans and other relevant documents are submitted to the DBE for loan disbursement.

Actual operation got underway in 1994 (Mengistu, 1997) and the credit scheme started with extending 1000 Birr per beneficiary. Recently the scheme increased the credit level to 5000 Birr per beneficiary. Under the scheme each member of the group is responsible in case of default and 10 % of the disbursed amount is deducted to be put in a saving account in the name of beneficiaries.

The government of Ethiopia is taking steps to strengthen this micro financing scheme in the country. It has formulated a National MSE Development and Promotion Strategy concerned with the creation of an enabling legal, institutional and support services (Ministry of Trade and Industry, 1997). Also a proclamation for the establishment and supervision of microfinancing institutions was issued (Proclamation No. 40/1996) with the aim of providing a legal ground for the activities of microfinancing institutions thereby facilitating access to credit by microenterprises and around nine microenterprise related financial institutions are licensed up to the compilation of this report.

According to the proclamation, the purpose of microfinancing institutions include provision of credit for urban and rural micro-operators; mobilization of savings and deposits; provision of counceling service; encouraging income generating projects; rendering managerial, marketing, technical and administrative advice to borrowers; among others. To carry out microfinancing business, microfinancing institutions are required to fulfill the following conditions. They must obtain a license from the National Bank of Ethiopia; formed as a

share company; deposit the minimum initial capital requirement; and that the directors and officers meet requirements set by the National Bank of Ethiopia.

Microfinancing institutions are required to commence operations with in 12 months from the date of issue of a license and to open a branch they are required to consult the National Bank of Ethiopia. They are also required to apply for reregistration when saving mobilized equals Birr 1,000,000. With the aim of improving access to credit by the low-income section of society, especially in rural areas, microfinancing institutions are required to implement schemes such as group guarantee instead of property collateral requirement.

As indicated earlier Addis Ababa is faced with growing social and economic problems such as unemployment. In light of this the City Council proposed the establishment of the Project Office for the Creation of Small Scale Business Opportunities (POCSSBO) and this office was established in 1995 with the following objectives:

a) to provide credit for the unemployed youth, women and other sections of the population (especially the disabled), who are willing to engage themselves (individually and/or in-groups) in small scale income generating activities;
b) To organize beneficiaries voluntarily in association and provide training;
c) To give guidance and assistance to beneficiaries in the organization and management of small-scale businesses;
d) To identify, study and prepare income-generating projects for the unemployed; and
e) To encourage beneficiaries to save and invest in productive ventures that may contribute to the overall development (Zewde, 1998).

To accomplish the above objectives the project office is structured to be accountable to the administrative section of the city council encompassing three departments, namely, Organization and Training Department; Planning and Project Preparation Department; and Credit Service and Financial Administration Department. According to the organizational structure the required manpower for the office is 55. However, at present the office is reported as operating with only 44 staff: 14 professionals and semi-professionals and 30 support staff.

A report from the office shows that, although a resident of the city is entitled for credit, the target beneficiaries of the scheme are the unemployed youth who completed 12^{th} grade and drop-outs; women who are heads of household and the disabled who can manage to engage themselves in small income generating activities.

Under the microfinancing scheme of POCSSBO, potential program beneficiaries are identified by close collaboration of kebele administrations with youth and women associations. Beneficiaries are selected based on the consideration of three points: their participation record in kebele affairs, their business initiation and their family economic background.

Applicants to the credit scheme are required to fill a questionnaire prepared by the office to assess the economic status of their family. After evaluating each questionnaire, the office reported, credit applicants with good participation record in kebele affairs and who are willing to engage themselves in small-scale income generating activities will be selected for credit provision. It should be noted, however, that the involvement of a non-economic criteria in the identification process may produce targeting error thereby undermining performance.

A list of selected beneficiaries, together with their business plan, are submitted to the project office for evaluation and approval. Then the office makes contractual agreement with the kebele administration concerning loan disbursement and collection. The kebele administration on its part makes similar contractual agreement with beneficiaries and their guarantors on loan repayment (Office employees or Licensed Businessmen).

The office is providing three types of interest-free credit short-term (12 months), medium-term (24 months) and long-term (36 months) with maximum loan amount of 3000 Birr. However, the size of credit extended to each beneficiary depends on the nature and profitability of the proposed income-generating project. The main source of fund for the credit scheme is the budget allocated by the City Council. Out of the total credit approved to each beneficiary the office retains 5% as contingency.

Actual operation got underway in 1996 and the office has provided credit to about 4500 individuals (nearly 75% of them are women) in different parts of Addis Ababa up to February 1999. In total the office has disbursed nearly 5.9 million Birr, with average loan size of Birr 1312.

POCSSBO's microfinancing scheme is a specialized scheme differing in many respects from other microfinancing schemes that exist in the country, which are mostly Grammen type. While most of the microfinancing schemes are based on group lending strategy, POCSSBO's scheme is based on individual lending strategy requiring guarantors on loan repayment (personal collateral). The enforcement mechanism include posting the name of the individual defaulter at a kebele notice board; putting pressure through youth and women

associations; refusing to renew house rent in the case where the defaulter individual uses a kebele house for business activities; and since it is a joint and several liability arrangement, the project office charges both the guarantor and the defaulter at the area social court. The provision of interest free credit under POCSSBO scheme is the other area of difference.

This paper is thus concerned with analyzing the contribution of such credit scheme to poverty reduction as well as identification of the determinants of loan repayment performance.

1.2 Statement of the Problem

During the 1990's development policy analysts and NGO's have considered micro financing as an effective means of poverty reduction (Johnson and Rogaly,1997). In Ethiopia, considering the extent of poverty in the country and in view of the fact that the informal sector operators have marginal access to formal credit from the existing financial institutions, the government and NGO's involved in support of informal sectors operators, have considered micro financing as one of the viable options to reach the poorest segment of the population (Bekele,1996; Solomon, 1996).

Since micro enterprises are considered as a major job creators and income generators (Tamiru, 1998), micro credit provision is considered to be a strategy to enhance the sector's contribution towards employment creation and GDP growth.

As stated in the previous section, microfinancing have been applied in various ways, by different bodies, in Ethiopia with the ultimate goal of poverty reduction. Such poverty alleviation schemes or interventions should have noticeable impact on target beneficiaries for

them to be sustainable.[3] Besides the explicitly stated objectives of employment creation and income generation, the microfinancing programs should bring other household outcomes such as increased saving, improved nutrition, improved access to health care and educational services, etc. It is only when the assistance schemes lead to positive results in such respects that financing bodies and donor agencies are encouraged to devote more resources to the programs. Also positive result in these respect attract more program participants thereby increasing outreach.

Noticeable impact on target beneficiaries, however, is not sufficient for sustainability of the credit program. Sustainability calls for better loan repayment performance in addition to a noticeable positive impact of the financial assistance. Good loan repayment performance is important for smooth operation and efficiency of most credit programs and the subsequent provision of funds for future lending. Failure to repay loan at all or partly or not paying on time cause serious problems on financing institutions because it increases the administrative cost of lending as well as depletion of funds. Arrears on loans also affect the lender ability to generate internal resources and limit their access to external sources of funds.

Since sustainability of microfinancing programs calls for noticeable positive impact of the program on target groups as well as better loan repayment performance, specific case studies

[3] There are four basic conditions for overall sustainability of a microfinancing institution. These are financial viability, economic viability, institutional viability and borrower viability. A microfinancing institution is considered as financially viable if it is able to at least equalize the unit cost of lending with the price (that is, the interest rate) it charges its borrowers. It is considered as economically viable if it is able to meet the economic cost of funds (the opportunity cost) used for credit and other operations with the income it generates from lending. When it has effective and well-institutionalized procedures for ensuring administration and management succession, a microfinancing institution is considered institutionally viable. Borrower viability

on impact assessment and knowledge of the factors affecting loan repayment performance are of necessity. However, available evidence on the impact of micro enterprise credit and information on the factors affecting loan repayment performance is very limited in Ethiopia.

Therefore, this study is intended to contribute research and generate information to fill this gap considering the case of microfinancing by POCSSBO in Addis Ababa.

1.3 Objectives of the Study

The specific objectives of the study are:

1. to evaluate the contribution of POCSSBO's financial assistance towards poverty alleviation;

2. to evaluate the loan repayment performance and identify its determinants; and

3. to highlight some mechanisms for improved microenterprise financing in the country as well as future research direction in the area.

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refers to whether the borrowers have achieved higher income flows over time, able to repay their loans (Khandker et.al., 1995)

1.4 Significance of the Study

As indicated above, credit to microenterprise operators (the poor) is regarded as an important tool to alleviate poverty. Enterprises under the microfinancing scheme are believed to have greater contribution towards the generation of higher level of employment and income with the consequent household outcome of improved saving & nutrition as well as improved access to educational and health services.

Such financial assistance schemes must be sustainable contributing to the alleviation of poverty in the short-run while targeting at growth in the long-run. This calls for a noticeable positive impact of the assistance as well as efficient loan repayment performance.

Some descriptive analysis based impact assessment studies suggest the positive contribution of POCSSBO's microfinancing to income generation. However, such studies were not comprehensive and they did not show the specific impact of the credit scheme on household saving, access to educational and medical facilities, nutrition etc. Also the factors that determine POCSSBO's loan repayment performance have not been properly modeled. Accordingly, this study, which considers the microfinancing scheme of POCSSBO in Addis Ababa, will provide vital information in this respect that help policy makers and financing institutions in designing an effective microfinancing scheme in the country.

1.5 Limitations of the Study

Evaluation of microfinancing scheme, especially its sustainability, requires looking at financial viability, economic viability, institutional viability and borrower viability. This

study considers the issue of borrower viability by evaluating the impact of POCSSBO's microfinancing on beneficiary's economic and social conditions and by identifying the determinants of loan repayment performance. So the major limitation of the study is its neglect of the other components of sustainability: financial viability, economic viability and institutional viability.

Although partial, it should be noted., however, that the findings of this study will shade some light on the issue of sustainability of POCSSB's microfinancing scheme.

The rest of the paper is organized as follows. Chapter two deals with literature review summarizing the available theoretical and empirical literature on the subject. In chapter three the methodologies employed for data collection and analysis are presented. Empirical results are summarized in chapter four while conclusions and policy implications of the study are presented in chapter five.

CHAPTER TWO

REVIEW OF THE LITERATURE

2.1 Theoretical Literature

2.1.1 The Role of the Informal Sector

In the 1950's and 1960's the bureaucratic/ industrialization model dominated the thinking of some development theorists and many policy makers in different parts of the world (Chickering and Salahdine, 1991). While focussing on government promotion of large – scale enterprises and advanced technology to effect development, the industrialization model was aimed at imposing development from above.

Such a focus and development thinking has led to the neglect of the role of individuals or microenterprises in economic development. In fact, expansion of the informal sector was considered to be sign of an abnormal economic condition. As Chickering and Salahdine (1991, p.3) argued, "the industrialization model regarded high percentages of self-employment and employment in small enterprises as indicators of poverty and economic failure."

However, the real economic and social structures of many developing countries showed that development endeavor with the neglect of the role of individuals or microenterprises will not work well. Rather, as Dessing (1990, p.iii) put it, "concerns about reversing the economic decline call for a new and creative ways of making best use of this resource for building a

strong economic base and achieving social integration." This is because of the expected role of the informal sector in job creation and income generation, giving some solution to the rapid rural – urban migration, which has characterized many developing countries. According to Little et.al. (1987), the informal sector is good for employment since it is labor intensive. They argued that, since the sector is also a provider of goods and services by the poor for the poor, it should be encouraged rather than considering it as unproductive slough which development should eliminate.

In recognition of this fact and following the 1972 ILO inquiry in to the informal sector, especially following the publication in 1987 of Hernando de Soto's study of the informal sector of Peru, entitled El Otro Sendero (published in English as The Other Path), many development analysts in developing countries devoted much time to assess the contribution of the informal sector to national economies.

Most researchers considered the informal sector as a major job creator (Wilson and Adams, 1994; Helmsing and Kolstee, 1993; Fidler and Webster, 1996) and ascribe this to the inability of the modern and formal manufacturing, trade and services sector to provide satisfactory employment to the rapidly growing labor force in these countries. In emphasizing the role of the informal sector to employment creation, Fidler and Webster (1996, pp. 6-7) argue that "the informal sector is a giant sponge, absorbing much of the shock of periodic economic contraction by soaking up excess labor and by providing second incomes to individuals whose real incomes have been eroded by inflation and public spending cutbacks."

Researchers, which emphasize the growth component of the story, consider the informal sector or micro enterprises as a breeding place of small and medium enterprises. For Fidler

and Webster (1996), the informal sector is an "incubator" of small and micro enterprises and a training ground for prospective businessmen in the formal sector. In relation to this, Little et.al. (1987) argued that very small enterprises are the source of medium – sized and large private enterprises.

However, it should be noted that the above claims of greater job creation and enterprise incubation are not without a challenge. Some challenged the claim on employment creation by stating that net job creation by the informal sector has recorded very little increase because of high death rate of informal enterprises which offsets the large number of new enterprises. In this respect a study made in Southern African countries showed a 7% per year net employment growth in the 1980's and early 1990's (Fidler and Webster, 1996).

Some authors challenged the claim on enterprise incubation by showing that very few micro enterprises developed or evolved into small and medium enterprises (Liedholm, 1992; Fidler and Webster, 1996). Liedholm (1992) argues that the majority of African Small and Medium sized firms originate as large firms and they do not emerge out of the large number of microenterprises.

Generally, most development analysts consider the informal sector as a major employment creator in developing countries as well as a training ground for formal businessmen in the formal sector.

2.1.2 The Need for Microfinancing

The informal sector, which is reported to have a 35-65% and 20-40% contribution to employment and GDP, respectively, of most developing countries (Chickering and Salahdine, 1991), is constrained, among others, by lack of credit. Fidler and Webster (1996), in their study of the informal sectors of West Africa, reported lack of money, specifically insufficient working capital and inability to get source of borrowing, as the major problem facing microenterprises. A similar view is also expressed by Dessing (1990, p.25), who argued that "lack of access to credit is the shortcoming most frequently cited by micoenterpreneurs, perhaps because it is most readily identifiable."

Current literature considers microenterprise development through microfinancing as a major tool for poverty reduction (Johnson and Rogaly, 1997; Holt and Ribe, 1991; Dessing, 1990; Khandker et.al., 1995; Fidler and Webster, 1996; Von Pischke et.al., 1997). Since micro enterprises have very limited access to formal finance - credit from banks (Fidler and Webster, 1996), specialized financing schemes must be designed to facilitate credit access to the poor (micro enterprise operators), enhancing their productivity and income generating capacity. Considering that small enterprises have very limited access to credit from formal financial institutions, Steel (1993) argued for the existence of a responsive financial system for expanding the small enterprise sub-sector. In relation to credit access, Holt and Ribe (1991, pp. 7-8) wrote:

> *"Improved access to financial services ... especially credit ... can help raise the productivity and incomes of small and micro entrepreneurs. With insufficient working capital, small businesses must wait for proceeds to accumulate before they can purchase materials. This commonly results in inefficiency and discontinuities in products and sales. In addition small*

business are seldom able to take advantage of quantity discounts on raw materials. Moreover, to obtain enough cash to meet daily living expenses, they must sell their goods immediately, whether market prices are favorable or not. Access to credit could help alleviate these problems."

- Microfinance defined to represent very small deposits and loans (Johnson and Rogaly, 1997) are considered to be effective tools of intervening in the informal sector, reaching the vast majority of the population. And they are considered to be a supplement to the traditional or informal financial sources such as credit from family and friends (which is the major source of credit), credit from money lenders and saving collectors, informal savings and credit clubs ('Esusus' and 'tontines' in West Africa), suppliers' credit, customer advances, and trade credits (Fidler and Webster, 1996).

- Promotion of equity and facilitation of economic growth are the expected benefits of a microfinancing schemes. Those who emphasize the equity aspect of the scheme argue that provision of financial services to the poor has the potential to reduce poverty by income increase as well as smoothing. Provision of saving service help the poor to accumulate capital and respond to emergencies and overcome sharp declines in income (Fidler and Webster, 1996).

- Moreover, they argue, lending services enable the poor "to invest in opportunities that will increase their incomes, such as buying instead of renting tools, increasing their livestock or getting access to bulk prices of raw materials" (Fidler and Webster, 1996, p.21). Others who focus on growth emphasize the efficiency gains of extending financial assistance to the poor. They argue "financial sectors play a key role in the efficient allocation of resources by shifting funds from surplus to deficit locations and from less profitable to more profitable activities" (Fidler and Webster 1996, pp.21-22).

The question that follows is who should be the provider of credit: the government or financial institutions? Von Pischke et.al. (1997) argued that the state should be a facilitator rather than a provider because of incentive concerns and principal agent problems. A similar view is expressed by Yaron et.al. (1998, P.147) who argued that:

> *"although governments have traditionally used subsidized credit programs to promote agricultural growth, this approach has generally failed to improve incomes and alleviate poverty in rural areas. It has also led to the mistaken belief that rural credit programs cannot be profitable. A new approach seeks to raise standards of living in rural areas by casting the government in a very different role – one of setting a favorable legal and policy environment for rural financial markets and addressing specific market failures cost effectively through well – designed and self-sustaining interventions."*

2.1.3 Targeting in Microfinancing

Since microfinancing services work with a fixed budget, they must be targeted and targeting efficiency is necessary for the realization of expected benefits. In relation to this, Wilson and Adams (1994, p.3) argue that "since most self-employment programs operate on fixed budgets, however, access to these programs is necessarily limited to members of a target population." Otherwise the benefit will accrue to non – intended groups affecting the objective of poverty reduction. Considering the experience of the Grammen Bank, D'Silva and Bysouth (1992) argued that any financing organization dealing with the poor and the non – poor at the same time will end – up serving the non – poor. This implies targeting is necessary in microfinancing.

Grosh (1994, p.7) defined targeting to refer to the "identification of those who will or will not be eligible for a social program". Dominique (1998) reports the existence of two approaches of targeting in public spending. While the first form, which is referred to as broad targeting, involves targeting types of spending with no attempt of reaching the poor directly as individuals, the second approach, referred to as narrow targeting, involves targeting at group of people entitled to a program.

The principle behind broad targeting is that certain types of public spending programs are more concerned with the poor than others. For instance, government investment on primary education is believed to reach more poor children than investment spent on secondary or tertiary education. In narrow targeting, however, a deliberate attempt is made to concentrate benefits on poor people. Under this approach only selected beneficiaries, either administratively (called indicator targeting) or by the participants themselves (called self – targeting), will be entitled to social programs.

- Grosh (1994) consider the goal of targeting to be the issue of concentrating resources on those who need them most. She argued, "a cash transfer given to a rich person, for example, does not reduce poverty and thereby wastes the resources of a poverty alleviation program. If benefits go only to the poor, the level of benefit given to each recipient can be higher or the cost of the program can be reduced" (Grosh,1994, pp. 7-8).

- Development specialists, while appreciating the benefits of targeting to the success of poverty and social programs, have identified the associated costs of targeting: administrative costs (costs incurred in distinguishing the poor from the non-poor by examining income, household composition, local prices, the value of assets); incentive effects that may arise as a

side effect of their principal goal of sorting the poor from the non-poor (for instance, targeting benefits to the unemployed may dampen their efforts to find work); and political economy (the link between targeting, political power and the consequences for the program's resources) (Grosh, 1994; Dominique, 1998).

2.1.4 Outreach and Sustainability

To judge the success of microfinance programs two basic criteria are used: outreach and sustainability (Ravicz,1998; Gonzalez – Vega et.al., 1997). There are two contrasting views about these interrelated issues. While some people argue that outreach today is sustainability tomorrow, others maintain the view that sustainability today is basic for increasing outreach tomorrow on the ground that a sustainable microfinance program attract more potential borrowers by creating incentives.

According to Von Pischke et.al. (1997, p.10), outreach is " the extent to which financial systems and their instruments reach the poor directly, increasing their participation in market processes and by this empowerment, in political processes." They argue that since poverty reduction calls for empowerment of a large number of people, outreach must be the ultimate goal of microfinance programs. In a similar line of thinking, Fidler and Webster (1996) argued that, the level of outreach is important in evaluating the objective of reaching the large numbers of previously under-served low – income people. Outreach is measured by the volume of annual lending and savings activities and the population it serves (Ravicz, 1998).

Khandker etal. (1995, p.36) defined program sustainability to refer to "the ability of a program to continuously carry out activities and services in pursuit of its objectives." They

state that the Grameen Bank can only sustain its operations if it remains financially viable and the benefits received from program participation reduce poverty.

- Sustainability is a signal, both to program beneficaries, banks and donor agencies, about the success and strength of microfinancing activity. In relation to this Gonzalez – Vega et.al. (1997) argued that sustainability creates the image of permanency of financial intermediation thereby attracting additional source of finance and increasing borrowers' willingness to repay loans in expectation of future services. To measure sustainability, arrears and default rates as well as subsidy requirements are considered (Ravicz, 1998).

- There are four basic conditions for overall sustainability of a microfinancing institution. These are financial viability, economic viability, institutional viability and borrower viability. A microfinancing institution is considered as financially viable if it is able to at least equalize the unit cost of lending with the price (that is, the interest rate) it charges its borrowers. It is considered as economically viable if it is able to meet the economic cost of funds (the opportunity cost) used for credit and other operations with the income it generates from lending. When it has effective and well-institutionalized procedures for ensuring administration and management succession, a microfinancing institution is considered institutionally viable. Borrower viability refers to whether the borrowers have achieved higher income flows over time, able to repay their loans (Khandker et.al., 1995).

- Considering the importance of sustaining microfinance activities and in view of the fact that borrower viability is basic for sustainability, development specialists were concerned with microfinance impact assessment as well as identification of determinants of loan repayment performance. In relation to this Khandker et.al. (1995, p.73) argued that "the sustainability

of a credit program ultimately depends on the viability of its borrowers. This can be judged in terms of their economic and social welfare, their loan repayment performance and whether or not they drop out of the program."

- Microfinance impact analysts are concerned with identification of whether participants have more stable and higher incomes or not and whether financial intermediation has become efficient with the involvement of microfinance institutions in the financial sector (Johnson and Rogaly, 1997; Fidler and Webster, 1996).

- Johnson and Rogaly (1997) and Fidler and Webster (1996) stressed the existence of methodological difficulties associated with the measurement of the impact of the assistance programs towards poverty reduction. While Johnson and Rogaly (1997) consider the use of evaluation of changes in users livelihoods as a result of micro financing as a possible measure, Fidler and Webster (1996) consider the possibility of comparing the income of participants to that of control group of non-participants, not forgetting the difficulty of controlling other variables.

In relation to this, Mccormick and Pedersen (1996, p.170) argue that "the impact of credit for either seed or working capital can be measured in a number of ways. These include increased productivity in terms of sales and saving amounts, increased employment and improved product/service quality, among others."

While most researchers propose the descriptive approach, comparing household outcomes before and after loan, some people (especially those who assess agricultural credit) model credit impact using a production function considering credit as one of the explanatory

variables. It should be noted that both approaches are not without a challenge. Adams (1988) challenged these approaches by pointing out that the methods and assumptions used in measuring credit impact are suspect and impact studies ignore saving activities. He argue that "it is a mistake to include loans as a variable in the production function with other inputs, as most researchers have done" (Adams, 1988, p.357). He also indicates that it is difficult to sort the loan effects from the effects of technical assistance.

As Khandker et.al. (1995) put it, loan repayment performances are another indicators of borrower viability. Default rates should be lower for a sustainable microfinance. Researchers concerned with the loan repayment performance aspect of borrower viability, consider better performance in this respect as a basic condition for increasing the possibility of becoming self – sustaining in microfinancing while ensuring the long – term provision of financial services to users (Johnson and Rogaly, 1997; Fidler and Webster, 1996; Khandker et.al., 1995).

While focusing on small holder credit, Kulundu (1990) argued for better loan repayment to sustain credit facilities to pay interest on loan and to cover the cost of administering credit. Khandker et al. (1995, p. 57) argue that " loan recovery enhances profitability by turning over loanable funds and minimizing default", thus improving the viability of the financial institution. Hence, good loan repayment is necessary for efficient operation of microfinancing institutions and for the realization of funds for future lending. Most researchers use regression models for identification of the determinants of loan repayment performance, arrear rate or repayment rate being the dependent variable.

2.2 Empirical Literature

Impact analysis of beneficiaries from several microfinance programs has indicated that loan recipients have been able to have higher and stable income compared to the condition prior their participation. According to Holt and Ribe (1991, p.18) "evaluations of microenterprise lending projects indicate that such programs can improve poor people's incomes and productivity considerably." They reported that in the Calcutta's small-scale enterprise credit program participants' income have increased on average by 82%. Also, they reported 10-14% increase in program participants net income in the small business scheme of the National Council of Churches in Kenya (NCCK).

Studies in Bangladesh, on the Grameen Bank loan program participants, reported positive impact of the program in increasing household income, expenditure on basic needs, employment, nutritional intake and other social benefits for women such as the use of more reliable source of drinking water, contraceptives and latrine services as well as avoidance of earlier marriage (Fidler and Webster, 1996). A similar study made on Indonesia's Bank Rakyat microfinancing impact shows that "its borrowers have increased their net household incomes by 75 percent and net enterprise income by 93 percent" (Fidler and Webster, 1996, p23.).

Impact assessment study made in Kenya showed that "those enterprises that secured credit had the highest mean values in terms of sales and savings made, current values of business assets and the current value of the tools and equipment, the current number of full time employees. Those firms that did not apply for credit have the lowest average values. These results suggest that credit availability has a positive impact on income and employment

generation in the informal sector and small enterprises" (Mccormick and Pederson, 1996, p.170).

Also, Johnson and Rogaly (1997) have indicated an improvement in milk output and raised income in the Turucucho community associated with loan granted by "Casa Campesina Cayambe" financing scheme to grass land management in Ecuador.

In general, we can say that most impact assessment studies have reported the positive contribution of the assistance programs to poverty reduction. And this is one of the requirements of program sustainability. Johnson and Rogaly (1997) indicated that impact assessment by microfinancing bodies is important to show to themselves, their donor agencies and others that they are working in the right direction as planned. For NGO's involved in microfinance, Johnson and Rogaly (1997, p.73) argued that "impact assessment is important in enabling them to remain true to their mission; and that poor quality impact assessment is likely to leave them more vulnerable to co-option by others."

With respect to loan repayment (recovery) rates, Khandker et al. (1995) reported a lower rate for commercial banks and other development finance institutions (ranging from 25 to 50%) while mentioning a 95% loan recovery rate for the Grameen Bank. Johnson and Rogaly (1997) reported a loan repayment rate of 95%, 100% and 82% in the microfinancing schemes in Mexico, Pakistan and Ecuador, respectively. In connection with this, Fidler and Webster (1996) indicate an average 89% loan repayment rate for the forty-four programs reviewed by them in West Africa. Also Wilson and Adams (1994) reported a high repayment rate (an average of 90%) in Poland under the self-employment program in the Country.

Kulundu (1990) tried to identify the relative importance of the factors that affect loan repayment performance by small holder farmers in Lugari Division, Kenya employing primary cross-sectional data and recursive type of model in which loan diversion and loan repayment performance equations are estimated sequentially. Using OLS he found that loan diversion, use of purchased farm inputs, farm income, sources of income from farming activities and farmers attitude towards loan repayment have statistically significant influence on loan repayment while factors such as crop performance, off-farm income & general farmers education are reported to have statistically insignificant influence on loan repayment performance.

With respect to the direction of the influence he showed that, the proportion of loan funds diverted, sources of income from farming & farmers attitude towards loan repayment to be positively related to the proportion of arrears on loans advanced to farmers. On the other hand, the ratio of farm income to loan advanced & use of purchased farm inputs are reported to have an inverse relationship with the proportion of arrears on loans. His result suggests that delay in loan issue and inadequate supervision and technical advice on improved farming methods are significant determinants of loan diversion.

The study by Kashuliza (1993), on Tanzanian case, show a positive and significant relationship between farm income and loan repayment performance. Also borrowers attitude towards loan repayment is reported to be positively and significantly related with loan repayment. He obtained negative but statistically insignificant relationship between household size and loan repayment performance. Also, his result suggests the statistically insignificant influence of education and borrower age variables.

Khandker et.al. (1995), using branch-level data for overdue loans in Grameen Bank's microfinancing scheme, reported the influence of local development indicators such as roads, electrification and educational infrastructure, and branch characteristics such as branch age and managers' incentives on loan repayment performance. They argue that "these factors jointly explain 54% of the variation in default behavior of those 52-77 weeks overdue, 41% for those 78-102 weeks overdue and 42% for those more than 103 weeks overdue" (Khandker et.al., 1995, P. 76). Thus, for them, loan default is not entirely due to borrowers' erratic behavior.

2.3 Literature on Ethiopia

Microfinance impact assessment studies are very limited in Ethiopia. Since the inception of microfinancing scheme in the Country, different researchers are recording some positive results. Mengistu (1998) noted the achievement of some positive results considering the increase in the number of program beneficiaries. He argues, the increase in the number of program beneficiaries is one indicator of the contribution of the assistance program to employment creation and income generation. Also he mentioned the increased level of credit ceiling (from Birr 1000 to Birr 5000) as well as the use of saving account as indicator of the growth of microenterprises towards the formal sector. However, this seems to be a rough generalization because growth of microenterprises towards the formal sector requires overall enterprise performance in addition to use of saving account.

Kassa (1998) considered the impact of microfinancing under the microenterprise project scheme in Southern Ethiopia in the area of education, consumption expenditure, medical expenditure, family assistance, employment creation, income generation, saving and input

use. According to him, before the credit scheme 1584 program beneficiaries were able to send 5504 children to school while after the scheme (in the first credit cycle) 1680 program beneficiaries send 5952 children. In the second credit cycle beneficiaries case, out of the 460 program beneficiaries 406 and 421 of them were able to send their children to school in the pre-credit and post-credit period, respectively. It should be noted that such educational enrollment outcomes couldn't totally be ascribed to the credit scheme because of the existence of trend growth.

Also, Kassa (1998) reported a 30.82%, 10.5% and 19.7% annual growth in consumption expenditure of the first, second and third credit cycle beneficiaries, respectively. With respect to medical expenditure, he reported, a 38.55%, 7.11% and 2.07% growth in the first, second and third loan cycle beneficiaries case, respectively. He also mentioned the creation of 4187 employment opportunities as an additional benefit. With respect to income generation, a 52.6% income growth was recorded in the first credit cycle while a 24.35% and 14.4% growth was recorded in the second and third credit cycle beneficiaries case. He ascribed all such outcomes to the credit scheme. Using Wilcoxon Matched Pairs Non-Parametric Test, he rejected the null hypothesis of equality of average income before and after loan at 5% level of significance implying that the average income after loan is greater than the average income before loan both in the first, second and third loan cycles. Mention is also made with respect to the contribution of the microfinancing to the development of saving culture and increased input use.

In relation to this, Tamiru (1998), using descriptive analysis, reported a positive impact of the microfinancing under the microenterprise project scheme to employment creation, production growth, skill development and avoidance of backward cultural practices facing women. Also

Solomon (1996, p.317) has tried to assess the impact of the microfinancing scheme in Debre Berhan Town based on descriptive analysis. He argued, "preliminary impact evaluation of the randomly taken 65 borrowers show that about half (49 percent) of the sample households have experienced an increase in income levels due to the loan". We need to be cautious in using this result because no mention was made with respect to the situation of income of other family members after the loan scheme.

Some descriptive analysis based in-house impact assessment studies exist in the case of the microfinancing scheme of the Project Office for the Creation of Small Scale Business Opportunities (POCSSBO). A study by the office, in March, 1997 showed that about 46.5%, 8%, 4% and 2% of the beneficiaries were able to earn 100, 101-200, 201-300, 301-400 and above 400 Birr, respectively. A similar study made in June 1997 noted the contribution of the assistance program to income generation, family support and capital accumulation through initiating savings.

A study conducted in March 1998, concerning the benefit of Improve Your Business (IYB) and Start Your Business (SYB) training courses for micro-business operators, indicated the contribution of the credit scheme as well as the training program towards changing the socio-economic status of the beneficiaries. 79.3% of survey respondents are reported to have increased business activities due to the training program. (POCSSBO, 1998).

With respect to loan repayment or recovery rate, researchers report some positive and encouraging results. As reported by Tamiru (1998) and Mengistu(1998), loan repayment rate, under the microenterprise project microfinancing scheme, is 92%. In the case of Debre Berhan microfinancing, Solomon (1996) reported an average loan recovery rate of 93

percent. Seifu(1998) reported a 97.76% average repayment rate in the Tigray microenterprise project case. A repayment rate of 87% is reported in POCSSBO's credit scheme in Addis Ababa and this positive result is ascribed to the active participation of kebele administration, a point that needs to be investigated.

Empirical studies on the determinants of loan repayment performance are very limited in Ethiopia. Mengistu (1997) has provided a study on the determinants of loan repayment performance in Bahir Dar and Awasa, under the microenterprise project scheme. Using a binomial probit model, he pointed the positive impact of the number of workers employed by a beneficiary, education and weekly repayment period variables on loan repayment performance in Awassa while showing the negative impact of loan diversion. In the case of Bahir Dar, he noted, expectation of getting another loan and number of workers employed by a beneficiary to be positively related to the full loan repayment performance while loan diversion and availability of other sources of credit are reported to be negatively related. However, the factors that determine POCSSBO's loan repayment performance have not been properly modeled.

This study is, therefore, believed to contribute research and generate information to fill this gap and to augment the available impact assessment literature in the country. It is also expected to highlight some mechanisms for improved microenterprise financing in the country.

CHAPTER THREE

DATA AND METHODOLOGY

3.1 Data Type and Source

Primary data on cross - section of beneficiaries under POCSSBO's microfinancing scheme is employed in the study. Since assessment of loan repayment performance requires identification of loans, which are due, in this study beneficiaries from the first credit cycle, for which loan maturity period had already passed, are considered.

The data is collected through a structured questionnaire prepared for the purpose and administered to sample microenterprise operators who have benefited from POCSSBO's first credit cycle in Addis Ababa. The questionnaire is designed so as to obtain information on the following aspects of sample beneficiaries.

i) Characteristics of sample beneficiaries such as age, sex, marital status, educational background, health status, employment status, number of dependants in the household, among others.

ii) Amount of loan, the purpose for which loan was given, the actual use of loan, time loan was taken as well as loan repayment performance.

iii) Beneficiary's attitude towards loan repayment, the cost of default and suitability of the repayment period.

iv) Number of workers employed.

v) Income from business financed by the loan & other sources and the level of saving.

vi) The use of accounting system.

vii) Loan supervision and support services.

viii) General opinion about the credit scheme and other relevant variables.

Also additional information is gathered through general discussions with beneficiaries, POCSSBO's staff and kebele administrations.

3.2 Sample Design and Procedure

Two-stage sample design procedure is adopted for the survey. The first stage is the selection of sample woredas while the second stage is the selection of beneficiaries. Woredas are stratified on the basis of the number of beneficiaries as: high, medium and low and simple random sampling is applied. For the purpose of this study woredas having beneficiaries greater than 180 are considered to be in the high strata while those having beneficiaries in the range of 120 – 180 and those with less than 120 are considered to be in the medium and low

stratas, respectively (Refer Appendix 2 for the number of beneficiaries by woreda). Table 3.2-1 below report stratification of woredas based on this criteria.

Table 3.2-1: Stratification of woredas on the basis of the number of beneficiaries

Strata	Woreda
High	3,6,8,10,11,15,21 (seven woredas)
Medium	2,4,5,7,12,13,16,17,18,19,20,23,24,25 (fourteen woredas)
Low	1,9,14,22,26,27,28 (seven woredas)

To make the sample best representative and considering the existence of a large number of woredas in the medium strata, two, six and two woredas are selected with simple random sampling from each of high, medium and low strata, respectively (a total of 10 woredas in the region). Based on the above procedure woredas 11 and 15 from the high strata; woredas 5,12,17,19,20 and 23 from the medium strata; and woredas 9 and 14 from the low strata are selected for the survey. It should be noted that since the unit of analysis of this study is only at individual level there seems to be no sampling problem associated with the above stratification of woredas.

The second stage is the selection of beneficiaries from each sample woreda with simple random sampling. Beneficiaries are the primary sampling units. The survey questionnaire is administered to sample beneficiaries after determining the sample size by considering cost and time. A total of 241 beneficiaries (about 24 sample beneficiary from each sample woreda) are covered in the survey. This sample size is hoped to generate the required information with relatively good statistical precision.

There are, however, some limitations of the data, which are worth mentioning. One area of limitation is coverage. Availability of nation wide data on beneficiaries under different microfinancing scheme is important to evaluate the relative contribution of a certain credit scheme to poverty reduction compared to others. It will also help to evaluate the determinants of loan repayment performance under different schemes, thus avoiding the problem associated with generalization based on a single scheme. However, because of time and resource constraint the data used in this study was generated only from Addis Ababa based on structured questionnaire administered on sample beneficiaries from POCSSBO's first credit cycle.

In analyzing the impact on loan diversion of the existence of dependants in a beneficiary household, it is better to measure the actual burden on each beneficiary. This requires information both on household size and number of dependants. However, in this study only data on absolute number of dependants in a beneficiary household was collected. Another limitation is the generation of income and consumption expenditure data on category basis, which reduces flexibility.

3.3 Methodology

The following methodologies are employed for impact assessment and to analyze loan repayment performance and its determinants.

3.3.1 Impact Assessment

In order to evaluate the impact of POCSSBO's microfinancing on poverty reduction, the methodology suggested by Fidler and Webster (1996) i.e. evaluation of changes in user

livelihoods as a result of microfinancing is employed in the study. Descriptive analysis is made on beneficiaries' economic condition before and after participation as perceived by the beneficiaries themselves. This include comparison of income, saving, nutrition, educational and health care service outcomes. Also the contribution of the credit scheme to employment creation is analyzed.

The justification for employing this method is to avoid the practical difficulties associated with production function based impact assessment study considering credit as input. Since credit is a facilitator in the acquisition of inputs, it will be a mistake to consider it as an input in a production function (Adams, 1988).

Also considering the fact that the use of control groups in impact analysis has some problem associated with the difficulty to assemble control groups that are similar to beneficiary groups, this method is proposed for impact assessment comparing beneficiaries livelihood before and after loan. However, there are some problems associated with this approach. Respondents may give false information if loans have been used for a purpose other than the stipulated one, thus distorting the result of the assessment (Johnson and Rogaly, 1997). Also Adams (1988, p. 357) argued that "because of borrower heterogeneity and fungibility, cause and effect between loans and changes in other borrowers' economic actions is difficult to establish." Despite these shortcomings this method has increasingly being used by many microfinance specialists to assess credit impact.

3.3.2 Loan Repayment Performance and Determinants

Loan repayment performance is measured by the recovery rate. After calculating the recovery rate using the survey data, descriptive analysis is made on POCSSBO's loan repayment performance.

Analysis of the determinants of loan repayment performance is important in the design of better credit programs. Loan repayment analysts assume the existence of some factors affecting borrower's behavior that is likely to increase the probability of default. According to them the way the loan contract is presented to customers also affects their perception of the loan obligation and their willingness to repay. These considerations are the basis for the modeling of loan repayment performance, incorporating both lender and borrower behavior, by utilizing non-price information including wealth variables, demographic variables such as age, gender, number of children, religion, etc. and economic variables such as income, number of hired labor, etc. (Hunte, 1996).

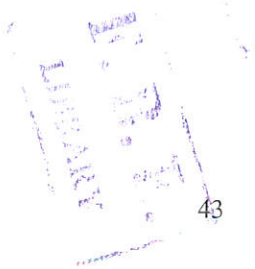
Since there are a large number of empirical work in the area (Mengistu, 1997), reference to previous studies and practical experience are vital in modeling the relationship between loan repayment performance and factors affecting it. In view of these it is hypothesized that POCSSBO's loan repayment performance is influenced by the following factors, among others.

Income from business financed by the loan : One of the major objectives of the credit scheme is generation of income for the poor. With increase in their income from business financed by the loan, the livelihood as well as the loan repayment capacity of these people is expected

to improve. So the expected sign of the coefficient of this variable is positive. The implicit assumption is that it is ability to pay rather than willingness to pay that affects repayment. But success in the business may also mean that a beneficiary is unlikely to need credit from the same source in the future which may reduce his/her incentive to pay – negative sign in the coefficient of this variable.

Considering the Multi-Purpose Cooperative Union Loan Program in Nigeria, Adeyemo (1984, p. 271) pointed out that the probability of the borrowers being unable to repay their loan decreased as income level increases. However, he argued, "there comes a point where at every high levels of income, a higher proportion of delinquent than good borrowers is noticeable, suggesting that the relationship between income and repayment may be non-linear."

Availability of other source of income: In addition to the income from business financed by the loan some credit beneficiaries may have other income from side – by – side business, government/private sector employment of other family members, etc. Such availability has implication on loan repayment performance. By augmenting beneficiary's income, the availability of other source of income (i.e. diversification of income source) is expected to have positive contribution for loan repayment performance Kulundu (1990). In some instances, however, availability of other income source may produce carelessness on the part of beneficiaries in meeting credit obligations since they may not need credit from the same source in the future. If such cases happen, the coefficient of this variable will become negative.



Beneficiary's attitude towards loan repayment : It basically refers to the willingness of an individual to settle his/her obligation. If a beneficiary has the feeling that loan should not be repaid, he/she will search for ways of defaulting thereby undermining performance i.e. the sign will become negative. Kulundu (1990) argued that those farmers who have not repaid their loans and having the opinion that loan should not be repaid are not likely to settle their obligations. So loan repayment performance will be negatively affected. On the other hand, if a beneficiary has the feeling that loan is some thing that should be repaid, he/she will most likely settle his/her obligation, so performance will be enhanced i.e. the sign will become positive.

Beneficiary's perceived cost of default : Theoretically the costs of default include collateral seized claims against personal wealth, claims against guarantors, loss of borrower's social status, loss of future access to credit and other economic benefits, social sanctions, among others. A credit beneficiary who cares about one or a combination of these costs, will most likely refrain from defaulting. In such cases performance will be enhanced (positive sign in this variable). This outcome is, however, dependent on the issue of credibility of these costs which partly depends on whether they are likely to be enforced or not – perceived likelihood of enforcement and whether the costs of default outweigh the benefits of default. In relation to this Jaffee and Stiglitz (1990, p.863) argued that " a promise to pay in the future is enforced if the borrower faces costs of default that exceed the benefits of default." The opposite will happen in the case of credit beneficiaries who undermine these costs.

Loan supervision : Loan supervision is an advisory and follow-up activity undertaken by a financial institution on loan utilization and repayment. Frequent and quality supervision on loan utilization and repayment will strengthen the relationship between lending agencies and

beneficiaries. This encourages beneficiaries to settle their obligations thereby improving loan repayment performance (positive sign in this variable). On the other hand, inadequate supervision on loan repayment may produce opposite results.

The use of accounting system : The use of recording system by a beneficiary enables him/her to evaluate his/her loan repayment status. This again is expected to contribute for improved loan repayment performance i.e. positive sign will be expected. But without any recording system the possibility of identifying outstanding balance will be lower, thus undermining performance.

Size of loan : This is another factor hypothesized to have influence on loan repayment performance. Loan size may have a mixed impact on loan repayment. If the amount of loan given to each beneficiary is equal to project costs, it will not be a burden thereby contributing towards increased repayment capacity of enterprises. In relation to this Von Pischke (1991) argued that, efficient loan sizes fit borrower's repayment capacity and stimulate enterprises. In this respect the sign of the coefficient of this variable is positive.

However, if the loan amount is in excess of project costs, it will become a burden to enterprises affecting their repayment capacity. According to Vigano (1993, p.460) "the higher the ratio amount granted/amount required, the higher is the credit risk." So negative sign will be expected under this circumstance. In the case of too small loans, the sign of this variable may be positive or negative. It may be easy to repay too small loans thus enhancing performance (positive sign). On the other hand, too small loan may not produce commitment on beneficiaries to use the loan productively (Von Pischke, 1991) or it may encourage beneficiaries to divert funds to other purposes, increasing credit risk and undermining

performance (Vigano, 1993). In this respect the sign of the coefficient of this variable is negative.

Educational level of beneficiary : Normally more educated beneficiaries are expected to use the loan funds efficiently thereby having good loan repayment ability than less educated beneficiaries. In relation to this Adeyemo (1984, p.272) argued that education "represents both capacity and willingness to pay based on a more enlighted long-run view of maintenance of credit worthiness. Educated borrowers has more to lose in terms of a blemished reputation and therefore is more inclined to come through with his repayment." Such positive relationship may not be always the case. Educated beneficiaries may be among the defaulters. Since educated beneficiaries are in a better position to understand the effectiveness of the enforcement mechanism (or the lack of it) on loan repayment, they will be defaulters if they believe that the financial institution has weak enforcement mechanism. Also loan default by educated beneficiaries could possibly be due to speculative behavior. This suggests that the effect of the education variable on loan repayment performance is ambiguous.

Beneficiary's age : It is usually believed that with increase in age beneficiaries may acquire stability (Vigano, 1993) as well as business experience. This by reducing credit risk is expected to improve loan repayment performance of beneficiaries. Since there is nothing that would stop the opposite from happening it is better to leave the sign of this variable for empirical investigation.

Beneficiary's sex : Considering the point that women assumes more responsibilities in domestic affairs of a household, many microfinance specialists believe that women are better

loan payers than male beneficiaries (Hunte, 1996). However, some empirical studies obtained opposite results suggesting that males are rather better loan payers than females. So it is better to leave the effect of this variable for empirical investigation.

Suitability of the repayment period : A loan repayment period, which fits the repayment capacity of beneficiaries, will most likely improve performance. Hence, a variable representing the suitability as perceived by beneficiaries is included.

Loan diversion: It refers to the use of loan proceeds for purposes other than that specified in the loan agreement between lenders and borrowers. The impact of this variable on loan repayment performance depends on the actual use of diverted funds. If the diverted loan is used for non-income generating purposes, loan repayment will be undermined (Von Pischke, 1991). In relation to this Kulundu (1990, p.29) argued that "small holder farmers may be unable to repay their loan owing to use of the loan funds for purchases of food, school fees, medical expenses and ceremonies which are degenerative of income." This implies the loan diversion variable will have a negative coefficient. On the other hand, if the diverted loan is used for income generating purposes, loan repayment capacity of a beneficiary will increase leading to better repayment performance i.e. the sign of the coefficient of loan diversion variable will be positive.

As reported above, loan diversion is one of the factors affecting loan repayment performance. However, it in turn is affected by some factors from the loan repayment equation and outside (i.e. it is endogenous to the system). To account for this endogenity a separate model is formulated relating loan diversion and the following hypothesized factors.

Loan supervision : If adequate supervision is made on loan utilization, the probability of diverting the loan proceeds for non-intended uses may be lower (negative sign in this variable). On the other hand, inadequate supervision in this respect will increase the probability of diverting loan proceeds for other purposes (positive sign in this variable).

Number of dependants : In this study number of dependants is defined to include the number of children and relatives (with in the household and outside) who depend on the beneficiary for their livelihood. The beneficiary has the obligation to fulfill their requirements of food, clothing, medical care, etc. It is, therefore, expected that the higher the number of dependants, the greater the probability of diverting loan funds to meet household obligations i.e. the coefficient of this variable will be positive.

Consumption expenditure : Generally consumers have the tendency to maintain consumption standards that have been achieved, especially at higher income level. So the higher the consumption expenditure achieved, the greater the probability of diverting loans to maintain consumption standards in periods of income fluctuation. So a positive sign may be expected in this variable.

Size of loan : A loan amount in excess of project cost is most likely diverted thereby producing positive sign in this variable. In relation to this Njoku and Odii (1991) argued that farmers who receive loans in excess of their actual farm requirements, especially cash, tend to divert the excess to consumption and other non-productive activities. On the other hand, the probability of diverting loans will be lower in the case where loan amount is enough only to cover project costs i.e. negative sign in this variable may be expected. Some empirical

studies reported that loan smaller than required would lead to loan diversion. Thus, size of loan has a mixed impact on loan diversion.

Timeliness of loan issue : Late loan delivery may lead to change of business plan because of loss of market or increased price of inputs. This, by increasing the probability of diverting the loan proceeds to non-intended uses, is expected to produce positive sign of this variable.

Educational level of beneficiary : With increase in the educational level of beneficiary, the probability of using the loan proceed for its intended purpose will most likely increase. And, in fact, in some empirical studies it was found out that more educated beneficiaries tend to use the loan funds for the intended purpose than less educated ones (Kulundu, 1990). This may undermine loan diversion producing negative sign in this variable. The opposite may happen in the case where educated beneficiaries divert loan proceeds in search of a more profitable line of activity since the aspiration level of the educated ones seems to be relatively higher than the less educated.

The use of accounting system : The use of accounting system by a beneficiary enable him/her to identify loan proceeds from other incomes, thereby avoiding confusion. This may reduce the probability of diverting loan proceeds for non-intended uses. Although negative sign is expected for this variable, there is nothing that would stop the opposite from happening. This is because without any recording system the probability of confusing the loan proceeds with income from other sources may be higher, resulting in loan diversion unknowingly.

Considering the existence of such factors affecting loan diversion i.e. endogenity of loan diversion, recursive type of model is employed in the study. Such a methodology was used

by Kulundu (1990) to identify the determinants of small holder credit repayment performance in Kenya. The model is represented by two set of equations: one that relates loan repayment performance and the factors believed to have influence on it; and another that relates loan diversion and factors affecting it.

The loan repayment equation is modeled based on the following argument. Under normal condition, credit beneficiaries will settle their obligations if there are some benefits or utilities derived thereof. So the decision of borrowers to repay loan in full depends on a utility index UI affected by a set of factors. However, this utility index is non-observable. So some consideration must be made to relate the index with the decision of repaying loan in full. It should be noted that since the office retains 5% from each approved loan as a contingency against default, borrowers actually receive 95% of the total loan approved. Thus a loan repayment rate of 95% of the amount approved represents full repayment by a borrower. Based on this consideration:

$LRP_i=1$ if $UI_i > 0$ (Loan repayment rate ≥ 0.95 i.e. full loan repayment by a borrower)

$LRP_i=0$ if $UI_i \leq 0$ (Loan repayment rate < 0.95 i.e. below full repayment by a borrower)

Where: LRP_i = Loan repayment performance of the i^{th} borrower

UI_i = Utility index of the i^{th} borrower

This consideration imply that the dependent variable in the loan repayment equation (LRP_i) is dichotomous. Since probit is one of the models to deal with dichotomous variables, it is used in this study to model loan repayment performance.

In probit model we assume the existence of an underlying latent variable for which we observe a dichotomous realization. For instance, if the observed dummy variable is whether or not the person is employed, the latent variable would be propensity or ability to find employment. In our case the latent variable is the utility from repayment and the dichotomous realization is whether or not a beneficiary has repaid in full. The model is based on the normal distribution. It is assumed that the error term (ε) ~ IN(0,σ^2). The model is non-linear and the parameters of the model are not marginal effects as is the case in other models.

There could be total loan diversion (loan diversion rate equal to one), partial loan diversion (loan diversion rate between zero and one) and no diversion (loan diversion rate equal to zero); i.e. the values of loan diversion rate are limited between zero and one. Thus tobit model is appropriate to obtain the fitted values of loan diversion variable in such censored type sample because 42% of the values of loan diversion rate variable are zero.

The hypothesized model is:

$$LRP=F(LDR,MBY,AOY,ALR,PCD,LS,AS,SLOAN,BED,BAGE,$$
$$BAGESQ,BSEX,SRP,U_1) \quad \text{---------- (1)}$$
$$LDR=G(LS,NDP,CEBL,SLOAN,TLI,BED,AS,U_2) \quad \text{---------- (2)}$$

Where LRP= Loan repayment performance

LDR= Loan diversion rate (loan diverted to as a percentage of loan advanced)

MBY = Monthly income from business financed by the loan

Below 100 Birr =1

101 - 200 Birr =2

201 - 300 Birr =3

301 - 400 Birr =4

401 - 500 Birr =5

Above 500 Birr =6

AOY= Availability of other source of income for the household after program participation (dummy)

If there is other source of income for the household =1;

If not = 0.

ALR= Beneficiary's attitude towards loan repayment (dummy)

Loan must be repaid =1; otherwise =0.

PCD= Beneficiary's perceived cost of default (dummy)

If the cost of default is perceived to be high=1; otherwise=0.

LS= Beneficiary's perception on the sufficiency of the loan supervision (dummy)

It was sufficient =1; otherwise =0.

AS= Use of accounting system (dummy)

If a beneficiary uses accounting system =1; otherwise =0.

SLOAN= Size of loan i.e. loan amount that is approved to each beneficiary (in Birr)

BED= Educational level of Beneficiary

Non-Literate =1

Grade 1-4 complete =2

Grade 5-8 complete =3

Grade 9-12 complete=4

Above Grade 12 =5

BAGE= Beneficiary's age (in years)

BAGESQ= Age squared

BSEX= Beneficiary's sex (dummy)

Female=1; Male =0.

SRP= Suitability of the repayment period as perceived by the beneficiary (dummy)

Repayment period suitable =1; not suitable=0

NDP= Number of dependants

CEBL= Consumption expenditure before loan

Below 100 Birr =1

101 - 200 Birr =2

201 - 300 Birr =3

301 - 400 Birr =4

401 - 500 Birr =5

Above 500 Birr =6

TLI= Timeliness of loan issue (dummy)

If loan issue was timely =1; if not =0.

U_1= Error term of equation (1)

U_2= Error term of equation (2)

For estimation to proceed it is important to impose the restriction that the error terms are uncorrelated with one another i.e. $COV(U_1,U_2)=0$. The importance of this restriction is to

make all the equations in our system identified i.e. it is not possible to derive, using the linear combination of the equations in the model, another equation of exactly the same form as the equation under consideration. It also ensures the non-existence of simultaneous equation bias.

Maximum likelihood method is used in estimation since three major problems are associated with OLS: non-normality of the error term, heteroscedasticity of the error terms, and the possibility of estimated probabilities lying outside the 0-1 range.

After estimating the loan diversion equation, the fitted values of loan diversion rate are utilized in the estimation of loan repayment performance equation. Following this step is important to avoid interdependence between the loan diversion rate (LDR) variable (which is endogenous to the system) and the error term.

This recursive model is appropriate to examine the relative significance of factors affecting loan repayment performance while avoiding the endogenity problem (the interdependence that may exist between explanatory variables) – a property which single equation models lack. Kulundu (1990) argued that single equation models do not explain the interdependence that may exist between explanatory variables. Rather, he argued, it is appropriate to use a model consisting of a number of equations in which the behavior of the variables is determined jointly i.e. recursive model. It is such consideration, which motivated the use of recursive model in this study.[4]

[4] Mengistu (1997) has also employed a similar model to analyze the determinants of loan repayment performance under the Market Towns Development Project Microfinancing scheme.

CHAPTER FOUR

EMPIRICAL ANALYSIS

4.1 Characteristics of Sample Respondents

As reported in the introductory chapter POCSSBO has extended credit for about 4500 individuals in Addis Ababa up to February 1999. Out of this total population 241 beneficiaries were selected for the survey based on stratified random sampling procedure, as outlined in the previous chapter. Of the total respondents 166(69%) are females while the remaining 75(31%) respondents are males. About 52% of the respondents are in the age group of 21-25 years and 71% of them are grade 9-12 complete (Table 4.1-1). More than 73 percent of the respondents are reported as being unemployed before the credit program. These results support the view that target beneficiaries under POCSSBO scheme are women and unemployed youth who completed grade 12. Survey result with respect to marital status shows that 72% of sample respondents are single and the average number of dependants in a beneficiary household is about 2.49.

Table 4.1-1: Number of respondents by age-group, level of education and sex

Age Group (Years)	Level of education										Total
	Non-Literate		Grade 1-4 Complete		Grade 5-8 Complete		Grade 9-12 Complete		Above Grade 12		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
Below 20	-	-	-	-	1	-	1	1	-	-	3
21-25	-	-	-	-	4	2	70	30	8	9	123
26-30	1	-	2	-	3	2	36	24	8	2	78
31-35	1	-	-	-	1	1	4	-	1	-	8
36-40	9	-	1	-	2	-	1	3	-	1	17
41-45	1	-	1	-	1	-	-	-	-	-	3
Above 45	6	-	1	-	2	-	-	-	-	-	9
Total	18	-	5	-	14	5	112	58	17	12	241

Information on previous access to credit is important in evaluating beneficiaries' experience in loan use and their default behavior. However, 237 (98%) of the respondents reported as not having previous access to credit at the time of the survey, making such evaluation exercise impossible.

The majority of respondents are in the loan group of 501 – 1000 Birr (Table 4.1-2) and the average loan size is about 1285.11 Birr per respondent. About 44% of them took credit for undertaking retail trade while others took credit for businesses such as textile trading, mini-restaurant, pulse trading, etc. The sufficiency of this loan amount to cover project costs has implications for loan diversion and repayment performance. During the survey, more than 55% of the respondents reported the insufficiency of the loan amount to cover project costs.

Table 4.1-2: Number of respondents by loan size and purpose of loan

Purpose of Loan	Loan Size					Total
	Below 500 Birr	501-1000 Birr	1001-1500 Birr	1501-2000 Birr	Above 2000 Birr	
Local Drink Preparation	-	3	-	1	-	4
Selling Enjera	1	3	-	-	-	4
Wood Works	-	-	1	-	-	1
Textile Trading	-	5	2	43	1	51
Shoe Repair	-	2	1	-	-	3
Barber	-	1	4	-	-	5
Retail Trade	1	45	17	43	-	106
Mini-Restaurant	-	7	6	-	-	13
Pulse Trading	-	14	2	-	-	16
Others	7	24	4	2	1	38
Total	9	104	37	89	2	241

Since loan diversion is one of the variables hypothesized to have influence on loan repayment, information on the extent of loan diversion is important. The result of the survey in this respect indicated that, 139 (58%) of the beneficiaries were loan diverters, most of them diverting less than 40% of the loan proceed, while 102 (42%) of the respondents used

all their loan funds on its intended purpose. The average loan diversion rate was about 23%. Of the 139 loan diverters only 101 (70%) reported their reason of loan diversion and the main reason for loan diversion was the provision of loan in excess of project cost.[5]

Table 4.1-3: Number of respondents by reason of loan diversion

Reason for loan diversion	Number of respondents	%
Absence of working premise	17	16.8
Amount borrowed in excess of project cost	32	31.7
To create additional source of income	25	24.8
Loan amount not enough to cover project cost	2	2.0
Because of personal problem	25	24.8
Total	101	100.0

Related to this loan diversion issue is the timeliness of loan granting. About 68 (28%) of the respondents reported POCSSBO's loan granting as not timely. Of this group, more than 44% reported the delay as not having any impact on their business while 30% and 18% reported the problem of plan disorder and loss of market, respectively, associated with the delay.

All respondents reported as making loan repayment every month and the average monthly loan repayment level was 52.40 Birr per beneficiary. A question of interest in this respect is the suitability of the loan repayment period because a loan repayment period, which fits the repayment capacity of beneficiaries, is expected to improve performance. Survey result indicated that 145 (60%) of the respondents consider the monthly loan repayment period as suitable while the remaining 96 (40%) consider it as non-suitable to effect loan repayment because of market fluctuation and insufficient profit from business. Of the group which consider the loan repayment period as non-suitable more than 79% recommend a two months

[5] This may possibly be due to lack of experience in project evaluation.

period for effective settlement of their obligation. This suggestion may be considered by the project office in order to design appropriate loan repayment period.

Grouping of sample beneficiaries in terms of their loan repayment performance show that, there are 71 (30%) beneficiaries who settled their loan in full (repayment rate >= 0.95) while the remaining 170 (70%) beneficiaries failed to repay in full (repayment rate < 0.95). This indicate that the repayment rate of the majority of the respondents is below 95%. The average repayment rate for the total sample is found to be 79%.

In many empirical studies, attitude of beneficiaries towards loan repayment is considered as an important variable affecting loan repayment performance. The survey result showed that 238 or nearly 99% of sample respondents have the attitude that loan is something that should be repaid. If this attitude is the only determinant of performance, we would have expected a loan repayment rate more closer to 100%. However, the computed 79% mean repayment rate of the sample suggests the existence of other factors, which affects loan repayment performance.

A variable, which may be considered in this respect, is the perceived cost of default. If the cost of default is perceived to be high, we may expect beneficiaries to refrain from defaulting. Survey result in this respect show that 163 (68%) of the respondents consider the cost of default as high while the remaining 78 (32%) consider it as low (Table 4.1-4).

Table 4.1-4: Respondents perception about the cost of default

Perception about the cost of default	Number of respondents	%
The cost of default is low	78	32.4
The cost of default is high	163	67.6
Total	241	100.0

Table 4.1-5 Distribution of respondents by perceived cost of default

Perceived cost of default	Number of respondents	%
Claims against personal wealth	3	1.9
Claims against guarantors	117	71.8
Social sanctions such as loss of Social status	10	6.1
Loss of future access to credit and other benefits	33	20.2
Total	163	100.0

Availability of quality supervision on loan utilization and repayment are important for improved loan repayment performance. Under POCSSBO scheme supervision is supposed to be provided by POCSSBO staff as well as kebele administrations. During the survey respondents reported the availability of supervision on loan utilization and repayment both by POCSSBO and kebele administrations as depicted in Table 4.1-6 below.

Table 4.1-6: Respondents perception on the availability of supervision on loan utilization and repayment

Type of supervision	Perception on Availability			
	NO		Yes	
	Number of beneficiaries	%	Number of beneficiaries	%
POCSSBO's supervision on loan utilization	130	53.9	111	46.1
Kebele's supervision on loan utilization	101	41.9	140	58.1
POCSSBO's supervision on loan repayment	131	54.4	110	45.6
Kebele's supervision on loan repayment	90	37.3	151	62.7

As indicated in Table 4.1-6 there was more supervision on loan utilization and repayment from kebele administrations than POCSSBO. A related issue in this respect is the sufficiency of this supervision as perceived by beneficiaries. About 112 (47%) of the respondents consider the supervision as insufficient while 129(53%) consider it as sufficient. Of those

who reported insufficient supervision, 71% consider such insufficiency as having contributed to loan default.

4.2 The Contribution of POCSSBO's Microfinancing to Poverty Reduction

4.2.1 Effect on Employment Creation

The main objective of POCSSBO's microfinancing scheme is to create employment opportunities for unemployed youth and women thereby alleviating the unemployment problem in the city. Any evaluation of this scheme should thus assess the extent to which this has been realized and, in fact, this issue is one of the main concerns of this study. The survey showed that about 177 (73%) of the beneficiaries were unemployed before joining the credit scheme. After the credit program, however, only 13(5%) are unemployed.[6] This indicates the positive contribution of the credit scheme in generating employment opportunities (Table 4.2-1).

Table 4.2-1: Occupation of respondents before and after the credit program

Occupation	Before the credit program			After the credit program		
	Male (N=75)	Female (N=166)	Total (N=241)	Male (N=75)	Female (N=166)	Total (N=241)
	(% of beneficiaries)					
Local drinks preparation	-	1.2	0.8	-	3.0	2.1
Selling 'Enjera'	-	4.8	3.3	-	3.6	2.5
Wood works	1.3	1.2	1.2	-	-	-
Metal works	1.3	-	0.4	-	-	-
Textile trading	5.3	1.8	2.9	12.0	20.5	17.8
Shoe repair	-	-	-	4.0	-	1.2
Barber	1.3	-	0.4	5.3	-	1.7
Retail trade	6.7	5.4	5.8	53.3	38.6	43.2
Mini-restaurant	-	0.6	0.4	5.3	4.8	5.0
Pulse trading	-	0.6	0.4	1.3	8.4	6.2
Others	13.3	9.6	10.8	14.7	15.1	14.9
Unemployed	70.7	74.7	73.4	4.0	6.0	5.4
Total	100	100	100	100	100	100

[6] The main reason for this, as reported by them, was the non-availability of working premise

As indicated in Table 4.2-1 new employment was generated mostly for female beneficiaries, 75% of whom reported having no occupation before joining the credit scheme; after the credit scheme, however, this proportion had fallen to 6%. About 40% of female beneficiaries took credit for retail trade and 39% of them reported it as their principal occupation at the time of the survey. On the other hand, out of the 75 male respondents 53(71%) reported as being unemployed before program participation while only three reported their status as unemployed after the loan scheme. For male respondents, most new employment was generated in retail trade.

Such performance in the area of employment creation for direct beneficiaries may be qualified by looking at the trend in the number of program beneficiaries. As depicted in Table 4.2-2 below, yearly program coverage which was only 521 individuals at the start of the program in 1996, has increased to 2747 and 1155 individuals in 1997 and 1998, respectively; providing a rough indication of performance in the area of employment creation for the majority of respondents.

Table 4.2-2: Number of program beneficiaries (1996 – 1998)

Year	Male	Female	Total
1996	116	405	521
1997	797	1950	2747
1998	252	903	1155
Total	1165	3258	4423

Source: POCSSBO

In addition to the creation of employment opportunities for direct program beneficiaries, the credit scheme has generated some employment opportunities to other family members and hired labor. During the survey only four respondents reported the employment of some

family members in their business before program participation compared to 18 after the loan. Although there is slight increase in the number of beneficiaries employing family members in their business, the performance in the area of employment creation for family members was not satisfactory. With respect to hired labor no one has reported as employing before the loan while nine of them reported the employment of hired labor in their business after program participation. Again the performance was not satisfactory in this respect and much is not expected from this type of financing arrangement as the amount of loan is not high enough to hire.

Such unsatisfactory performance in the area of employment creation for family members and hired labor should not, however, undermine the positive contribution of the credit scheme in generating employment for direct beneficiaries. By generating actual employment for direct program participants the credit scheme has empowered people to participate in the marketing process.

4.2.2 Effect on Income

Since the promotion of equity is one of the benefits of a microfinancing scheme, such a scheme must be evaluated with respect to its effect on income. The findings reported in the previous section, i.e. the generation of employment opportunities for direct program participants, demonstrate that POCSSBO's credit scheme has a positive effect on income. About 96(40%) respondents reported the existence of income source for their household before the loan scheme generated mostly from government employment of other family members (60% of them reported), of which only 90 disclosed the level. Out of those who

disclosed the income level of their household, 37% and 36% reported monthly income less than 100 Birr and 100-200 Birr, respectively (Table 4.2-5).

Table 4.2-3: Beneficiaries response on the availability of source of income before loan

Response on availability of income source before loan	Number of respondents	%
No	145	60.2
Yes	96	39.8
Total	241	100.0

Table 4.2-4: Respondents by source of household income before loan

Income source	Number of respondents	%
Business income	12	12.5
Income from government employment of other family members	58	60.4
Income from other private activities	26	27.1
Total	96	100.0

On the other hand, out of the 241 covered in the survey, 225 are actually in operation generating income for their livelihood after the loan. Of these 164 (73%) and 41(18%) reported monthly income less than 100 Birr and 100-200 Birr, respectively, generated from business financed by the loan.

Table 4.2-5: Respondents by household income before and after loan

Income level (Birr)	Before Loan		After loan	
	Number of respondents	%	Number of respondents	%
Below 100	33	36.7	100	44.4
100-200	32	35.6	41	24.0
200-300	19	21.1	9	18.2
300-400	4	4.4	2	7.6
Above 400	2	2.2	4	5.8
Total	90	100.0	225	100.0

In addition, 65 respondents reported the existence of other income generated from side-by-side business activities, government employment of other family members and other private activities. Of these respondents 37% and 39% reported, monthly income less than 100 Birr and 100-200 Birr, respectively. In total there are 225 respondents who report the existence income source for their household after the loan scheme of which 44%, 24% and 18% reported monthly household income less than 100 Birr, 100-200 Birr and 201-300 Birr, respectively (Table 4.2-5).

Such results suggest the positive contribution of the credit scheme in income creation. Although income creation is a benefit by itself, further analysis is important to check whether household income has increased after loan disbursement or not. This requires hypothesis testing by formulating the null and the alternative.

Test of hypothesis can be classified in to two: Parametric (standard) tests and Non-Parametric (distribution free) tests. In Parametric test we assume certain properties of the parent population from which we draw sample while there is no need for such assumption in Non-Parametric test (Van Matre, 1996).

Since Non-Parametric test doesn't require assumption about a particular distribution and considering the need to compare income before and after loan disbursement, Wilcoxon Matched Pairs Non-Parametric test is employed in the study. This is because Wilcoxon Test for Paired Samples is appropriate in comparative experiments when the measurements are the "before and after" on the same experimental unit (Van Matre, 1996). In applying this test, we first find the differences between each pair of values and assign rank to the differences from the smallest to the largest without regard to sign. If a difference happen to be zero (i.e.

in the case of tied pairs), the observation will be dropped and the sample size will be reduced accordingly. The actual signs of each differences are then put to corresponding ranks and the sum of the positive ranks , symbolized by T+, or the sum of the negative ranks, T- are computed. The test statistic will be either T+ or T- depending on the alternative hypothesis. If a variable X is observed before and after a certain policy, symbolized by Xb and Xa, then the alternative hypothesis and the test statistic becomes:

Alternative Hypothesis	Test Statistic
H1: Xa<Xb	T+
H1: Xa>Xb	T-
H1: Xa≠Xb	Smaller of T+ or T-

The null hypothesis will be rejected if the test statistic is equal to or less than the critical value given in W tables (i.e. Wilcoxon table shown in statistical books for number of observations(n) <=25). For n>25 the distribution of both T+ and T- can be considered normal with mean μ_T and standard deviation σ_T defined as:

$$\mu_T = \frac{n(n+1)}{4}$$

$$\sigma_T = \sqrt{\frac{n(n+1)(2n+1)}{24}}$$

so $Z=(T-\mu_T)/\sigma_T$ is the test statistic.

In our case, denoting the average monthly income of the household before and after loan by AYb and AYa, respectively, the null and alternative hypothesis can be specified as:

H_0: Average monthly household income before and after loan is the same i.e. AYb=AYa

H_1: Average monthly household income after loan is greater than before loan i.e AYa>AYb

The following test result is obtained using SPSS (release 6.1.3):

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

AYb Average monthly household income before loan

with AYa Average monthly household income after loan

Mean Rank	Sum of Ranks	Cases
.00	.00	0 - Ranks (AYa LT AYb)
42.00	3486.0	83 + Ranks (AYa GT AYb)
		0 0 Ties (AYa EQ AYb)
		---
		83 Total

Z = -8.4072 P = .0000

The above test result leads to the rejection of the null at 1% significance level indicating that the average monthly household income after loan is significantly greater than that before loan. Thus we can safely say that POCSSBO's microfinancing scheme has a positive impact on household income.

4.2.3 Effect on Saving

Credit delivery when combined with saving facility help in smoothing the income of the poor. In relation to this Fidler and Webster (1996) argued that saving services enable the poor to accumulate surpluses that can be used at a later date to ride out dips in income or

respond to emergencies. It is also argued that inclusion of saving in the microfinance menu of services can help in the generation of local funds for microenterprise development and contribute to sustainability of microfinancing institutions. Thus microfinance impact must be evaluated with respect to its performance in this respect. Although one of the objectives of POCSSBO's microfinancing scheme is saving mobilization, performance in this respect was not satisfactory mainly due to the non-attachment of saving service with credit delivery and absence of concerted effort by the office towards saving mobilization.

Table 4.2-6: Response on availability of saving account before and after the loan

Response on availability of saving account	Before Loan		After Loan	
	Number of respondents	%	Number of respondents	%
No	236	97.9	184	76.3
Yes	5	2.1	57	23.7
Total	241	100.00	241	100.0

As depicted in Table 4.2-6, there were only 5(2%) respondents with saving account before the loan scheme. On the other hand, about 57(24%) respondents have saving account after the loan scheme, mostly saving below 10 Birr (53% of them reported). Although there seems to be a rise in the number of respondents with a saving account, the performance in the area of saving mobilization was not satisfactory since the majority (76%) of the respondents have no saving account after the loan scheme. So POCSSBO must design saving mobilization strategy in order to smooth the income of credit beneficiaries, thereby supplementing the positive effect of the scheme in increasing income. This is because saving generates interest earnings and lead to the accumulation of surpluses that can be used at a later date when beneficiaries encounter dips in income.

4.2.4 Effect on Access to Medical Facilities

In addition to its effect on employment and income, a microfinance is expected to bring other household outcomes such as improved access to medical and educational facilities as well as improved household nutrition. In what follows survey result in this respect will be summarized.

During the survey 183 (76%) respondents reported as having access to public medical facilities before loan. While 41% of them reported the use of free medical services, 38% of them mentioned other family members as the bearer of medical expenditure. The remaining 20% mentioned themselves as the bearer. Almost similar number of respondents reported as having access to public medical facilities after program participation. However, there seem to be slight change with respect to the bearer of medical expenditure. While the number of respondents who reported themselves as the bearer of medical expenditure increased from 37 to 58, the number of those who reported other family members as the bearer of medical expenditure decreased from 69 to 55.

Table 4.2-7: Response on access to public and private medical facilities before and after loan

Period	Access to public medical facilities		Access to private medical facilities	
	No	Yes	No	Yes
Before loan	58	183	97	140
After loan	55	186	87	151

Table 4.2-8: Response on the bearer of medical expenditure before and after loan

Bearer of medical expenditure	Before loan	After loan
Beneficiary him/herself	37	58
Other family members	69	55
Relatives	2	1
Free medical service user	75	72
Total	183	186

During the survey, 128(76%) respondents reported an annual medical expenditure less than 100 Birr before the loan followed by 28(17%) and 5(3%) respondents who report 101-200 Birr and 201-300 Birr annual medical expenditure, respectively. After the loan scheme , however, there seems to be a rise in the number of respondents who report relatively higher medical expenditure. While the number of respondents who reported a medical expenditure less than 100 Birr decreased to 97(56%), those who reported 101-200 Birr and 201-300 Birr increased to 44(25%) and 22(13%), respectively.

To check whether medical expenditure of the households has increased after the loan scheme or not, Wilcoxon Matched Pairs Non-Parametric Test is employed. Denoting the average annual medical expenditure of the household before and after loan by AMEb and AMEa, respectively, the null and the alternative can be specified as:

H_0: Average annual household medical expenditure before loan is the same as after loan i.e. AMEb=AMEa

H1: Average annual household medical expenditure after loan is greater than before loan i.e. AMEa>AMEb.

The test result using SPSS yield the following:

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

AMEb Annual medical expenditure before loan

with AMEa Annual medical expenditure after loan

Mean Rank	Sum of Ranks	Cases	
.00	.00	0	- Ranks (AMEa LT AMEb)
37.50	2775.0	74	+ Ranks (AMEa GT AMEb)
		94	0 Ties (AMEa EQ AMEb)

		168	Total

Z = -7.5287 P = .0000

The test result leads to the rejection of the null at 1% significance level. So we accept the alternative hypothesis i.e. the average yearly household medical expenditure after loan is significantly greater than the average yearly household medical expenditure before loan.

The mere increase in medical expenditure of household, as reported above, is not the basic criteria to evaluate credit impact because it may be associated with increase in incidence of illness, rather than a rise in income. The most important point is the extent to which such increase in medical expenditure is reflected in improving household access to medical facilities by improving their ability to pay. Since about 37 percent of the respondents reported improved access to medical facilities following program participation, we can say the credit scheme has generated some positive outcome in this respect.

4.2.5 Effect on Access to Educational Facilities

The other household outcome, which is considered in credit impact analysis, is access to educational facilities. Since children and other school-age dependants of poor households have marginal access to educational facilities, mainly at higher level, credit provision for income generating activities is expected to improve the situation. In line with this attempt was made to see the impact of the credit scheme in improving school enrollment.

There seems to be no significant change in the number of school-age dependants enrolled after program participation, as the data summarized in Table 4.2-9 indicate, suggesting that the program has no noticeable impact on enrollment. However, an increase in annual educational expenditure is reported, by sample beneficiaries, after the credit scheme (Table 4.2-10).

Table 4.2-9: Enrollment of school-age dependants before and after loan

Number of school-age dependants enrolled	Before Loan		After Loan	
	Number of respondents	%	Number of respondents	%
5 or less	80	90.9	83	93.3
6 or more	8	9.1	6	6.7
Total	88	100.0	89	100.0

Table 4.2-10: Respondents by annual educational expenditure before and after loan

Educational Expenditure (Birr)	Before loan		After loan	
	Number of respondents	%	Number of respondents	%
Below 100	54	49.5	32	28.8
101-200	40	36.7	45	40.5
201-300	6	5.5	21	18.9
301-400	2	1.8	6	5.4
401-500	1	0.9	1	0.9
Above 500	6	5.5	6	5.4
Total	109	100.0	111	100.0

Wilcoxon Non-Parametric Test is employed to qualify the above response i.e. increase educational expenditure after program participation. Denoting the average annual educational expenditure of households before and after loan by AEEb and AEEa, respectively, the null and the alternative hypothesis are:

H_0: Average annual household educational expenditure before loan is the same as after loan i.e. AEEb=AEEa

H_1: Average annual household educational expenditure after loan is greater than before loan i.e. AEEa>AEEb.

The test result using SPSS yield the following:

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

AEEb Annual educational expenditure before loan

with AEEa Annual educational expenditure after loan

Mean Rank	Sum of Ranks	Cases
38.17	114.50	3 - Ranks (AEEa LT AEEb)
30.63	1776.5	58 + Ranks (AEEa GT AEEb)
		46 0 Ties (AEEa EQ AEEb)
		---
		107 Total

Z = -6.0104 P = .0000

The test result leads to the rejection of the null at 1% significance level implying that the average annual household educational expenditure after loan is significantly greater than

before loan. This increase in educational expenditure can be considered as a benefit if it is not associated with a price rise. It may reflect improved provision of the necessary educational materials for those already enrolled thus helping in reducing the rate of dropout associated with financial problem. Also part of it might have been used to finance the educational expenditure of the borrowers themselves, thus contributing to skill development. In fact, out of the 198 grade 12 complete respondents, 34 (17%) have continued their education mostly in technical and vocational schools, which might be part of the reason for the rise in educational expenditure after program participation.

With respect to overall opinion on access to educational facilities 63(26%) of the respondents reported an improvement while the remaining reported non-improvement their main reason being low level of income (66% of them reported) and high fees requested by educational institutions (16% of them reported).

Since the credit scheme has improved access to educational facilities for about one-fourth of sample respondents by increasing their ability to pay, the contribution of the credit scheme in this respect should not be undermined though its effect on enrollment of school-aged dependants was not satisfactory.

4.2.6 Effect on Nutrition

The other household outcome of a credit scheme is its contribution towards improved household nutrition. Through income generation and the associated rise in consumption expenditure, a microfinancing scheme is expected to lead to improvement in household nutrition. However, it is difficult to evaluate such impact because improvement in household

nutrition is not easily quantifiable. For analytical purpose the change in the composition of consumable items towards more nutritious diets may provide a rough indication of improvement in household nutrition.

Around 104(43%) and 111(46%) of sample respondents reported a consumption expenditure before loan of below 100 Birr and between 101-200 Birr, respectively.

After program participation, however, there seems to be a rise in the number of respondents who report high consumption expenditure level (Table 4.2-11). To check whether consumption expenditure has increased following the credit scheme, Wilcoxon Non-Parametric Test is employed.

Table 4.2-11: Respondents by consumption expenditure before and after Loan

Consumption Expenditure (Birr)	Before Loan		After Loan	
	Number of respondents	%	Number of respondents	%
Below 100	104	43.2	64	26.6
101-200	111	46.1	103	42.7
201-300	19	7.9	58	24.1
301-400	2	0.8	11	4.6
401-500	4	1.7	4	1.7
Above 500	1	0.4	1	0.4
Total	241	100.0	241	100.0

Denoting the monthly household consumption expenditure before and after loan by ACEb and ACEa, the null and the alternative hypothesis become:

H_0: Average monthly household consumption expenditure before loan is the same as after loan i.e. ACEb=ACEa

H_1: Average monthly household consumption expenditure after loan is greater than before loan i.e. ACEa>ACEb.

The test result using SPSS yield the following:

- - - Wilcoxon Matched-Pairs Signed-Ranks Test

ACEa Monthly consumption expenditure after loan

with ACEb Monthly consumption expenditure before loan

Mean Rank	Sum of Ranks	Cases	
66.16	8535.0	129	- Ranks (ACEb LT ACEa)
55.50	111.00	2	+ Ranks (ACEb GT ACEa)
		110	0 Ties (ACEb EQ ACEa)

		241	Total

Z = -9.8312 P = .0000

The above test result leads to the rejection of the null at 1% significance level implying that the average monthly household consumption expenditure after loan is significantly higher than before loan.

The question that follows is who covered household consumption expenditure before and after loan? Out of the total sample 143(60%), 50(21%) and 46(19%) of the respondents reported other family members, themselves and other family members & themselves, respectively, as the bearer of consumption expenditure before loan. After the loan scheme, however, the number of respondents who report other family members as the bearer of consumption expenditure decreased to 81(34%) while the number of those who regard

themselves and other family members & themselves as the bearer increased to 55(23%) and 103(43%), respectively.

Table 4.2-12: Response on the bearer of consumption expenditure before and after loan

Bearer of consumption expenditure	Before loan		After loan	
	Number of respondents	%	Number of beneficiaries	%
Beneficiary him/herself	50	20.8	55	22.8
Other family members	143	59.6	81	33.6
Beneficiary and other family members	46	19.2	103	42.7
Beneficiary and donors	1	0.4	1	0.4
Beneficiary, family members and donors	1	0.4	1	0.4
Total	241	100.0	241	100.0

During the survey further attempt was made to gather the opinion of beneficiaries with respect to the contribution of increased income from business financed by the loan for the rise in household consumption expenditure. Only 30% of the sample reported the increase in business income as contributor to the increased household consumption. Out of the total sample about 35% reported change in the composition of consumable items towards more nutritious diets after the loan scheme. With respect to the overall contribution of the credit scheme towards improved household nutrition, 87 (38%) respondents reported in favor suggesting that POCSSBO's credit program has some positive contribution in improving household nutrition.

4.2.7 Overall Impact

The overall opinion of beneficiaries with respect to the benefit acquired from the credit program may be used to roughly assess the overall contribution of the credit program towards

poverty alleviation. More than 70% of the respondents reported the positive contribution of the credit program in changing the livelihood of their families.

This overall opinion coupled with the positive results reported in the previous sections i.e. the positive contribution towards employment creation, income generation, improved access to health and educational facilities as well as improved household nutrition, led us to conclude that POCSSBO's microfinancing scheme has positive contribution towards poverty alleviation. Since many respondents reported shortage of working capital and inadequate working premises as major operational problems facing their business (Table 4.2-13), concerted effort must be made to ease such problems thereby enhancing the positive contribution of the scheme.

Table 4.2-13: Number of respondents by major operational problem

Operational problem	Number of respondents	%
Inadequate skill	2	0.9
Shortage of working capital	103	44.2
Shortage of supply	4	1.7
Inadequate working premises	64	27.5
Demand shortfalls	13	5.6
Others	47	20.2
Total	233	100.0

4.3. Loan Repayment Performance and Determinants

As reported in section 4.1 above, the mean loan repayment rate of the sample is about 79%, a figure much lower than the 87% repayment rate reported by POCSSBO. This discrepancy may possibly be due to the existence of large outstanding balance in the hands of beneficiaries covered in the survey. It may also be a reflection of the non-existence of record keeping system in many credit beneficiaries because without a recording system beneficiaries

may not know the exact loan repayment amount. In fact, during the survey more than 57 % of the respondents reported the non-existence of recording system in their respective business, thus providing evidence in support of the above claim.

The reported POCSSBO's loan repayment rate of 87% is lower when we compare it with the repayment performance of other interest rate based microfinancing scheme. For instance, Tamiru (1998) and Mengistu (1998), reported loan repayment rate of 92% under the microenterprise project microfinancing scheme. Similarly Solomon (1996) has reported an average loan repayment rate of 93% in the case of Debre Berhan microfinancing.

Since POCSSBO is providing interest free credit, it should have a better repayment performance compared to interest rate based microfinancing schemes. This is because without effecting better loan recovery the office has no option of covering operating cost and overcoming the depletion of loanable funds. So, for the future, the focus of the office must be the design of an effective loan recovery scheme thereby sustaining its activities. The recent initiative to reorganize the office in to an interest based microfinancing institution may be considered as a good step towards improving performance in this respect because it may avoid the incentive problems associated with interest free credit.

With respect to identification of the determinants of loan repayment performance a recursive model with two structural equations is estimated by LIMDEP. The endogenous variables are determined sequentially starting with loan diversion in order to get its fitted values. Since more than 98% of the respondents have the attitude that loan should be repaid, the attitude towards loan repayment variable is dropped out. Considering the fact that most cross-section data have heteroscedasticity problem and also considering that specification errors can lead

to serious problems in probability models estimation, care has been taken to account for omitted variables and heteroscedasticity problems.

The loan diversion model is found to have no heteroscedasticity problem and the following regression results are obtained (Table 4.3-1). The estimated model is statistically sound since the computed Likelihood Ratio (LR) statistics, distributed Chi Squared with 7 degrees of freedom, is statistically significant at 5% level of significance.

The education, timely loan granting and the use of accounting system variables are negatively related to the proportion of loan funds diverted which is consistent with our expectation. With increase in the educational level of beneficiary, the probability of using the loan proceed for its intended purpose will most likely increase, so loan diversion will be undermined.

Table 4.3-1: Maximum Likelihood Estimates of the Tobit Model for Loan Diversion Equation

Variable	Coefficient	Z-Value	P > |Z|
BED	-0.022715	-0.670	0.50316
TLI	-0.194640	-2.896	0.00377
LS	0.006996	0.115	0.90867
AS	-0.111520	-1.728	0.08397
SLOAN	0.000005	0.073	0.94201
NDP	0.012214	1.227	0.21994
CEBL	0.012722	0.375	0.70788
CONTANT	0.303240	1.844	0.06521
δ	0.42475	15.172	0.00000
Log likelihood	-155.1455		
Restricted log-likelihood	-163.3432		
LR Chi2(7)	16.40		
McFadden's R^2	0.050		
Number of observations	241		

NB. McFadden's $R^2 = 1 - \ln L/\ln L_0$ where LnL = Unrestricted Log likelihood and LnL_0=Restricted log likelihood

Timely loan delivery enable a beneficiary to act according to his/her business plan, thereby reducing the probability of loan diversion. Also, the use of accounting system reduce the probability of loan diversion by enabling a beneficiary to identify loan proceeds from other income. While the coefficients of timely loan granting and the use of accounting system variables are statistically significant at 1% and 10% level of significance, respectively, the coefficient of the education variable is found statistically insignificant.

The coefficient of loan supervision variable has unexpected sign (positive) but statistically insignificant. Such result may be due to reluctance of beneficiaries to react positively to the supervision on loan utilization. On the other hand, number of dependants in a beneficiary household, loan amount, and past consumption expenditure of beneficiaries are positively related with loan diversion. Although tallies with our expectation, none of the coefficients of these variables are statistically significant.

The findings on the sign and statistical significance of the coefficients of timely loan granting, use of accounting system and number of dependants variables are more or less consistent with the finding reported by Mengistu(1997). In general, the results summarized above tell us that under POCSSBO scheme, timely loan granting and the use of accounting system are significant determinants of loan diversion.

The binomial probit model for full loan repayment performance is found to have heteroscedasticity problem. So correction is made for heteroscedasticity and the results summarized in Table 4.3-2 are obtained. Since the Likelihood Ratio (LR) statistic, distributed Chi squared with 12 degrees of freedom, is significantly different from zero at 1% level of significance, we conclude that the estimated model is statistically sound.

Table 4.3-2: Heteroscedasticity-Corrected Maximum Likelihood Estimates of the Binomial Probit Model for Full Loan Repayment Performance Equation

Variable	Coefficient	Z-Value	P > |Z|	Slope	Z-Value	P > |Z|
BAGE	0.384250	2.657	0.00789	0.095983	2.995	0.00274
BSEX	0.182540	0.677	0.49859	0.045598	0.673	0.50116
BED	0.005437	0.035	0.97222	0.001358	0.035	0.97223
SLOAN	-0.001772	-5.683	0.00000	-0.000443	-5.478	0.00000
LS	0.211420	0.885	0.37618	0.052812	0.858	0.39109
MBY	-0.000798	-1.770	0.07675	-0.000200	-1.717	0.08602
AS	0.007090	0.026	0.97932	0.001771	0.026	0.97931
AOY	-0.271330	-0.914	0.36061	-0.067778	-0.937	0.34884
BAGESQ	-0.005530	-2.679	0.00739	-0.001381	-3.029	0.00245
LDH	-3.704200	-1.810	0.07032	-0.925300	-1.838	0.06608
PCD	0.670100	1.853	0.06390	0.167390	1.883	0.05967
SRP	0.912550	2.974	0.00294	0.227950	2.954	0.00314
CONSTANT	-5.180500	-1.861	0.06273	-1.294100	-1.991	0.04647
Log likelihood	-88.96229					
Restricted log likelihood	-146.1001					
LR Chi2(12)	114.2755					
McFadden's R^2	0.391					
Count R^2	0.822					
Number of observations	241					

NB: LDH=Predicted (fitted) value of loan diversion rate

McFadden's R^2=1-lnL/lnL_0 where LnL = Unrestricted Log likelihood and

LnL_0=Restricted log likelihood

Count R^2=Number of correct predictions/ Number of observations

According to the estimates, beneficiary's age is positively related with full loan repayment performance and the coefficient is statistically significant at 1% level of significance. This implies with increase in age beneficiaries acquire stability and business experience thereby increasing the probability of becoming successful in business, thus, settling their obligations. However, such a probability of becoming successful is normally expected to decline after a certain age level, as people became older. The observed negative coefficient for age squared variable seems consistent with this and is statistically significant at 1% level of significance. Sex and education variables have also positive relationship with full repayment performance as expected. However, the coefficients of both variables are statistically insignificant.

Loan size and loan diversion variables are found to be inversely related to full loan repayment performance as expected. The higher the loan size (especially if it is higher than project costs) the greater the burden on beneficiaries, thus undermining loan repayment performance. The coefficient of this variable is statistically significant at 1% level of significance. In most empirical studies loan diversion is an important determinant of loan repayment performance and the result obtained in this study seems consistent with this i.e. the coefficient of loan diversion is statistically significant at 10% level of significance. The observed negative sign of the coefficient of this variable indicate the use of diverted funds for non-income generating purposes.

The coefficients of income from business financed by the loan and availability of other sources of income variables have unexpected negative sign. While the former is statistically significant at 10% level, the later is insignificant. The observed negative sign of the coefficient of income from business may be justified by considering the relationship between success in business and the incentive for future loan. Success in the business may mean that

a beneficiary is unlikely to need credit from the same source in the future, which may reduce the incentive to repay. Similarly the availability of other source of income may produce carelessness on the part of beneficiaries in meeting credit obligations (unwillingness to repay) implying negative sign in the coefficient of this variable. However, this depends on the enforcement mechanism and perceived cost of default.

loan supervision and the use of accounting system are the other hypothesized factors, which are expected to influence loan repayment performance. The maximum likelihood estimates summarized in Table 4.3-2 above indicate that both loan supervision and the use of accounting system variables are positively related with full loan repayment performance as expected. However, their coefficients are found to be statistically insignificant.

Perceived cost of default and suitability of the repayment period are positively related with full loan repayment performance. This tallies with our expectation and the coefficients of these variables are statistically significant at 10% and 1% level of significance.

The findings of this study on the sign and statistical significance of age, education, loan size, loan diversion and suitability of repayment period variables are found to be more or less similar with that reported by Mengistu (1997).

However, opposite results are obtained in the case of sex, loan supervision, household income and availability of other source of income variables. While Mengistu (1997) reported a negative sign for the coefficients of sex and loan supervision variables, this study came up with positive result in these variables, which seems more realistic.

With respect to household income and availability of other income source variables, the finding by Mengistu (1997) seems more realistic i.e. under normal condition higher household income and availability of other income source imply better repayment capacity and thus performance.

CHAPTER FIVE

CONCLUSION AND POLICY IMPLICATIONS

5.1 Conclusion

POCSSBO's microfinancing scheme is designed to provide credit for women and unemployed youth in Addis Ababa in order to create income generating activities thereby contributing towards poverty reduction. The finding summarized in the previous section could be considered as a good step in this respect. By creating employment opportunities for many program beneficiaries the credit scheme has contributed positively to a rise in household income. This is verified by the Wilcoxon Matched Pairs Non-Parametric Test, comparing the monthly income before and after loan.

The credit scheme has also contributed positively towards improved access to health and educational facilities. The increase in health and educational expenditure of households following the loan, as verified by the Wilcoxon Matched Pairs Non-Parametric Test; the rise in the number of respondents who report themselves as the bearer of medical and educational expenditure of their household; and the response of some respondents as having improved access to health and educational facilities associated with the loan scheme, has led us to the above generalization. In addition, the credit scheme has led to positive outcome in the area of improving the nutritional status of households. The rise in household monthly consumption expenditure after program participation and the associated change in the composition of consumable items towards more nutritious diets, as reported by the

beneficiaries themselves, as well as the reported improvement in household nutritional status by some respondents are the basis for such argument.

However, the performance in the area of saving mobilization was not satisfactory due to the non-attachment of saving facility with the credit scheme and poor effort in encouraging saving. Since saving is important for smoothing income especially in periods of economic fluctuation and emergencies and considering the fact that income smoothing is more relevant in poverty reduction than a mere short-term rise in income, unsatisfactory performance in this respect may affect the long-run outcome of the credit scheme and its sustainability.

The above consideration should not, however, undermine the positive contributions of the credit scheme mentioned earlier. In general, the credit scheme has contributed positively towards poverty reduction. Since poverty reduction is a dynamic process, it is important to complement such short-term outcomes with saving in order to insure sustainability of the credit scheme.

Sustainability also calls for better loan repayment performance in order to minimize the administrative cost of lending and overcome depletion of funds. POCSSBO's loan repayment performance, as summarized in section 4.3, was, however, not satisfactory when we compare it with other interest rate based microfinancing schemes. Since POCSSBO is providing interest free credit, the loan repayment performance should have been higher in order to overcome the depletion of loanable funds.

The analysis summarized in the previous section indicate several factors that significantly influence the probability of full loan repayment under POCSSBO's scheme. One such factor

is loan diversion rate, which is found to be negatively related with full loan repayment (use of diverted funds for non-income generating activities) and have statistically significant effect, as expected. It in turn is affected significantly by timely loan granting and the use of accounting system. The finding show that timely loan granting and the use of accounting system will reduce the probability of diverting loan proceeds significantly.

Loan size has a significant effect in reducing the probability of recovering loans. The result in this respect tallies with our expectation. Contrary to our expectation, monthly income from business financed by the loan is found to be negatively related with loan repayment performance. This variable has significant influence in reducing the probability of repaying loan in full. The observed negative sign of the coefficient of this variable may be justified by considering the relationship between success in business and the incentive for future loan. Success in the business may make the beneficiary feel that he is unlikely to need credit from the same source in the future, which may reduce the incentive to repay.

The regression results also indicate that age, perceived costs of default and suitability of repayment period are the other significant determinants of full loan repayment performance. The observed positive sign for the three variables is consistent with our expectation. With increase in age beneficiaries are expected to acquire stability and business experience so that the probability of becoming successful and settling obligations in full will be higher (positive relationship). Perceived cost of default increases the probability of loan repayment in full because care by a beneficiary towards costs of default constrain him/her from defaulting. Also a repayment period which fits the repayment capacity of beneficiaries is expected to improve performance.

In general, while loan diversion, loan size and monthly income from business financed by the loan contribute to reduction in the probability of repaying loan in full, age, perceived cost of default and suitability of repayment period contribute to greater probability of full loan repayment by a beneficiary. Such systematic identification of factors affecting loan repayment with their enhancing or undermining effect, is important in the design of better loan repayment mechanism.

5.2 Policy Implications

Based on the findings of this study, the following policy implications may be drawn. The positive outcome of POCSSBO's microfinancing scheme in creating employment opportunities, income generation, improved access to health and educational facilities as well as in improving household nutrition, imply that microfinancing is important for reducing poverty in Ethiopia. So such financial intermediation should be encouraged by the government. Credit provision, however, be based on marketing principle(i.e. based on non-subsidized interest rate). This is because interest free credit or very low-interest loan based microfinancing programs are usually unsustainable and create a negative demonstration effect (Ravicz, 1998).

Since the attainment of the objective of poverty reduction calls for well targeted and transparent selection criteria, among others, the criteria of active participation record in kebele activities in the selection process should be monitored in order to minimize targeting bias associated with the action of individuals. Because without monitoring and strict follow-up, people involved in the selection process may use it to favour some groups or they may use it to achieve their political goal.

Given the importance of saving mobilization to poverty reduction and achievement of a more sustainable microfinancing scheme, POCSSBO must design ways and means of improving performance in this respect by incorporating saving facility as part of the microfinancing package. Also some effort must be made to alleviate operational problems facing microenterprises such as inadequate working premises in order to achieve better performance.

Since POCSSBO is providing interest free credit higher loan repayment performance is basic to overcome depletion of loanable funds and for long-run sustainability of the program. However, the performance in this respect was not satisfactory as the findings indicate. So the office should design an effective loan recovery scheme to enhance its loan repayment performance.

One such strategy is timely loan granting and promotion of the use of accounting system by beneficiaries in order to minimize loan diversion thereby improving loan repayment performance. Since age is found to be one of the significant determinants of loan repayment performance, provision of credit to relatively matured beneficiaries among the unemployed youth and women may be considered as another strategy for improving loan repayment performance.

Loan size is negatively related with loan repayment performance i.e. the higher the loan size the lower the probability of repaying loan in full. So efficient loan amount (a loan amount which is approximately equal to project costs) should be provided to each beneficiary, in

order to improve performance. Determination of efficient loan size requires periodic evaluation of loan applications and better capacity in project evaluation, among others.

Since income from business financed by the loan is found to be negatively related with loan repayment performance, there should be a mechanism to evaluate trends in business income of beneficiaries and to strengthen follow-up so as to minimize defaulting.

In this study perceived cost of default is found to be a loan repayment enhancing factor. So POCSSBO should try to create continuous awareness on beneficiaries as to the associated costs of default such as claims against personal wealth, claims against guarantors, etc.

A suitable repayment period is found to be positively related with loan repayment performance. So POCSSBO should introduce a flexible loan repayment period which fits the loan repayment capacity of beneficiaries. This requires periodic evaluation of performance as well as continuous assessment of the opinion of beneficiaries with respect to the repayment period.

Since it is important to test the stability of the observed relationships between variables in loan repayment analysis; and in order to minimize the problem of generalization associated with one time impact assessment study, there is a need for further study in the area with greater representative sample. Also it is important to undertake further study in order to determine the survival rate of enterprises.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE FOR THE SURVEY ON "**MICROENTERPRISE CREDIT AND POVERTY ALLEVIATION IN ETHIOPIA: THE CASE OF POCSSBO IN ADDIS ABABA**"

ZONE:_____ WOREDA:_____ KEBELE: _____
HOUSE NO.:_____

ENUMERATOR:_____ DATE:_____

==========

SECTION I. PERSONAL DETAIL

1.1 Name of Beneficiary:_____
1.2 Beneficiary's Age: _____
1.3 Beneficiary's Sex: a) Female _____ b) Male _____
1.4 Marital Status:
a) Single_____ b) Married _____
c) Divorced _____ d) Widowed_____
1.5 Educational Level of Beneficiary:
a) Non-literate _____ b) Grade 1 – 4 Complete_____
c) Grade 5 – 8 Complete_____ d) Grade 9 - 12 Complete_____
e) Above Grade 12_____
1.6 Number of Dependents:
- With in the household: _____
- Outside the household: _____

SECTION II. LOAN AND LOAN REPAYMENT

2.1 Did you have previous access to credit from other financing institutions?
a) Yes_____ b) No_____
2.2 If yes, when?_____ Amount in Birr:_____
2.3 Purpose of loan:_____
2.4 In how many months was the total loan wanted to be fully repaid?_____
2.5 Have you completed repayment? a) Yes_____ b) No_____
2.6 If no, specify the reason and outstanding balance?
- Reason:_____
- Amount outstanding: Birr_____

2.7 Amount borrowed from POCSSBO: Birr _____
2.8 Time of loan issue (Specify month and year): _____
2.9 Term of loan:_____
2.10 Purpose of loan:_____
2.11 Was the loan sufficient to cover project costs?
a) Yes _____ b) No _____
2.12 Actual use of loan:
a) On purpose specified in the loan agreement

Item	Amount(Birr)
1)_____	_____
2)_____	_____
3)_____	_____
4)_____	_____

b) On non-intended purposes

Item	Amount(Birr)
1)_____	_____
2)_____	_____
3)_____	_____
4)_____	_____

2.13 If you spend all or part of the loan on non-intended purposes, specify your reasons.

_____

_____

_____

2.14 What do you think about the timeliness of loan issue?

a) Loan issue was timely _____

b) Loan issue was not timely _____

2.15 If not timely, what was the impact of the delay?

_____

_____

_____

2.16 What was the repayment period per installment?

a) Weekly_____ c) Monthly_____

b) Bi-weekly_____

2.17 Amount of loan repayment installment: Birr _____

2.18 Was the repayment period suitable?

a) Yes _____ b) No _____

2.19 If no, specify the reason and recommend a repayment period.

- Reason: _____
- Recommended repayment period:_____

2.20 What is the outstanding balance you are required to pay? Birr _____

2.21 What is your personal opinion about loan repayment?

a) Loan must be repaid _____

b) loan must not be repaid _____

2.22 What is your perception about the cost of default?

a)The cost of default is high_____

b)The cost of default is low_____

2.23 If perceived cost of default is high, to which cost of default you give emphasis?

a) The claims against personal wealth_____

b) The claims against guarantees_____

c) Social sanctions such as loss of social status_____

d) Loss of future access to credit and other economic benefits_____

SECTION III. SUPERVISION

3.1 Was there supervision on loan utilization?

- From POCSSBO staff a) Yes _____ b) No _____
- From Kebele Administration a) Yes _____ b) No _____

3.2 Was there supervision on loan repayment?

- From POCSSBO staff a) Yes _____ b) No _____
- From Kebele Administration a) Yes _____ b) No _____

3.3 What is your personal opinion about the supervision ingeneral?

a) It was adequate _____

b) It was in adequate _____

3.4 If inadequate, do you believe that it has contribution for loan default?

a) Yes _____ b) No _____

SECTION IV. PRICE AND BUSINESS

4.1 What was the price for your product?
- a) It was favourable _____
- b) It was unfavourable _____

4.2 What was the trend in your business?
- a) Constant _____
- b) Increasing _____
- c) Decreasing _____

4.3 If increasing, is it because of
- a) Favourable Prices _____
- b) Locational advantage _____
- c) Product quality _____
- d) Other (Specify) _____

4.4 If decreasing, is it because of
- a) Unfavourable prices _____
- b) Locational disadvantage _____
- c) quality disadvantage _____
- d) other (specify) _____

SECTION V. INCOME AND WEALTH

5.1 Did you have a source of income for your household before the loan?
- a) Yes _____ b) No _____

5.2 If yes, specify the source and level of income?
- -Source(s) of income: _____
- -Monthly income: Birr _____

5.3 What is the monthly income of your business financed by the loan?
- a) 100 Birr or less_____ d) 301 - 400 Birr_____
- b) 101 - 200 Birr_____ e) 401-500 Birr_____
- c) 201 - 300 Birr_____ f) 501 Birr or more_____

5.4 What is your monthly income from other sources after program participation?

	Source	Monthly income
a)	_____	_____
b)	_____	_____

5.5 What was the value of your assets (including assets for purposes other than your business) before program participation?
- a) 500 Birr or less _____ d) 2001 - 3000 Birr_____
- b) 501 - 1000 Birr_____ e) 3001 - 4000 Birr_____
- c) 1001 - 2000 Birr_____ f) 4001 Birr or more_____

5.6 What is the value of your assets (including assets for purposes other than your business) after program participation?
- a) 500 Birr or less _____ d) 2001 - 3000 Birr_____
- b) 501 - 1000 Birr_____ e) 3001 - 4000 Birr_____
- c) 1001 - 2000 Birr_____ f) 4001 Birr or more_____

5.7 Did/Do you have your own toilet facility?
- - Before loan a) Yes_____ b) No_____
- - After loan a) Yes_____ b) No_____

5.8 Did/Do you have your own tap water facility?
- - Before loan a) Yes_____ b) No_____
- - After loan a) Yes_____ b) No_____

5.9 Did/Do you have a radio?

- Before loan a) Yes_____ b) No_____
- After loan a) Yes_____ b) No_____

5.10 Did/Do you have a TV set?

- Before loan a) Yes_____ b) No_____
- After loan a) Yes_____ b) No_____

SECTION VI. EMPLOYMENT

6.1 What was the major type of activity you were engaged in before program participation?

a) Local drink preparation_____ b) Selling "Enjera"_____
c) Wood works_____ d) Metal works_____
e) Textiles_____ f) Shoe repair_____
g) Shoe polish_____ h) Barber_____
i) Beauty salon_____ j) Retail trade_____
k) Mini- restaurant_____ l) Pulses trading_____
m) Other (Specify)_____

6.2 What type of labor did you use before program participation?

a) Yourself only _____ b) Family members and yourself_____
c) Hired labor, family members and yourself_____
d) Hired labor and yourself_____

6.3 If a, go to 6.4. Otherwise specify the number of workers by each category:

- Family members_____
- Hired labor_____

6.4 What is the major type of activity you are engaged in after program participation?

a) Local drink preparation_____ b) Selling "Enjera"_____
c) Wood works_____ d) Metal works_____
e) Textiles_____ f) Shoe repair_____
g) Shoe polish_____ f) Barber_____
i) Beauty salon_____ j) Retail trade_____
k) Mini- restaurant_____ l) Pulses trade_____
m) Other (Specify)_____

6.5 What type of labor did you use after program participation?

a) Yourself only _____ b) Family members and yourself_____
c) Hired labor, family members and yourself_____
d) Hired labor and yourself_____

6.6 If a, go to 7.1. Otherwise specify the number of workers by each category:

- Family members_____
- Hired labor_____

SECTION VII. ACCESS TO MEDICAL FACILITIES AND MEDICAL EXPENDITURE

7.1 Did your family and yourself have access to public medical facilities before program participation?

a) Yes_____ b) No_____

7.2 If yes, who was the bearer of medical expenditure?

a) Yourself_____ c) Relatives_____
b) Other family members_____ d) Free medical service user____

7.3 Does your family and yourself have access to public hospitals after program participation?

a) Yes_____ b) No_____

7.4 If yes, who is the bearer of medical expenditure?

a) Yourself_____ c) Relatives_____

b) Other family members_____ d) Free medical service user____

7.5 Did/Does your family and yourself have access to private medical facilities?

- Before program participation a) Yes_____ b) No_____
- After program participation a) Yes_____ b) No_____

7.6 Annual household medical expenditure:

- Before program participation: Birr_____
- After program participation: Birr _____

7.7 Do you think that your access to medical facilities has improved after program participation?

a) Yes_____ b) No_____

7.8 If no, indicate the main reasons.

a) Shortage of medical facilities_____

b) The high price requested by medical facilities_____

c) Low level of income_____

d) Other (specify)_____

SECTION VIII. ACCESS TO EDUCATION AND EDUCATIONAL EXPENDITURE

8.1 If you have children, how many of them have access to education?

- Before the loan: _____
- After the loan: _____

8.2 If you have other school-age family dependents, how many of them have access to education?

- Before the loan: _____
- After the loan: _____

8.3 Annual household educational expenditure:

- Before the loan: _____
- After the loan: _____

8.4 If you were a school drop out at the time of loan issue, specify the main reason for interruption.

_____

_____

_____

8.5 If you were a school drop out, are you able to continue your education after the loan?

a) Yes _____ b) No _____

8.6 If you were grade 12 complete, are you able to continue further education after the loan? a) Yes_____ b) No_____

8.7 Do you think that your access to educational facilities has improved following the loan?

a) Yes _____ b) No _____

8.8 If no, please indicate the main reasons.

a) Shortage of educational facilities_____

b) The high price requested by educational institutions_____

c) Low level of income_____

d) Other (specify)_____

SECTION IX. CONSUMPTION AND NUTRITIONAL STATUS

9.1 What was the approximate monthly consumption expenditure of your household before program participation?

a) 100 Birr or less_____ d) 301-400 Birr_____
b) 101-200 Birr_____ e) 401-500 Birr_____
c) 201-300 Birr_____ f) 501 Birr or more_____

9.2 Who was the bearer of consumption expenditure?

a) Yourself_____ d) Donors_____
b) Other family members____ e) Yourself and donors_____
c) Yourself and other family memebrs____ f) Yourself, other family memebrs and donors_____

9.3 What is the approximate monthly consumption expenditure of your household after program participation?

a) 100 Birr or less_____ d) 301-400 Birr_____
b) 101-200 Birr_____ e) 401-500 Birr_____
c) 201-300 Birr_____ f) 501 Birr or more_____

9.4 Who is the bearer of consumption expenditure?

a) Yourself_____ d) Donors_____
b) Other family members____ e) Yourself and donors_____
c) Yourself and other family memebrs____ f) Yourself, other family memebrs and donors_____

9.5 If there is increase in consumption expenditure of your household, is it associated with a rise in income from business financed by the loan?

a) Yes_____ b) No_____

9.6 Is there any change in the composition of consumable items after program participation?

a) Yes _____ b) No _____

9.7 If yes, do you think that the nutritional status of your family has improved after program participation?

a) Yes _____ b) No _____

SECTION X. INPUT USE

10.1 Did you use purchased inputs before program participation?

a) Yes_____ b) No_____

10.2 If yes, what was the monthly expenditure on input?

a) 100 Birr or less_____ d) 301-400 Birr_____
b) 101-200 Birr_____ e) 401-500 Birr_____
c) 201-300 Birr_____ f) 501 Birr or more_____

10.3 Do you use purchased inputs after program participation?

a) Yes_____ b) No_____

10.4 If yes, what is the monthly expenditure on input?

a) 100 Birr or less_____ d) 301-400 Birr_____
b) 101-200 Birr_____ e) 401-500 Birr_____
c) 201-300 Birr_____ f) 501 Birr or more_____

10.5 Do you think that your expenditure on input has increased following program participation? a) Yes_____ b) No_____

10.6 Do you think that your overall input use has improved following program participation? a) Yes_____ b) No_____

SECTION XI. SAVING AND USE OF ACCOUNTING SYSTEM

11.1 Did you have a saving account before program participation?
a) Yes_____ b) No_____
11.2 If yes, specify the monthly saving amount: Birr _____
11.3 Do you have a saving account after program participation?
a) Yes_____ b) No_____
11.4 If yes, specify the monthly saving amount: Birr _____
11.5 Do you keep accounting records of your business?
a) Yes _____ b) No _____
11.6 If yes, for what purpose?
a) For tax purpose _____
b) To evaluate profit and loss _____
c) For loan repayment purpose _____
d)Other (specify) _____
11.7 If no, why not?
a) Transaction too small to keep a record _____
b) I don't have the knowledge to keep accounting records _____
c) Other (specify) _____

SECTION XII. OTHER INFORMATION

12.1 Do you think that you have benefited from the credit scheme?
a) Yes_____ b) No_____
12.2 If no, why not?

_____
_____

12.3 What are your major operational problems?
a) Inadequate skill _____
b) Shortage of working capital _____
c) Shortage of supply _____
d) Inadequate working premises _____
e) Demand shortfalls _____
f) Other (specify) _____
12.4 What is your overall opinion about the credit scheme?

_____
_____

APPENDIX 2 : Number of Program Beneficiaries Under POCSSBO's Microfinancing Scheme by Woreda

Woreda	1996			1997			1998			Grand Total		
	Sex		Total	Sex		Total	Sex		Total	Sex		Total
	M	F		M	F		M	F		M	F	
3	13	71	84	40	207	247	5	32	37	58	305	363
4	2	25	27	23	57	80	12	50	62	37	132	169
5	2	19	21	37	42	79	20	37	57	59	105	164
6	9	23	32	49	114	163	13	32	45	71	169	240
20	4	8	12	19	70	89	21	37	58	44	115	159
21	10	39	49	29	93	122	20	65	85	59	197	256
22	6	12	18	10	18	28	7	31	38	23	61	84
23	7	13	20	19	105	124	1	10	11	27	128	155
24	8	12	20	49	68	117	0	0	0	57	80	137
17	7	14	21	7	90	97	9	42	51	23	146	169
18	0	10	10	37	51	88	19	41	60	56	102	158
19	2	16	18	28	35	63	10	44	54	40	95	135
28	0	0	0	14	56	70	2	33	35	16	89	105
1	0	4	4	23	28	51	1	29	30	24	61	85
9	2	3	5	25	49	74	1	23	24	28	75	103
11	16	29	45	18	61	79	12	52	64	46	142	188
12	0	8	8	27	87	114	5	23	28	32	118	150
13	0	1	1	31	51	82	8	37	45	39	89	128
15	1	17	18	26	71	97	18	59	77	45	147	192
16	10	27	37	16	73	89	4	23	27	30	123	153
2	4	7	11	30	72	102	2	15	17	36	94	130
7	0	5	5	52	33	85	11	21	32	63	59	122
8	9	26	35	45	175	220	2	28	30	56	229	285
10	4	6	10	62	120	182	10	26	36	76	152	228
14	0	10	10	17	27	44	14	39	53	31	76	107
25	0	0	0	30	33	63	17	42	59	47	75	122
26	0	0	0	20	27	47	3	16	19	30	36	66
27	0	0	0	14	37	51	5	16	21	19	53	72

DECLARATION

The thesis is my original work, has not been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged.

Declared by:

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Candidate

June 15, 1999

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