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THE ROLE OF MICROFINANCE ON WELFARE AND POVERTY REDUCTION IN SOMALILAND

AHMED MOUMIN HUSSEIN

A THESIS SUBMITTED FOR THE DEGREE OF MASTER OF ECONOMICS

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GEBZE TEKNİK ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ

MİKROFİNANSIN REFAH VE YOKSULLUĞU AZALTMADAKİ ROLÜ: SOMALİLAND ÖRNEĞİ

AHMED MOUMIN HUSSEIN
YÜKSEK LİSANS TEZİ
İKTİSAT ANABİLİM DALI

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GEBZE TEKNİK ÜNİVERSİTESİ	**YÜKSEK LİSANS JÜRİ ONAY FORMU**

GTÜ Sosyal Bilimleri Enstitüsü Yönetim Kurulu'nun 17/06/2019 tarih ve 2019/16 sayılı kararıyla oluşturulan jüri tarafından 01/07/2019 tarihinde tez savunma sınavı yapılan AHMED MOUMİN HUSSEİN'in tez çalışması İktisat Anabilim Dalında YÜKSEK LİSANS tezi olarak kabul edilmiştir.

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SUMMARY

This study evaluates the role of microfinance on welfare and poverty reduction in Somaliland. Poverty is a universal phenomenon, which is a special concern to underdeveloped nations such as Somalia. Microfinance is used as a critical instrument for the poverty reduction and economic development in poor societies. This study examines whether microfinance programs have successfully helped the poor to improve their standard of living, income, education, and health. It conducts a descriptive survey research design; data were collected from February 2019 to April 2019 using questionnaires and interviews with microfinance beneficiaries from the Kaaba Microfinance Institution and Salaam Financial Services. The study employs multiple regression analysis of the estimation technique of the Ordinary Least Squares to test the research objectives. It finds that microfinance programs utilized in Somaliland have contributed positively to the beneficiaries' socio-economic progresses such as improved living standards, increased income, enhanced education and healthcare. Further, the study proposes government incentives to support microfinance institutions in order to extend their services even further to rural areas and female borrowers.

Keywords: Microfinance, welfare, poverty reduction, Somaliland.

ÖZET

Bu çalışma, mikrofinansa dair araçların Somali, Somaliland bölgesindeki refah ve yoksulluğu azaltma üzerindeki rolünü değerlendirmektedir. Yoksulluk, Somali gibi azgelişmiş ülkeler için özel bir endişe kaynağı olan evrensel bir olgudur. Mikrofinans, yoksul toplumlarda yoksulluğu azaltma ve ekonomik kalkınmanın anahtarı olarak kullanılmaktadır. Bu çalışma, mikrofinans programlarının yoksulların yaşam standartlarını, gelirlerini, eğitim ve sağlıklarını iyileştirmelerine başarılı bir şekilde yardımcı olup olmadıklarını incelemektedir. Tezimde, öncelikle tanımlayıcı bir anket araştırma tasarımı yürüttüm. Veriler Şubat 2019 - Nisan 2019 tarihleri arasında, Kâbe Mikrofinans Kurumu ve Salaam Finansal Hizmetlerinden gelen mikrofinans yararlanıcıları ile anketler ve yüz yüze görüşmeler kullanılarak toplanmıştır. Tezimiz, araştırma hedeflerini test etmek için Sıradan En Küçük Kareler tahmin tekniğinin çoklu regresyon analizini kullanmaktadır. Çalışma, mikrofinans programlarının yararlanıcıların gelişmiş yaşam standartları, artan gelir, gelişmiş eğitim ve sağlık gibi sosyo-ekonomik gelişmelere olumlu katkıda bulunduğunu ortaya koymaktadır. Yoksulluğun kırsal alanlarda ve kadınlar arasında daha yaygın olduğu gerçeği göz önüne alındığında, çalışma özellikle kırsal alanlara ve kadınlara yönelik mikrofinans araçlarına dair kamu teşvikleri ve programlarının artırılması ve geliştirilmesine yönelik öneride bulunmaktadır.

Anahtar Kelimeler: Mikrofinans, refah, yoksulluğun azaltılması, Somaliland

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LIST of ABBREVIATIONS and ACRONYMS

Abbreviations and Acronyms		Explanations
GDP	:	Gross Domestic Product
SLHS	:	Somaliland Household Survey
VSL	:	Village Savings and Loan
NGO	:	Non-Governmental Organization
K-MFI	:	Kaaba Micro Finance Institution
MFI	:	Microfinance Institutions
SME	:	Small and Medium Scale Enterprises
SSA	:	Sub-Saharan Africa
OLS	:	Ordinary Least Squares
IDP	:	Internally Displaced People

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CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter provides an overview of this research by describing the background of the research, the motivation of the research, the research objectives as well as the research limitations. It further describes the scope and limitations of the study.

1.2 Background of the Study

Poverty is a serious problem in which the less developed countries are struggling to overcome. In recent years, microfinance has turn out to be an environment friendly scheme of decreasing poverty and enhancing the economy of the vulnerable communities. It has an effect on the well-being of people that is distinct from society to society or region to region. This study investigates the impact of microfinance to the socioeconomic of the community inhabits in Somaliland, Somalia.

Sub-Saharan African countries are examples of the world's most poverty disturbed regions. Global efforts are also being made to eradicate all forms of extreme poverty in 2030, known as the Sustainable Development Goals (SDGs). The most important and first priority of SDGs goals is the reduction of poverty in whole the globe at the year of 2030.The world established an initiative in 2000 to decrease the amount of people living in poverty in 2015, but still more than 800 million people throughout the world still reside on poverty. According to an assessment of this goal in 2005, Sub-Saharan Africa countries are struggling a widespread poverty and fail to prevent extreme poverty. However, microfinance gives poor societies an opportunity to create an income generating activities which leads a major poverty reduction in some regions (Mondal, 2009).

In Sub-Saharan African countries, the use of microfinance to improve the economy of societies is rapidly growing in recent years. Van Rooyen, Stewart, and De (2012) evaluate the role of microcredit on Sub-Sahara African countries by considering factors like income, savings, health, and education. Their results verify that microfinance has a positive impact to socioeconomic lives of the people who have benefited it. They also state that microfinance positively influences the income, saving, education, and employment of the participants.

Somalia has now been recovering from a prolonged civil war that created an extensive weakness and poverty throughout the country. The instability and war lasted more than 25 years caused many people to leave their homes and increased internally displaced people resulting in a widespread vulnerability and poverty. Due to the lack of data, the poverty level of Somalia has not been estimated. The World Bank (2017) measures poverty in Somalia and finds that the community resides on consumption spending below the global poverty line, ranging from 26 to 70 percent throughout the Somalian workforce. The poverty level also varies from region to region between 27 percent in the North East and 50 percent to North West. Rural areas are much poorer than the urban areas between 52 to 45 percent.

The target population of my thesis is the microfinance beneficiaries living in Somaliland which is a self-declared state internationally recognized as an autonomous region of Somalia. The Kaaba Microfinance Institution (K–MFI) and the Salaam Financial Services are the two primary microfinance organizations providing microfinance credits to disadvantaged urban and rural communities in Somaliland. Therefore, the study would like to clarify the influence of microfinance in Somaliland on welfare and poverty lessening.

1.3 Statement of the Problem

Microfinance is largely regarded as a major strategy of economic development and poverty reduction for particularly vulnerable societies. The concept was first established by Bangladeshi professor and founder of the Grameen Bank, Mohammed Yunus, and in the 1970s the idea widely increased in many regions around the globe. A particular, large proportion of the population of the developing world (Sub-Saharan Africa, South Asia, and East Asia) struggle to eradicate poverty, uses for development policies.

In 2013, the World Bank conducted a Somaliland Household Survey indicating that poverty in rural Somaliland is 38.1 percent and in urban Somaliland 28.7 percent. Although urban households are better off, inequality is high and poverty continues to be high in Somaliland, particularly among rural inhabitants. In the light of the above statistics, the use of microfinance as a policy tool for reducing poverty in Somaliland has become critically important. While many studies have examined the problem of poverty alleviation in some sub-Saharan African countries, my thesis evaluates the role

of microfinance in welfare and poverty reduction in Somaliland that has not been done before. The researcher also wishes to increase the understanding of the use of microfinance services to fight against poverty.

1.4 Objectives

In this section, we explain the objectives of the study with general and specific objectives.

1.4.1 General Research Objective

The main objective of this study is to observe the role of microfinance on the welfare and poverty reduction in Somaliland. The general objective is to see how microfinance institutions help to reduce poverty among people who have access to microfinance institutions by borrowing loans from them.

1.4.2 Specific Research Objectives

In order to achieve the general objective, the research sets out to achieve the following specific objectives:

- to evaluate the nature of microfinance institutions
- to examine the scope to which microfinance institutions have successfully helped the poor to improve their:
    - ✓ income
    - ✓ standard of living
    - ✓ access to education
    - ✓ and access to health services

1.5 Research Questions

With regard to the specific objectives, the following questions asked to explore the impact of microfinance on welfare and poverty reduction in Somaliland and the world in general:

i. Does microfinance raise the income levels of microcredit beneficiaries?
ii. Does microfinance raise the standard of living of microcredit beneficiaries?
iii. Does microfinance raise the educational access of microcredit beneficiaries?
iv. Does microfinance raise the health care access of microcredit beneficiary?

1.6 Significance of the Study

The study aims to provide an empirical evidence about the role of microfinance on welfare and poverty reduction in Somaliland. The research examines the impact of microfinance on reducing poverty and provides valuable suggestions for poverty eradication. The research is indeed crucial and has potential to generate approaches to allow policymakers to provide a strong strategy for promoting MFIs to lessening poverty. We expect that the empirical results produce a helpful source for scholars and policymakers in the area of poverty eradication.

1.7 Scope of the Study

Currently, Kaaba Microfinance Institution and Salaam Financial Services are the two functioning organizations in Somaliland. These organizations have branches in all big cities in Somaliland. The beneficiaries of microfinance living in Borama City are selected as the destination population of the research because it is the second populated town in Somaliland where many microfinance customers live. The study uses cross-sectional data from selected beneficiaries of MFIs in the city of Borama. The primary data we collected through questionnaires enables us to measure the effectiveness of microcredit programs to shift up the lives of the poor.

1.8 Limitations of the Study

The main limitation of this study is the availability of reliable data, as there are no clear validation estimates regarding the magnitude of financial inclusion for Somalian people. The availability of reliable data is the major limitation of this research because there is no available valid data about the microfinance in Somaliland. The development of microfinance institutions in Somalia has increased during the period of civil war that mostly devastated government institutions. On the other hand, such data is not freely available and financial institutions regard such data as a financial secret.

In addition, Salaam Financial Services and K-MFI face numerous challenges, including from lack of a proper institutional framework, lack of adequate legal framework, lack of supporting policies and enabling environment, lack of supervisory framework, lack of adequate teaching and training for clients and staff, and lack of research and product development.

1.9 Organization of the Study

Chapter One: (**Introduction)** presents an overview introduction of the study.

Chapter Two: (**Microfinance and Poverty Experience in Somalia**) illustrates the general experience of poverty and the national level of microfinance in Somalia as well as the case study area of Somaliand especially Borama city.

Chapter Three: (**Literature Review**) presents the literature review of the study.

Chapter Four: (**Research Design and Methodology**) explains about design and methodology uses to collect and analyze the data.

Chapter Five: (**Empirical results**) provides the research results, analysis and discussion of the research findings.

Chapter Six: (**Conclusion and Recommendations**) presents the summary and recommendations of the research.

CHAPTER 2: MICROFINANCE AND POVERTY IN SOMALIA

2.1 Introduction

This section explains the conceptual framework guiding the study. It also presents further data on the poverty level of Somalia as a whole, especially Somaliland. This also examines the types of microfinance institutions and microcredit loans they extent to their customers.

2.2 Conceptual Framework

Kombo and Tromp (2006) define the conceptual framework "as a schematic presentation of a theory as a model, where variables and their relationships are translated into a visual picture to illustrate the interconnections between the independent, extraneous, and dependent variables as well any other variable significant to the study". In this research, we consider microfinance as the independent variable and poverty reduction as the dependent variable to understand the role of microfinance in poverty reduction. Thus, we expect that poverty decreases when microfinance facilities exist based on micro-credits where the impact can alter when educational and entrepreneurial abilities are engaged. Microfinance facilities boost participants' welfare as well as their earnings, living standards, education and health care. As shown figure 2.1, we develop the conceptual model below guiding the study.

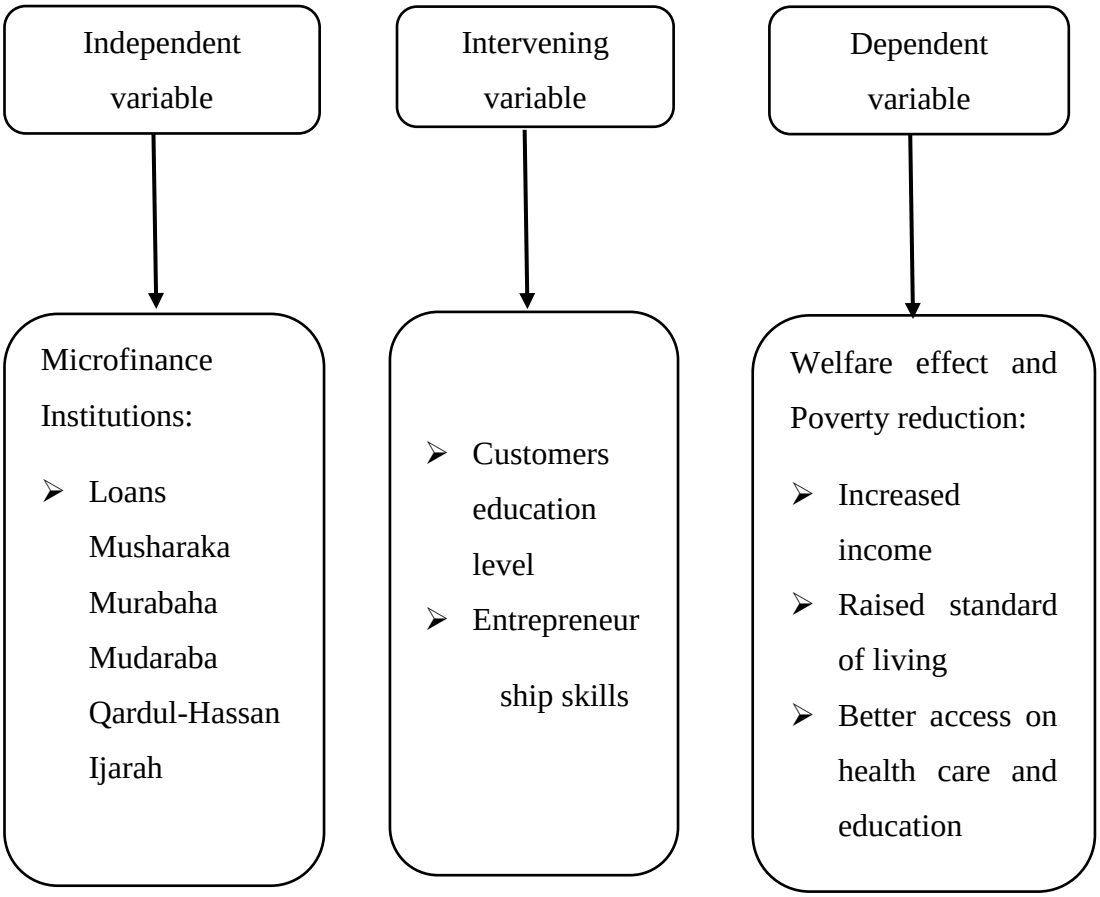

Figure 2.1: A *conceptual framework* of microfinance on welfare and poverty reduction

2.3 General Overview of Poverty in Somalia

There has been a prolonged civil war in Somalia lasted more than 25 years that caused the country to become economically vulnerable and unstable. In 1991, the government collapsed which lead the country in destruction of infrastructure, public institutions and extreme poverty. Many individuals have moved to neighboring nations while others are internally displaced and violence continues to leave the nation in poverty and hunger. However, some regions like Somaliland and Puntland were capable to build an independent governing system that lead to them to a socioeconomic progress and stability.

The rankings of the 2012 Human Development Index reveals that Somalia is one of the least developed countries in the globe. The world Bank Report (2017) shows that poverty is a critical issue spreading in many parts of Somalia and around 26 to 70% of the society is living in poverty. The poverty level is different from one area to another; however, those people who live in internally displaced areas are living the hardest and most extensive poverty. The same report measures the Gini index for

Somalia as 37% and if we compare with other low-income nations in Africa and it's below the average which is 42%.

2.4 The Measurement and Extent of Poverty in Somaliland

Somaliland is a self-declared state internationally recognized as an autonomous region of Somalia. Somaliland covers an area of 137,600 sq. with coastline of 850 in length and geographically consists of six regions; Awdal, Maroodi-Jeex, Sool, Sanaag, Togdheer, and Saahil. It had an approximately 3.5 million inhabitants in 2017, 55% of whom were nomads and the remaining metropolitan and tribal inhabitants.

The World Bank conducted a Somaliland Household and Enterprise Survey in 2013 in close partnership with the Ministry of Planning and Development. The survey included a household survey (SLHS) based primarily on the World Bank's Living Standard Measurement Study to enable multidimensional construction of a monetary measure of poverty and poverty analysis. In addition, an Enterprise Survey to identify private sector characteristics in Somaliland was also included in the survey.

For the first time using the 2013 Somaliland Household Survey, poverty in Somaliland was estimated. A poverty line is constructed which reflects the cost of fulfilling basic needs. Households below this level of consumption are considered as poor. Due to the sampling design of the SLHS 2013, all analyzes are carried out separately for urban Somaliland and rural Somaliland. The SLHS therefore represents the settled population of Somaliland in urban and rural areas. Due to sampling difficulties, pastoral households and settlements for internally displaced persons (IDP) have not been included. The inhabitants of Somaliland are 3.5 million and 50% of the inhabitants settles in urban regions, while 44% live in urban villages. Those displaced individuals (IDPs) make up around 2.4% of the residents, a very small proportion. The poverty line reports the amount of revenue needed to satisfy the basic needs of an individual per month is 184,100 Shillings in urban regions and 162,800 Shillings per person in rural Somaliland. All families living on below are regarded poor. An estimation of poverty reports poverty with a headcount of 38.1 percent in rural communities and 28.7 percent in urban communities in Somaliland.

Table 2.1: Poverty Head Count and Poverty Gap

Indicator	Somaliland	
	Urban	**Rural**
Headcount	28.7%	38.1%
Poverty Gap	8.4%	12.8%
Poverty Severity	3.6%	5.8%

Source: The World Bank, 2015

Poverty is a state of consuming earnings below the expense of satisfying fundamental needs and SLHS assessments reports a large rate of poverty in Somaliland. They assess extreme poverty using the food poverty line, which demonstrates the median price of consuming 2,100 kilocalories for each individual every day. Households are classified according to the food poverty range; families eat less than the food poverty line are regarded as individuals residing in extreme poverty. The results as shown in Table 2.1 reveal that 38.1 percent of rural communities live in poverty and 28.7 percent of urban communities live in poverty. The finding shows that poverty level in Somaliland is higher in rural communities.

Table 2.2: Extreme Poverty and Inequality Measures

	Poverty Headcount	**Poverty Gap**	**Squared Poverty Gap**	**Gini Coefficient**
Urban	8	2.2	1	42.6
s.e.	(1.10)	(0.46)	(0.27)	(3.83)
Rural	23.6	6.7	2.8	45.5
s.e.	(2.40)	(0.93)	(0.60)	(4.60)

Source: The World Bank, 2015

Table 2.2 presents the results of extreme poverty and inequality measurements in Somaliland. The outcomes highlight a high rate of inequality in rural and urban settlements. The Gini coefficient in urban Somaliland is 42.6 and 45.7 in rural areas, however, the difference is not statistically significant which indicates that inequality is similar in urban and rural in Somaliland. The rural population's extreme poverty-

head total percentage is 23.6 percent greater than in urban areas, which is 8 percent. Extreme poverty difference proportion of rural groups is greater than the urban regions of Somaliland.

2.5 Microfinance Services in Somaliland

To assess the capacity of institutional microlending services to decrease poverty in Somaliland is very important. Many low-income communities use micro-credit lending as an income to create micro-small enterprises that offer society employment possibilities. Many urban and rural families obtain their incomes from micro-small enterprises generated by micro-finance beneficiaries. In perspective of this, the development of this sector is crucial for promoting growth and reducing poverty in the future.

2.5.1 Access to Microfinance Through Formal Sectors

There are various government-licensed organizations in the formal financial sector, including commercial banks, finance companies and non-governmental financial agents. Although these organizations are numerous and varied, very few have provided important improvements to the delivery of financial services to poor rural and urban communities. Financial firms and commercial, apart from the Kaaba Microfinance Institution and the Salaam Financial Services, have very little participation in microfinance support for poor people. According to the Baseline Microfinance Survey International Labour Organization (2013), around 100,000 micro-small companies provide job possibilities for the people that constitute approximately 33 percent of the total employment of the nation. Development in this area is therefore a valuable way to generate employment, foster growth and reduce poverty.

2.5.1.1 Salaam Financial Services

Salaam financial service is an institution affiliate of Telesom Company, which its primary business is money transfer services. Telesom Company, the largest telecommunication company in Somaliland, established a licensed bank called Salaam financial service. The salaam financial service gives investment and microfinance loans. On the other hand, customers can take microfinance loans from Salaam financial service by producing a guarantor and only Telesom stakeholders are acceptable to stand as a guarantor. The bank charges the loan with an annual flat fee of 10 percent and the loan requires a 30 percent down payment of the borrower. The annual flat fee

of the loan various depend on the amount of loan, the bank charges 8 percent with larger loans and 12 percent with small and riskier loans. Salaam Financial Services does not recognize physical collateral borrowers needed to take Telesom shareholder guarantor and there are over one thousand shareholders in all regions of Somaliland.

Salaam Financial Services operates as a non-bank financial institution that enables customers to deposit, withdraw and transfer funds globally. It mainly provides microfinance loans to its clients through the Islamic mode of finance such as *Murabaha, mudaraba, Qardul-hassan, Ijarah,* and *Musharaka*. The bulk of its customers are tiny and medium-sized businesses, 90% of which are engaged customers. The minimum quantity of credit provided to customers is $500 and the highest quantity of cash borrowed by a client is $300,000. It gives personal and group loan systems and borrowers bring a guarantor rather than physical collateral.

2.5.1.2 Kaaba Microfinance Institution

The largest microfinance provider institute in Somaliland is Kaaba Microfinance Institution (K-MFI) which is a non-governmental institution working as a development foundation. K-MFI has been working in Somaliland since late 1998 with the collaboration of Doses of Hope Foundation (DHF). In the 1990s, it was a hard time of civil war for Somali people particularly women, diaspora women who live in the Netherlands have established DHF to help their people. The first microfinance project begun in 1999 with 100 female beneficiaries and the program started to increase its clients from time to time. Due to the hard times and lack of formal financial institutions existing at that time increases the success spread of Doses of Hope microfinance programs which later turned into the Kaaba microfinance institution. In between 1990 to 2007, approximately 7,000 people have benefited the program and got an opportunity to create their own small and medium-sized enterprises that also created employment to low-income people and youth. The K-MFI used to work conventional Grameen bank systems in which religious leaders were disapproving and the institution transformed into an independent Islamic institution in 2009. Since then, the institution accessed financial services in 2010 and 2013 alone to 5076 customers contributing positively to the high unemployment rate of the country.

K-MFI presently offers micro-credits and savings facilities, with a particular focus on low-income females. It uses the Islamic banking system and most of its customers take murabaha loans. The main target groups of Kaaba Microfinance

Institution are low-income people and poor small businesses. Borrowers are needed to provide a guarantor as collateral.

2.5.2 Access to Microfinance Through Semi-Formal Sector

A number of international organizations have begun to deliver microfinance programs in Somaliland over the last two decades. Most of these organizations are humanitarian organizations, such as CARE, United Nations High Commissioner for Refugees (UNHCR), the Norwegian Council for Refugees (NRC), with the aim of helping internally displaced people living in hunger and poor nutrition. Some organizations like K-REP, the largest microfinance provider in Kenya, started to provide microfinance programs in Somaliland. These institutions initially start in a good way and receive a large demand for their products such as microfinance programs. They implement conventional microfinance programs that require borrowers to pay interest rates. Somaliland is a state of Muslim communities where Islamic leaders have a powerful impact on the country's governance. Then Islamic leaders oppose which further pushes local communities to reject and disapprove of the conventional scheme of microfinance. These programs eventually failed because they were not following the Islamic banking procedures. A number of organizations attempted to lend poor and vulnerable individuals for micro-credits without charging interest, these organizations struggled to keep the microfinance program because customers did not pay back. Since microfinance programs were managed by humanitarian organizations, customers regarded them as grants. Furthermore, the absence of adequate monitoring and supervisory abilities generates issues such as customers using loans as consumption instead of business operations. This causes borrowers to fail to repay debts, close their small stores, and move to another part of the town without being monitored by the loan officer. Because of all these issues, microfinance institutions collaborating with humanitarian organizations stopped operating. Kaaba Microfinance Institution eventually have become the only microfinance provider institution in Somaliland.

In all Somalian communities, they have a traditional *hagbed* where friends, family and neighbors join together for a defined period of time, contribute equal amounts to the savings of the group, and one member immediately is given the entire sum allowing each member access to a larger sum of money than he/she would generate individually. Several organizations including CARE and DRC supports

hagbed savings as part of humanitarian interventions, which impressed local communities. *Hagbed* money is not enough to start a small business so most of the time people use it to cover the fundamental household expenses such as school fees and food. CARE and DRC are collaborating with *hagbeds* to promote a "modified version of the Village Savings and Loan (VSL) model where the group members save small amounts of money together on a weekly or monthly basis to build up a loan fund and then begin to extend small loans to group members at no interest to conform with Islamic principles". They educate communities on VSL payment techniques and also group members are given money for preparing and creating community development projects such as bathrooms and erosion control. Group participants save cash either monthly or daily between 1,000 – 5,000 Somaliland shillings and the NGO is a member of the group to increase the prospective fund. A small loan of around $100 is sufficient for women to begin a small business-like teahouse and restaurant. CARE is actively collaborating on these programs and has trained over 300 groups over the past decade (International Labour Organization, 2013).

2.5.3 Access to Microfinance Through Informal Sector

In a variety of sectors, particularly in retail micro-enterprises dominated by informal women and in rural areas with poorer populations with less access to diaspora networks, access to any formal funding is limited. The population depends mainly on traditional saving methods and informal credit sources. Most pastoral societies have a savings strategy that emphasizes on accumulating livestock during normal and good rainfall years and buying items like gold and jewelry. Credit usually takes informal forms like borrowing and lending between family members and members of the clan, and networks of mutual obligations, which provide assistance to others in temporary difficulties.

There are many areas of the country such as agricultural regions in which formal financing is restricted, whereas society relies on traditional borrowing techniques and informal forms of credit. Most pastoral communities have a saving technique in which they accumulate livestock during prosperous years and buy valuable products such as gold and jewelry in order to give them away during droughts. The informal type of loans such as borrowing and lending, generally among household members, clan groups and neighbors who help each other in hard moments. There are unofficial sources financing depending primarily on clan named *qaadhaan*, whereas farming

household leaders save together to invest in group facilities that support all of their life activities such as an irrigation canal (International Labour Organization, 2013).

2.6 Demographics of Microfinance Borrowers

In addition to the data collected through questioners, I also obtained the data for microcredit borrowers from the Kaaba Microfinance Institution (K-MFI) and I would sincerely like to thank them for their support. Based on the secondary data, there have been various types of borrowers from different backgrounds, sex, age, education, and experience. Initially, we report a descriptive statistical analysis of the data received from MFIs on microcredit borrowers.

Figure 2.2 provides information about the gender distribution of microfinance borrowers. It shows that 77 percent of the microfinance borrowers are male and whereas 23 percent are female. The results show that males still have better chances than females to participate in an income-generating activity probably due to the cultural issues. This is why women in developing countries are poorer and more disadvantaged than men, but women make a significant contribution to the well - being of their families compared to men.

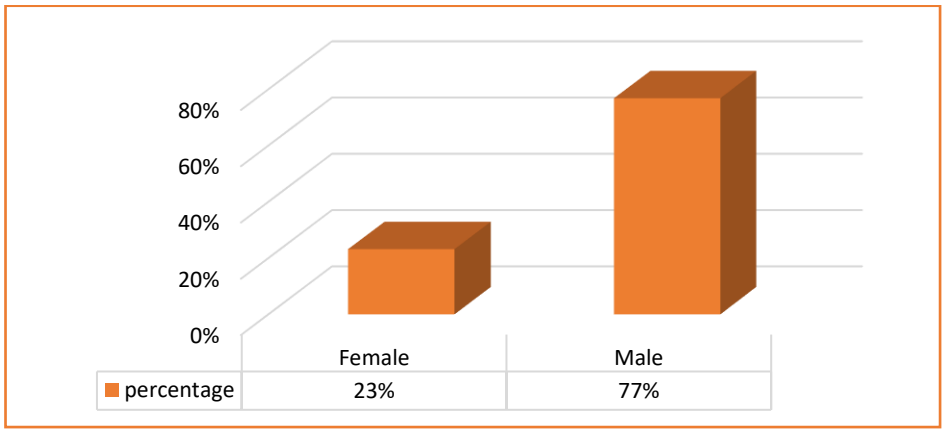

Figure 2.2: Gender of microfinance borrowers

Source: Authors computation for data from K-MF

Figure 2.3 shows the total amount of loans received by 764 customers. The minimum amount of loan a customer has taken is $ 100 while the maximum amount of loan a customer has taken is $ 9000. The total amount of loans taken by the 764 clients is $ 899,933.

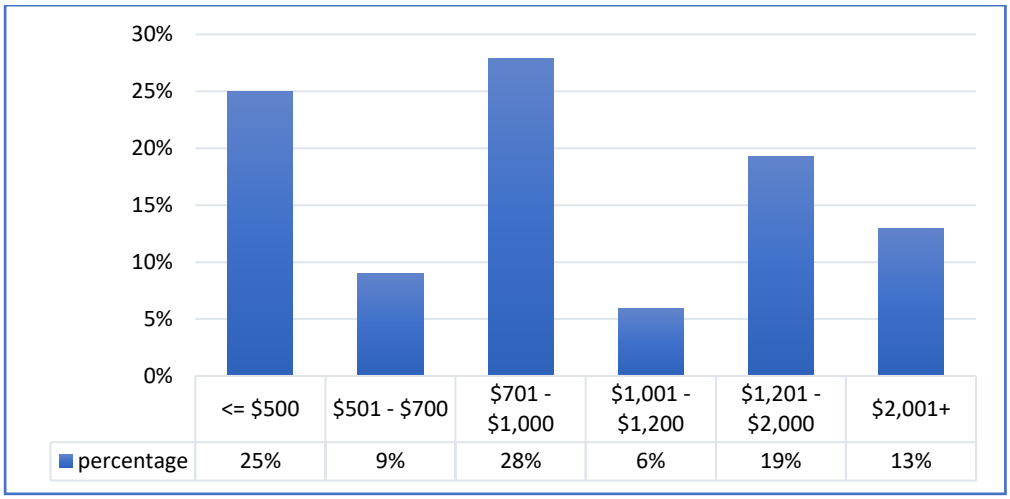

Figure 2.3: The amount of loan received by MFI clients

Source: Authors computation for data from K-MFI

The loan amounts have been classified into intervals to understand the frequency of the loan amount. Figure 2.3 illustrates that 28 percent of the customers has taken a loan between $701 to $1,000 while 25 percent has taken a loan less than $500. On the other hand, 19 percent of the clients has taken a loan between $1,201 to $2,000 while only 13 percent of the customers has taken a loan more than $2,001.

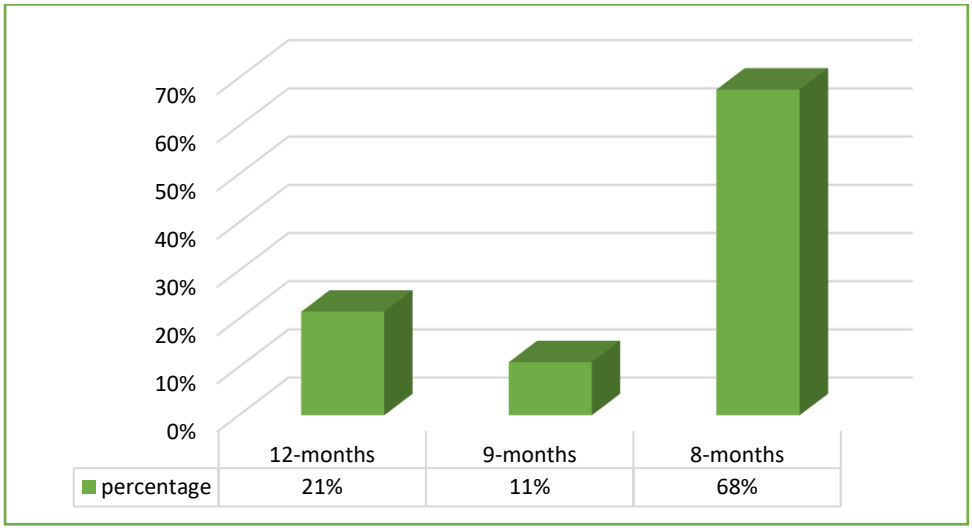

Figure 2.4: Loan terms

Source: Authors computation for data from K-MFI

Figure 2.4 shows the period between the receipt of a loan and the full repayment of the loan. There are three different loan terms according to these 764 customers: 12

months, 9 months and 8 months. 516 customers, which are 68 percent of the total customers, have chosen to repay the loan over an 8-month period. At the same time, 164 customers representing 21 percent of customers also chose to repay the loan over a 12-month period, while the remaining 84 customers representing 11 of the total customers chose to pay the loan over a 9-month period.

The microfinance institution's small loans have provided its clients with the ability to fund small businesses. Figure 2.5 contains a number and types of business enterprises; which microfinance customers invest in microcredits. Majority of microcredit recipients involved retail shops. While 8 percent of the customers have invested in the building materials business, 7 percent of the customers are involved in the boutique. There are also 6 percent of the clients engaged in home decoration and 3 percent of the clients invested in electronics. A 3 percent of the customers also made investments in buying the necessary materials while others invested in small business activities such as spare parts, supermarket, tailoring, etc.

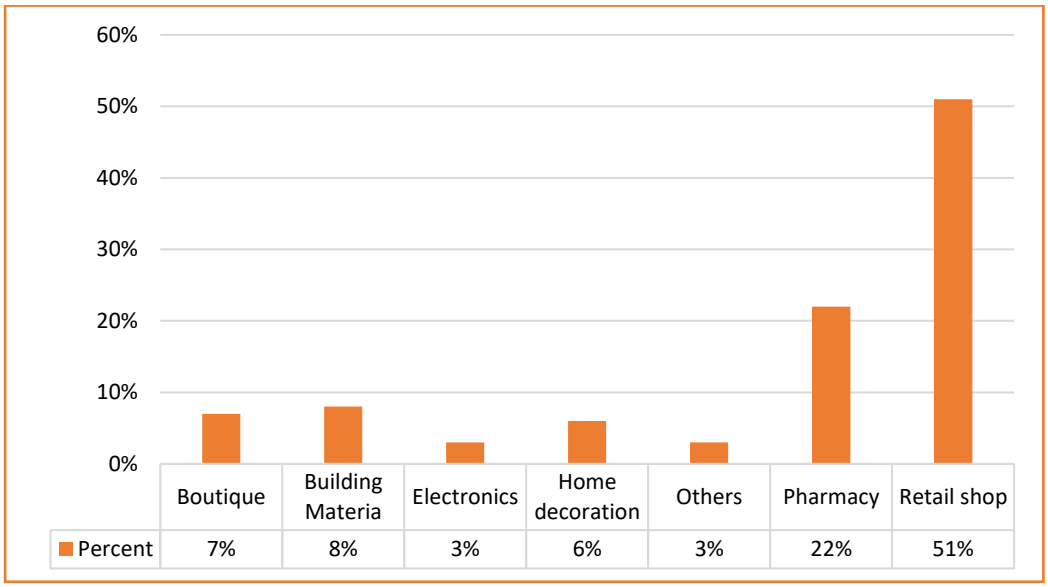

Figure 2.5: The types of business enterprises for micrfinance borrowers at *K-MFI.*

Source: Authors computation for data from K-MFI

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

This chapter provides the summary of how microfinance is capable of being an effective tool to reduce and alleviate poverty. We first try to describe all the variables of used in the research and then further discusses the empirical part of the literature on the role of microfinance on welfare and poverty reduction as well as the socioeconomic situation to the poor.

3.2 Poverty

There is practically no sole definition of poverty. Poverty is a situation where a person or even just a community cannot afford to cover the essential human and financial requirements for a good level of life. Poverty can be further explained as a condition in which the individual is not capable to send children to schools or even cannot capable to pay health care expenses. One important definitions of poverty were agreed in the world summit on Social Development in Copenhagen in 1995 the United Nations. **Absolute poverty** is defined as "a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services" (UN 1995, p. 57).

Today poverty is a major problem in most countries around the world, and its alleviation is one of their main priorities of these countries. According to the World Bank, 16.1 percent of the world's population consumes an income less than 1 dollar per day in 2005 whereas 57.6 consumes an income less than 2.5 dollars per day. The United Nations Organization (UNO) declared the millennium development goals with the aim to eradicate poverty in the globe until 2015. United Nations Department of Economic and Social Affairs (UN DESA (2018) assess worldwide poverty in 2013 and finds that there were 783 million individuals residing below severe poverty, or 11% of the world's inhabitants. The percentage of the world population living lower the poverty line has decreased from 26.9 percent in 2000 to 9.2 percent in 2017.

3.3 Microfinance: Definition and Brief Overview

Microfinance, also referred as microcredit, is a financial service that offers credit to disadvantaged individuals through programs specifically designed to achieve their specific requirements and conditions. According to Robinson (2001, p. 9), "microfinance is a small-scale financial services, primarily credit and savings, provided to the poor who do not have access to the capital necessary to start small businesses or other income-generating activities".

Primary goals of microfinance are to provide individuals with low incomes an access to financial services in order to develop their economic capacity and their ability to stand financially self-sufficient. Yet, microcredit and microfinance are frequently used synonymously in many literatures. Microcredit relates in specific to small loans, whereas microfinance should usually cover a broad variety of financial services such as loans, deposit activities, cash payments and savings. Microcredit and microfinance are sometimes used synonymously in many studies, but there are somewhat distinct definitions. This research actually utilizes the word "microfinance" instead of microcredit because it explains more precisely and correctly for the concept of funding.

Today, microfinance is seen worldwide as a strong instrument for eradicating poverty, and the UN even recognized 2005 as a year of microfinance. Microfinance is a loan technique enabling even low-income micro-entrepreneurs to efficiently access a small quantity of money to boost their assets in the short term. Microfinance is not a brand-new development in this modern world it has a long history in some developed and developing countries. A long history of microfinance has occurred in some developed nations and emerging nations, especially in Asia. Microfinance had been used as an informal financial system to support for poor communities in a variety of European nations in between the 18th and 19th centuries. Informal financing and self-help to improve the livelihood of poor societies were the foundation of microfinance in Europe. The primary concept of microfinance was first implemented in Bangladesh. There was a fight of independence in 1976 in Bangladesh, which lately caused a widespread famine that increased the need of microfinance for vulnerable people. Microfinance began in 1976 once Muhammad Yunus established the Grameen Bank. The concept of setting up Grameen bank went to his mind when he loaned a small quantity of cash equal to $26 to $42 to females in the nearby village who operate as a

bamboo furniture maker. The women borrowers paid back their debts on time, which impressed Yunus and motivated him to set up the bank. In the early phases, Muhammad Yunus focused the Grameen Bank operations primarily on money and small loans, but after a while he chose to increase interest rates to offset expenses. He organizes borrowers into five groups who gather every week to repay their debts and express their opinions. The achievement of the lending facilities inspired Yunus to grow his programs in other Bangladesh settlements. The institution officially became bank in 1983 and it currently serves nearly 3,600,000 in 36,000 villages.

3.4 Impact of Microfinance on Poverty Reduction: Empirical Evidences

Microfinance has to turn out to be an essential tool for poverty reduction and socioeconomic growth in recent years. Razzaque (2010) examines the importance of microfinance in poverty reduction by using Bangladesh's longitudinal household panel database between 1998 and 2004. The measured findings provide strong evidence of the beneficial effect of microfinance, as aggregate household lending certainly influences household per capita revenue. Furthermore, the finding indicates that poverty can be dropped if all vulnerable non-participating families are given to microfinance. Comparable research (Addae-Koranky, 2012) is held out in Ghana to evaluate the role of microfinance in eliminating poverty. Five microlending institutions and 100 microcredit beneficiaries are thoroughly selected using simple random and stratified sampling techniques. By using a survey design incorporating descriptive, qualitative and participatory techniques, his results demonstrate that microfinance has a beneficial effect on poverty reduction. At the time of the study, he also lists several challenges confronting microfinance institutions, such as insufficient equipment and poor regulatory environment. His research proposes that microfinance clients should be educated and that lending should be controlled effectively. The study also proposes that if microfinance challenges are solved, they can capable to increase their efforts to reduce poverty.

Poor families use microfinance to spend in the future and establish their own small and medium enterprises to solve their daily existence. Once poor individuals have access to financial services, it enables them to access better diet, safety, and education. In the same way, microfinance helps to boost economic growth and

progress because it subsidizes the enhancement of resource distribution, advancement of markets, and the adoption of higher technology. Above all, Bakhtiari (2006) also explains the types of financial systems in developing countries. Formal and informal financial sectors are the main functioning financial sectors in most developing countries. The central bank, commercial banks, savings banks and insurance companies are the formal financial sector and usually operate as the financial sector in urban regions. In comparison, moneylenders, relatives, family, neighbors, farmers, traders are the informal financial sector, and they deal with the traditional, agrarian, subsistence-oriented part of the economy. Access to official banking facilities is difficult for the poor owing to regulatory procedures involving more transaction fees and the requirement for collateral.

Lacalle Calderon, Perez-Trujillo and Neira (2018) show that microfinance significantly decreases the level and severity of poverty. They use panel data for the years 2005, 2008 and 2011 in 57 countries. They discover that poverty reduction is somewhat higher in nations where poverty rates and depths are the highest. Their results indicate that microcredits significantly decrease the proportion of the population residing under the poverty line and suggest that even the poorest benefit from microfinance schemes. The results confirm that this impact is heterogeneous because the results differ for each quantile of poverty and the magnitude of the impact is somewhat higher in the nations with the largest poverty rate and scope. They also suggest that microfinance alone is not the main response to poverty reduction, but public institutions, NGOs and people should also promote microfinance organizations and their operations.

3.5 The Impact of Microfinance on Welfare: Empirical Evidences

The effect of microfinance on welfare focuses on improvements in the livelihoods of the participants. Microfinance can help the poor to protect their livelihoods from shocks and to develop and diversify their livelihood activities. Microfinance is dedicated to fulfilling its economic objectives of offering financial services to the needy, and it is essential to understand to what magnitude its wider effects to poverty reduction (Chowdhury, Mosley, and Simanowitz, 2004).

Shetty (2008) reports that microfinance plus services have positive effects on household expenditure, income, assets and employment. Microfinance has helped to improve access to consumer and productive credit. Microfinance plus services have attempted to bring the poor, especially women, out of the poverty line and to combat poverty through the deployment of financial and non-financial service. Different training and awareness programs for skills improvement, networking with different institutions, etc., can make the welfare path soft for the poor. Microfinance plus services not only raise the poor out of income-related poverty, but also out of knowledge poverty. Therefore, the deprived individuals who have been culturally and economically isolated for a long time should be supplied with available microfinance plus facilities.

Mahjabeen (2008) examines the welfare and distribution implications of Bangladeshi microfinance institutions. It compares two models: the basic model with traditional commercial banks' financial intermediaries and the extended model with commercial banks and microfinance institutions. The key findings are that microfinance institutions increase household income and consumption, create jobs, reduce income inequality and promote social welfare. His results reveal that microcredit stays one of the vital economic projects needed to empower the poor. The results also have important political consequences, indicating that in a nation where poverty is widespread can use microcredit as a poverty reduction policy. Microfinance is, therefore, an efficient growth approach and has important public consequences for poverty reduction and enhancement of welfare.

Akotey and Adjasi (2016) analyze the role of microcredit on increasing welfare by using Heckman sample selection, and treatment impact models. In particular, they examine the role microcredit and microinsurance on the wellbeing of low-income households. The findings of their study show a positive correlation between micro-credit and family welfare. Their research also proposes that micro-credit effects can be enhanced if micro-insurance contains to cover hazards such as poor hygiene, fire, flood, famine, and revenue cuts. Microfinance is positively related to household welfare, but mixing micro-credit with micro-insurance can empower the poor to create a sustainable exit from poverty.

3.6 Empirical Evidence on Microfinance in Asia

Pitt and Khandker (1998) conduct a study on the impact of using microcredit in Bangladesh on labor supply, schooling, household expenditure, and assets. They examine the results of the three major microfinance programs in Bangladesh that offer credit and alternative monetary services to the poor (namely the Grameen Bank, the Bangladesh Rural Advancement Committee (BRAC) and the Bangladesh Rural Development Board (BRDB)). They find that credit utilization has a little but vital impact on household spending, household assets, supply of labor, and attending in school for kids. On the one hand, Morduch (1998) undertakes a similar study using a different approach, concluding that consumption levels in microcredit access households don't seem to be considerably higher than in control group households. He conjointly points out that there is no vital difference between the two groups within the attendance of kids in school; however, the impact of microcredit may be seen within the lower variation in seasonal labor supply and consumption. This implies that microcredit access cannot be directly linked to poverty reduction, but rather to vulnerability reduction.

On the other hand, Khandker (2005) conducts a panel analysis and confirms the findings of Pitt and Khandker (1998), indicating that access not only reduces poverty but also continues to reduce poverty over time, at a decreasing rate. Moreover, the borrowers significantly benefit from the microcredit and simultaneously non-participants benefits through growth in the local income. Shirazi and Khan (2009) investigate the impact of the Pakistan Poverty Alleviation Fund, micro-credit on borrowers' poverty alleviation. For this purpose, the data collected by Gallup (2005) has been used and a counter-factual 'Combined approach' has been employed in the analysis. The formal poverty line for the years 2004 to 2005 and the adjusted poverty line for the years 2003 to 2004 are used. The results show that the general effect of microloans on borrower lives is beneficial. They find that microcredit lowered the amount of poverty by 3.07 proportion marks (from 6.61% to 3.54%) and even the borrowers generate greater revenue after microcredit.

There are examples of several different studies that are either weak or offer less convincing results such as Coleman (1999). Concentrates on village banking experiences in Thailand, he uses data on villages participated in village bank microfinance schemes and those control villages that are selected as participants but

are not yet participated. This makes it possible to compare the difference between participant and non-participant income in program villages with a similar difference in control villages where the programs are later introduced. The poverty impact of the schemes looks extremely uncertain from the results here. The time of membership in village banks has no effect on capital or revenue factors because there is no proof that village bank credits are targeted to productive operations. The small amount of credits implies that they are mainly used for consumption, but one of the possible factors for the negative effect on poverty is that wealthier families prefer to be self-selected village banks.

Banerjee and Jackson (2017) assess the role of microfinance in poverty reduction through the implementation of an ethnographic micro-level survey of three Bangladesh villages. They concentrate more on how microfinance affects poor households ' lives, including vulnerability, consumption, and repayment of loans. They gathered information in three stages across three settlements through in-depth surveys to assess the situation of borrowers over time. However, their results show a present of a multidimensional vulnerability. They note that microfinance appears to raise debt and vulnerability of borrowers due to misuse of credit. They argue that households use microcredits to spend basic needs rather than income generating activities.

3.7 Empirical Evidence on Microfinance in South America, North America, and Europe

Haas et al., (2012) undertake an experiment to evaluate the impact of microfinance on marginally dismissed individuals using a randomized control trial in Bosnia. They exploit loan candidates who have been dismissed by a microcredit institution and given a loan to a random subgroup. They discover significant increases in self-employment and lower wage employment, however no increase in overall household income. The loan beneficiaries' profits significantly increased as consumption and savings dropped.

By examining the microenterprise programs in the United States, Schreiner (1999) find that the primary beneficiaries of the program are not the poorest, but the poor with the highest education, experience, skills and assets. In the same scenario, microfinance impacts on poverty in Peru are studied by Copestake, Dawson, Fanning, and Mckay (2005) with similar results to Schreiner (1999). Their findings indicate that

microcredit recipients have secondary or higher education, a minimum of three years of business expertise and bigger enterprises

Cotler and Woodruff (2008) administer a similar study to that of Coleman (1999), in Mexico, comparing the sales and profits of small retailers. They demonstrate that microlending program has a beneficial effect on revenues and sales for the smallest businesses, but has an adverse effect on revenues and sales for the bigger companies. One logical reason provided by the authors is the brief research duration of less than a year, as the investment yield may not yet be observed for such short period of time.

3.8 Empirical Evidence on Microfinance in Africa

Crépon, Devoto, Duflo, and Pariente (2014) conduct a randomized evaluation of a microcredit program in Morocco. The program is launched in 2006 by the country's biggest microfinance institution, Al Amana, and is held in Morocco's rural areas. At the time of the assessment, the sole operating microcredit institution in Morocco is Al Amana. Access to microcredit contributes to a substantial increase in spending in resources for enterprise operations and an increase in income among families. However, the rise in income is at the expense of reducing informal employment income, so that general income or consumption does not alter.

Okpara (2010) carries out research on the impact of microfinance credit on poverty in Nigeria using data from the Nigerian National Statistics Bureau. Using an index of poverty as a dependent variable and microfinance credit as an independent variable and carrying out a factor analysis on several factors that affect poverty, such as low agricultural production, lack of jobs and low profits. He finds that microfinance affects Nigeria's poverty in two phases. In the first phase, before 2001, the level of poverty in Nigeria continued to rise, but at a decreasing rate as microfinance loans in the country increased. In the second phase, from 2001 and beyond, the poverty index decreased as the microfinance loan increased showed that microfinance had a positive impact on poverty reduction in Nigeria.

The impact of microfinance on poverty reduction in Nigeria has also been evaluated by Idolor and Se (2012). They use aggregate assets, deposit liabilities, and loans and advances from microfinance institutions as explanatory variables and index of life expectancy, index of education, per capita GDP, and index of human

development as dependent variables. Their results prove that loans and advances from microfinance banks are important factors in determining the index of education and life expectancy. Microfinance banks' asset size and loans have a positive impact, while deposit liabilities have a negative impact on the education index in Nigeria.

According to Stewart (2011), microfinance and micro-savings have the ability to reduce poverty, but not for all clients and not in all environments. They report that microfinance performance differs extensively between nations and programs. The results show a decrease in microcredit client savings in Bosnia and Herzegovina, whereas there are no indications of any effect on microcredit client savings in Peru. Similarly, microfinance has shown a significant effect on income for women in Kenya alone, but it has a significant effect on all customers regardless of their gender in Malawi.

Considering the lenders, products, and settings observed in the study as representative of the worldwide microfinance industry, Banerjee, Karlan, and Zinman (2019) examine microcredit expansions in Bosnia, Mexico, Morocco, Ethiopia, Mongolia, and India between 2003 and 2012. One of the challenges of the study is the presence of other credit sources, although in some areas there is no access to other microfinance institutions. However, in some of the cases in Bosnia, India, and Mexico there are other microfinance institutions, which increases the complexity of the study. Borrowing from other microfinance institutions increased in those countries, and people who are not served by microfinance institutions but are part of the study are referred to the control group.

Duvendack M, Palmer-Jones R, Copestake J. G, Hooper L, Loke Y, and Rao N (2011) examine the impact of microfinance on income and wellbeing of the poor people by focusing on the evidence of its impact on enhancing enterprises, education, health and empowering women. They review microfinance related studies that are in online academic data bases, websites of relevant NGOs, microfinance institutions and Ph.D. thesis studies published since 1970. They analyze around two thousand articles and they observe many studies with weak designs and based on their judgment they finally reviewed 58 articles in detail. They use intervention studies such as controlled trails and before after studies to evaluate the effect of the participation of microcredit to borrowers compared to before microcredit. They have also used an observational

study to measure the outcomes of the microfinance to beneficiary individuals by comparing income expenditure health and education. Therefore, Figure 3.1 below sums up the summary of their work and how they illustrate the effect of microfinance on the well-being of the beneficiaries.

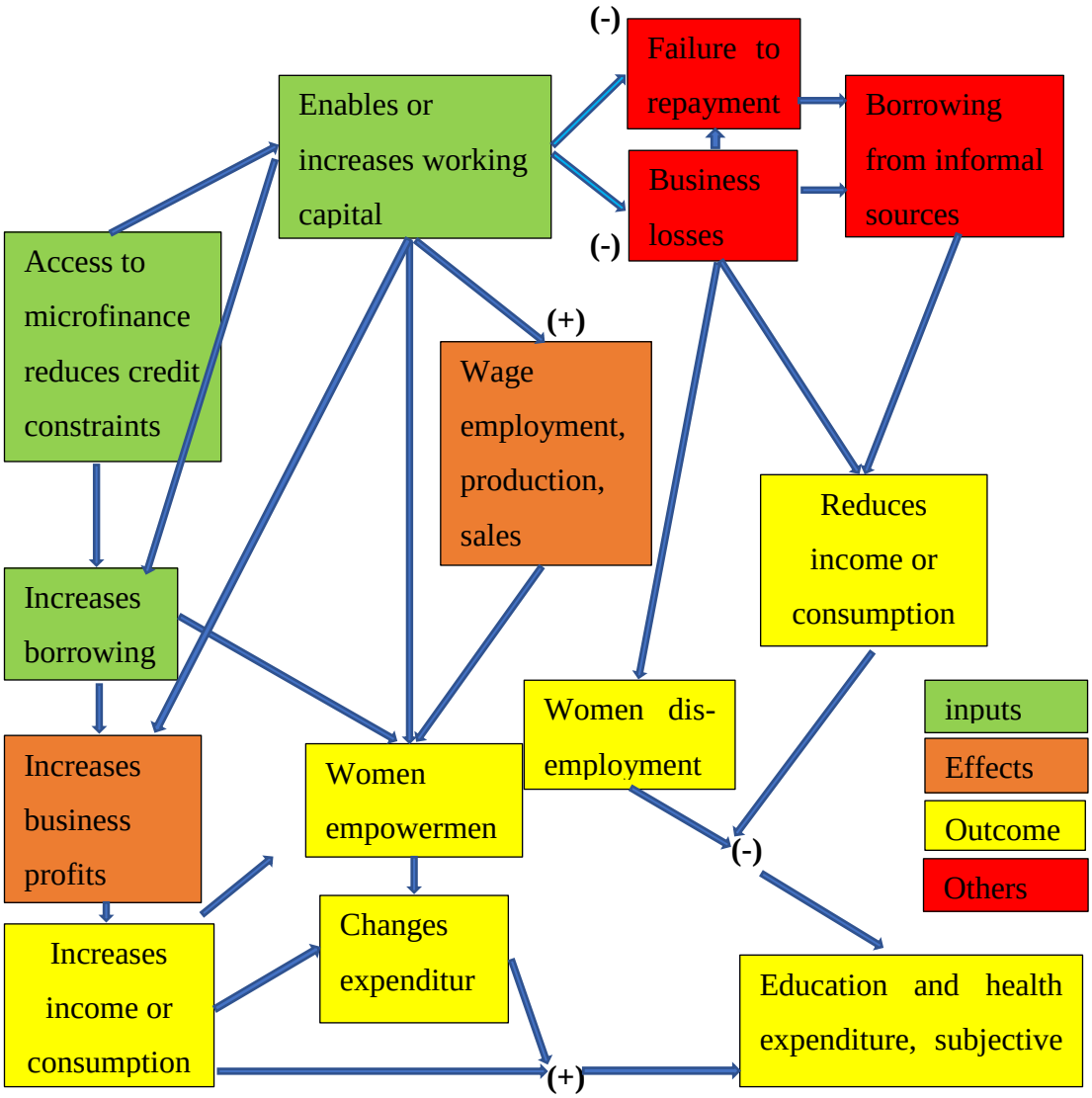

Figure 3.1: Microfinance processes and results.

Source: (Duvendack M, Palmer-Jones R, Copestake J. G, Hooper L, Loke Y, and Rao N. (2011)

Figure 3.1 explains the different ways through which the effects of microfinance are seen. The figure indicates some beneficial and adverse microfinance effects. Starting from the left corner, access to microcredit raises lending that allows business assets to be increased and therefore conjointly improves production and revenues. On

the other hand, if the business progresses, higher revenues, sales and greater consumption can occur. At the same time, business failure regarding ongoing micro-credit participation can cause in a decrease in production or revenues, and eventually, which leads to business failure and improved indebtedness. By raising profit, revenues and employment, access to microcredit significantly affects the enterprise operations of beneficiary customers. On the other side, a rise in profit and employment simultaneously improves individual profit, earnings and consumption, which are immediately related to well-being.

The literature review above shows that the impact of microfinance varies from region to region. Positive results include enlargement of businesses, smoothing of consumption, and increases in household expenditure and assets. Some studies also notice no important changes in the slightest degree whereas some notice negative effects like over-indebtedness and decline at school attending, etc.

CHAPTER 4: RESEARCH METHODOLOGY AND DATA

4.1 Introduction

This chapter gives an overview of the research methodology used in this study. The chapter describes the area of study, the research design and the population in this study. It then provides a detailed description of the sample and sampling procedure used and closes with data types, data collection techniques, and data analysis methods.

4.2 Research Design

Kothari (2004, p. 31) defines research design "as a conceptual structure within which research is conducted and constitutes a blueprint for the collection, measurement, and analysis of data". The research design used in this type of research is case study design, these are the entrepreneur beneficiaries who access financial services from Salaam Financial Services and Kaaba Microfinance Institution (K-MFI) in Borama city. This study has two parts: the first part is based on the descriptive analysis, supported by quantitative figures wherever necessary. We then conduct a questionnaire among the microfinance beneficiaries to obtain enough information for drawing a conclusion.

4.3 Study Population

A population is a group of people, objects or items from which measurements are taken and refers to the whole group of people or elements with at least one thing in common. The target group of this research is, therefore, the present microfinance beneficiaries of all ages, gender, education and economic position in Borama City. This was selected because the majority of those beneficiaries of enterprises in Somaliland are not socially self-sufficient and stay relying on external grants, such as donation subsidy initiatives from global organizations. Microfinance has become an essential source of funding for those low-income people; we thus want to know how microcredit can be a significant factor in the success of poor entrepreneurs in creating income-generating activities.

4.4 Sample

The sample consisted of data from two institutions, one financially self-supporting and the other depends on subsidies from donor agencies. This was selected since these institutions are Somaliland's primary providers of microfinance products. There are currently a large number of microfinance borrowers in various towns in Somaliland. Therefore, 378 respondents of microfinance beneficiaries have been interviewed through a questionnaire in Borama city. Borama city was chosen because it is Somaliland's second largest city where more microfinance borrowers mostly live.

4.5 Data Collection Techniques

In this study, we collect the required information using primary data utilizing a questionnaire (see, Appendix B), and secondary data is obtained from the review of related literatures.

Questionnaire refers to a set of questions asked to individuals to gather statistically essential information about a given topic. In this study, we choose to use both closed-ended and open-ended questions written in a simple language. Thus, the information collected becomes unbiased because the answers obtained are in the words of the respondents and the respondents have sufficient time to provide good answers. The questionnaire is designed to provide more data about microfinance participants' personal data, the quantity of credits and business operations. The questionnaire is directly administered to 378 borrowers through interviews between February 2019 and April 2019.

4.6 Validity and Reliability

The questionnaire used in this study for the primary data is found to be very reliable because it is repeatedly checked before the main study is carried out. The questionnaire allows relevant and necessary information to be captured on the basis of the opinions of the respondents. Using the Social Sciences Statistical Package (SPSS), the Cronbach alpha reliability test reports a satisfactory score.

A principal component analysis is then performed for the seven questions asked exclusively to evaluate the welfare levels of borrowers for further validity and reliability testing. Table 4.1 reports the results. Kaiser-Meyer-Olkin (KMO) value is

.850 and Bartlett's test is significant at the 1 percent level. The internal inconsistences of the variables are strong as shown in the results of the principal component analysis.

Table 4.1: Principal component analysis, variance, mean and standard deviation.

Factors	**Component 1**	**Mean**	**S.D.**
Microfinance increases income	.768	4.6058	.73609
The standard of living in your family has raised	.784	4.3783	.75500
Can you have better access to healthcare	.735	4.1772	.66581
Can you or your family have better access to education	.765	4.5820	.76730
The introduction of microfinance has reduced the poverty of the nation	.612	3.8254	1.06857
Small businesses have benefited from microfinance services	.660	3.3810	1.15525
Can you compare your profit profile before and after the period when you were given the loan	.660	4.1429	.61001
Cronbach's Alpha is .818	KMO value is .850	Bartlett's test is .000	

Table 4.2 below reports the intercorrelations among various welfare measures. Strong correlations among them indicate that all variables are intercorrelated and measure the same concept. The study thus investigates the overall welfare of the respondents by using the average of these variables by forming a new variable called "welfare".

Table 4. 2: Intercorrelations among welfare measures.

Factor	1	2	3	4	5	6	7
Microfinance increases income	1						
The standard of living in your family has raised	.589**	1					
Can you have better access to healthcare	.435**	.531**	1				
Can you or your family have better access to education	.698**	.590**	.431**	1			
The introduction of microfinance has reduced the poverty of the nation	.337**	.352**	.357**	.354**	1		
Small businesses have benefited from microfinance services	.380**	.367**	.409**	.360**	.381**	1	
Can you compare your profit profile before and after the period when you were given the loan	.309**	.406**	.493**	.304**	.388**	.472**	1

**p<0.01, *p<0.05

4.7 Specification of Models Used in the Estimates

The objectives of this study as specified in Chapter 1 is to examine whether microfinance is serving to improve the income, standard of living, education, and health of the poor who borrowed microcredit from the MFIs. In an effort to achieve these objectives, we use different econometric models for each objective. To measure the determinant of earnings, we use the Mincer (1974) income model. The research utilizes the various designs of Ordinary Least Square (OLS) econometric methods to assess other objectives such as the effect of the microloan on the borrowers' level of standard of living, education, and health. The study employs the Social Sciences Statistical Package (SPSS) and GRETL econometric software as for analysis tools.

4.8 Mincer's Model of Determinants of Earnings

As stated earlier, the main aim of our study is to evaluate the impact of microcredit on income of beneficiary households. To measure the impact of

microfinance on the earnings distribution of MFI clients, we apply Mincer (1974) semi-logarithmic form:

$$Ln\, Y_i = \alpha + \beta X_i + \varepsilon_i \qquad i = 1, \ldots\ldots, n. \qquad \textbf{(1)}$$

In equation (1), $\boldsymbol{Y_i}$ represents monthly earnings of individual $\boldsymbol{i}$, $\boldsymbol{X_i}$ is a vector of explaining variables consisting of human-capital variables such as age and education, business dummies, and microcredit characteristics of individual *i*, and *n* is the sample size. The intercept **a** and the **b** vector are unknown coefficients describing the underlying earnings generating process. ε represents the error term. Because of the semilogarithmic form of the earnings function, the marginal effect is a relative (percentage) rather than an absolute.

Re-specifying equation (1) we then have:

$$Ln\, Y = \alpha_0 + \alpha_1 D + \alpha_2 G + \alpha_3 GR + \alpha_4 MS + \alpha_5 NE + \alpha_6 TB + \alpha_7 UT + \alpha_8 LF + \alpha_9 LA + \mu_1 \qquad \textbf{(2)}$$

The extended Mincer Model assumes that income is influenced by variables of human capital, personal variables, MFI variables and business variables. **Y** is the monthly income of the respondents measured in USD dollar. **D** is a human capital dummy variable representing the educational attainment of the respondents (coded binary: 1 for those with post-secondary education and 0 for those with educational level less than secondary). **G** is the age of respondents and is a personal dummy variable coded ordinal age groups in which 1 refers to 18-25 years; 2 refers to 26-35 years; 3 refers to 36-45 years; and 4 refers to over 45 years. **GR** is a gender dummy of the respondents coded binary: 1 for male and 0 for female. **MS** is also a personal dummy variable representing marital status (coded binary: 1 for single respondents and 0 for married and divorced respondents). **NE** is a personal dummy variable (coded binary: 1 for self-employed individuals and 0 for wage-employed individuals) representing the nature of employment. **TB** and **UT** are MFI variables where TB represents a dummy variable of the type of business activity (coded binary:1 for retail shop and 0 for all other business activities) and UT represents a dummy of the number of workers in each business activity (coded binary: 1 for those under five employees and 0 for those with more than five employees). Microfinance variables includes **LF** and **LA** where LF represents the respondents loan frequency dummy coded binary 1 for those who took the microloans twice and 0 for those took the microloans once and

more than two twice. **LA** is representing the log of first amount of microloan that is taken and confirmed from the MFI. μ is the error term for the equation.

4.9 Research Hypotheses

In regards to the objectives and research questions of the study, four hypotheses are constructed and tested to examine whether microfinance has any impact on welfare and poverty reduction, with emphasis on respondent income, the standard of living, access to education, and access to health care services.

i. The first hypothesis tests whether microfinance affects the income levels of beneficiary households.

   $\boldsymbol{H0}$: Microcredit given to beneficiary households has no effect on their income levels.

   $\boldsymbol{H1}$**:** The income levels of beneficiary households have increased as a result of the microcredit given to them.

ii. The second hypothesis tests the effect of microcredit on the standard of living of beneficiary households.

   $\boldsymbol{H0}$**:** Microcredit given to beneficiary households has no effect on their levels of standard of living.

   $\boldsymbol{H1}$**:** The standard of living of beneficiary households have increased due to the microcredit given to them.

iii. The third hypothesis tests the effect of microcredit on educational access of beneficiary households.

   $\boldsymbol{H0}$: Microcredit given to beneficiary households has no effect on their access to education.

   $\boldsymbol{H1}$**:** The access of education of beneficiary households have increased due to the microcredit given to them.

iv. The fourth hypothesis tests the effect of microcredit on the access of the health care services of beneficiary households.

   $\boldsymbol{H0}$: Microcredit given to beneficiary households has no effect on their access of the health care services.

   $\boldsymbol{H1}$**:** The access of health care services of beneficiary households has increased due to the microcredit given to them.

The first hypothesis is tested by using the model Mincer's Model of Determinants of Earnings among MFI customers mentioned in above.

4.9.1 The Estimates of the Standard of Living Based on the Clients' Opinions

To test the second hypothesis of the effect of microcredit on the standard of living of participants, we use the primary data obtained in the field survey. We design the survey in a way to get such vital information about the standard of living of the beneficiaries comparing before and after the involvement of the microfinance programs. In the field survey, we question participants if their living standards improve after they involve microfinance programs. To obtain more comprehensive information, we also posted a number of questions about other factors affecting standard of living including income, education and health care. We then carry out a factor analysis that gives a strong correlation between such variables, indicating that they all assess the same variable. Finally, we assess each variable as a different regression to test the hypothesis.

An OLS estimation technique is applied to estimate the "standard of living" based on the clients' opinion. The dependent variable is the borrowers' opinion on whether living standards have risen after loan and the independent variables are the same variables, we used in income model above.

$$\text{Standard of living} = \alpha_0 + \alpha_1 D + \alpha_2 G + \alpha_3 NM + \alpha_4 MS + \alpha_5 ES + \alpha_6 TB + \alpha_7 UT + \alpha_8 LF + \alpha_9 LA + \mu_1 \qquad \textbf{(3)}$$

The null hypothesis ($\boldsymbol{H0}$) states that microcredit given to beneficiary households has no effect on their standard of living levels. The alternative hypothesis ($\boldsymbol{H1}$) states that the standard of living levels of beneficiary households has increased as a result of the microcredit given to them.

4.9.2 Access on Education Based on the Clients' Experiences

There are also some variables that lead to improvements in standard of living, such as increasing income, education and health care services. The survey is, therefore, designed in a way to gather more information about such variables influencing the standard of living. Surveyed microfinance customers are questioned about their standard of living, revenue, education and health care services to record the socio-

economic condition of the participants. The study conducts a distinct analysis for each variable to assess their effect on microfinance. These assessments are all based on the experiences and opinions of the respondents except the income model based on the actual monthly income of the respondents.

To test the third hypothesis of the effect of microcredit on educational access of beneficiary households. An OLS estimation technique is used to estimate the access of borrowers or their families to education. The dependent variable is the question comparing the educational access of the respondents and their households after and before the loan.

$$\text{Education} = \alpha_0 + \alpha_1 D + \alpha_2 G + \alpha_3 NM + \alpha_4 MS + \alpha_5 ES + \alpha_6 TB + \alpha_7 UT + \alpha_8 LF + \alpha_9 LA + \mu_1 \qquad (3)$$

The null hypothesis ($\boldsymbol{H0}$) states that microcredit given to beneficiary households has no effect on their access to education. And the alternative hypothesis ($\boldsymbol{H1}$) states that the access of education of beneficiary households have increased due to the microcredit given to them.

4.9.3 Access to Health Care Services Based on the Clients' Experience

To test the fourth and the last hypothesis, we use the primary data about the health care access of the respondents obtained in the field survey. We use an OLS estimation technique. The dependent variable of the regression is the borrowers' access to health care after loan.

$$Health\ care = \alpha_0 + \alpha_1 D + \alpha_2 G + \alpha_3 NM + \alpha_4 MS + \alpha_5 ES + \alpha_6 TB + \alpha_7 UT + \alpha_8 LF + \alpha_9 LA + \mu_1 \qquad \mathbf{(4)}$$

The null hypothesis ($\boldsymbol{H0}$) states that microcredit given to beneficiary households has no effect on their access of the health care services. And the alternative hypothesis ($\boldsymbol{H1}$) states that the access of health care services of beneficiary households has increased due to the microcredit given to them.

CHAPTER 5: EMPIRICAL RESULTS

5.1 Introduction

This chapter provides the demographic information for respondents and statistical summary of the information collected from them. It then reports the empirical results obtained from the collected data.

5.2 Summary Statistics

A sample size of 378 respondents is interviewed using a questionnaire. All respondents are microfinance borrowers who own small businesses such as boutique, home decoration, retail shop, building material, electronics and pharmacy stores. The researcher receives a 100 percent response from all 378 respondents.

Table 5.1 below presents the summary statistics of all the variables used in the analysis. Our variables consist of 378 observations each used in the study. Section 5.4 below provides the demographic characteristics of the respondents' such as age, education, gender, and marital status. Simultaneously, Section 5.5 reports the overview of the respondents' business activities such as the nature of employment, business activity, number of employees. Section 5.6 explains the details of microcredit frequency for respondents and the respondents' attitudes towards microfinance institutions.

On the other hand, the average monthly income of the 378 respondents is approximately $732, based on the data collected from respondents. The monthly income of respondents is relatively high when compared to the monthly salary of the civil servants in Somalia, which is $ 700 for university graduates (grade A), $ 350 for secondary school, $ 250 for skilled labor, and 180 for unskilled labor. Likewise, the average amount of the respondents' first loan from the MFI is about $1,579. The respondents are asked to rate if their standard of living, education or access to health care increased after the microcredit is involved. Consequently, the mean of the respondent's answers is a number around 4, which indicates that the majority of respondents agree that their standard of living, education and healthcare services have increased after microcredit is obtained.

Table 5.1: Summary Statistics.

	Freq.	Percent
Age group	**378**	**%**
18-25 years	75	.1984
26-35 years	105	.2778
36-45 years	156	.4127
Above 45 years	42	.1111
Education	**378**	**%**
No education	67	.1772
Primary education	21	.0556
Secondary education	185	.4894
Post-secondary education	93	.2460
Gender	**378**	**%**
Male	290	.7672
Female	88	.2328
Marital Status	**378**	**%**
Single	109	.2884
Married	241	.6376
Divorced	28	.0741
Nature of Employment	**378**	**%**
Self-employment	278	.7354
Wage-employed	100	.2646
Business activity	**378**	**%**
Boutique	43	.1138
Building Material	47	.1243
Electronics	14	.0370
Home decoration	26	.0688
Retail shop	209	.5529
Other Businesses	39	.1032
Location of Business	**378**	**%**
Rural	64	.1693

Urban	314	.8307
Number of employments	**378**	**%**
Under 5 employees	340	.8995
Above 5 employees	38	.1005
Loan frequency	**378**	**%**
One-time	327	.8651
Two-time dummy	43	.1138
Three-time dummy	8	.0212
	Freq.	Mean
The amount of the first loan	378	$1,579
Respondent's monthly income	378	$732

The following indicates the degree of agreement level (on a scale of 1-5) of a person after he or she has received loan from a microfinance institution.

	Freq.	Mean	S.t.d
The standard of living in your family raises	378	4.3783	.7550
Better access to education	378	4.5820	.7673
Better access to healthcare	378	4.1772	.6658
Clients take the microloans to start small businesses	378	3.3095	1.258
SMEs have benefited microfinance	378	3.3810	1.155
Low income groups can obtain startup fund	378	4.1138	.8209
Customers belong to Groups can obtain loans	378	3.7302	.8183
MFI should set up in rural areas	378	4.5476	.7872
MFI refuses loans to clients with no collaterals	378	3.5053	.8987
The mark-up is high	378	3.7593	.8290
MFI write off loans if clients fail to repay	378	1.9656	.2095
Customers repay loans promptly	378	3.5212	1.038
MFI provide loans to the poor people only	378	2.6720	1.262
Your attitude towards microfinance is positive	378	4.7011	.6033
Valid N (listwise)	378		

Source: Author’s calculations based on (field survey 2019).

5.3 Demographical Characteristics of Respondents

Demographic information of the respondents such as gender, age, educational achievement, and marital status is provided below. This information is obtained from the subject of personal information during the questionnaire survey. This part of the data shows the respondents' comprehensive personal information and helps the reader to understand relevant information of the sample in presenting the target population.

5.3.1 The Gender of the Respondents

The respondents of the study consist of both men and women. Figure 5.1 shows the gender distribution of the respondents. The results reveal that 290 respondents which constitute of that 77 percent of respondents are male and 88 respondents constituting of 23 percent of respondents are female. These results confirm the same statistics in Chapter Two on K-MFI data that males have far more access to microfinance than females. Most of the developing countries discussed in the literature review above indicate that females are the majority of microfinance clients, but the outcomes of the field study reveal that males dominates the microfinance services.

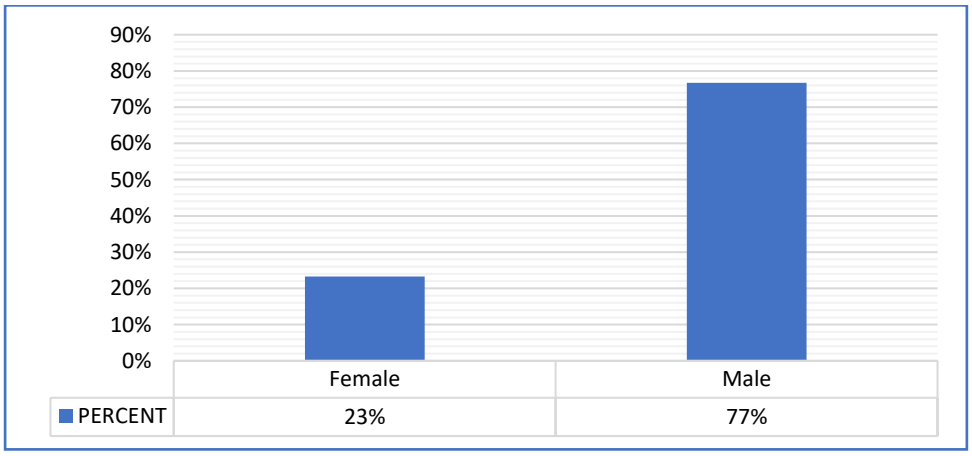

Figure 5.1: Gender of the Respondents.

Source: Author's calculations based on (field survey 2019).

5.3.2 The Age of the Respondents

Figure 5.2 presents the age distribution of the respondents interviewed. It is categorized and summarized into five groups in analysis for concise understanding and presentation. As a result, 75 respondents that constitutes 20 percent of the respondents are between 18 and 25 years of age, and 105 respondents that constitutes 28 of the

respondents are between 26 and 35 years of age. In addition, 156 respondents represent 41 percent of the respondents between the ages of 36 and 45, and 42 respondents represent 11 percent of the respondents over 45 years of age. The results show that the majority of respondents are between the ages of 26 and 45, which falls into the youth group. This indicates that many young men and women are involved in microfinance, which gives them the opportunity to do well in entrepreneurship due to their ages and thus reduce poverty.

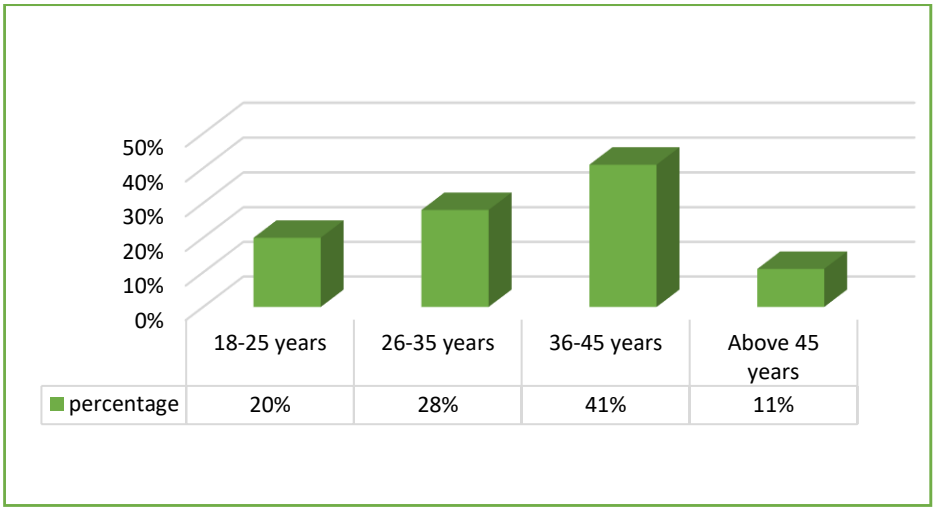

Figure 5.2: Age of the Respondents.

Source: Author's calculations based on (field survey 2019).

5.3.3 The Marital Status of the Respondents

The marital status of respondents is classified as single, divorced and married. As can be seen from Figure 5.3, it is observed that 241 respondents constituting 64 percent of the respondents are married at the time of this survey. In addition, 109 respondents that constitutes 29 percent of the respondents are single while only 28 respondents that constitutes 7 percent of the respondents are divorced. Based on these statistics, married respondents receive the highest possible loans from the microfinance Institution.

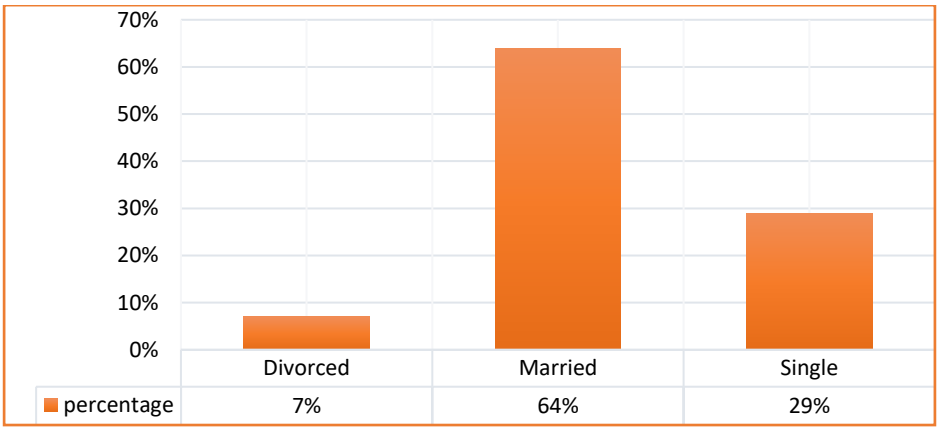

Figure 5.3: Marital Status of the Respondents.

Source: Author's calculations based on (field survey 2019).

5.3.4 The Respondents' Educational Attainment

In most cases, the level of education is inversely correlated with the poverty. In other words, the higher the level of education is, the lower the poverty is. Education helps individuals to escape poverty by developing skills to improve their lives and to be employed in order to earn income and increase living standards.

Figure 5.4 presents the distribution of the respondents according to the level of educational attainments. It indicates that two-third of the sample have attained secondary education and below at the time of this research. While 49 percent of the microfinance beneficiaries has a secondary education, only 3 percent of the respondents has a master degree education. At the same time, 22 percent of the respondents has a bachelor degree of education while 18 percent of the respondents does not have any formal level of education. Furthermore, 6 percent of the respondents has elementary education while 3 percent of the respondents has other informal level of education.

Those people having an educational level of secondary and below are the dominant clients of microfinance institutions. A quarter of clients interviewed holds bachelor and master degrees, which implies the importance of these loans to society even with a college education or more. The higher levels of education for many respondents also explains the relatively higher levels of monthly income.

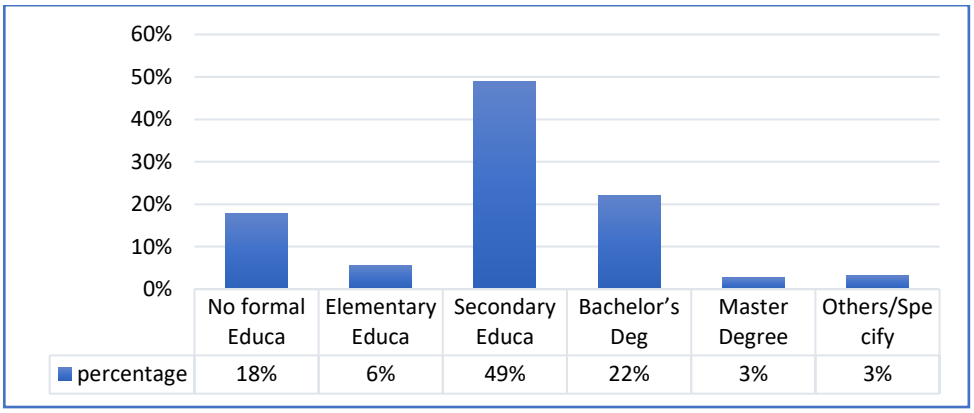

Figure 5.4: Educational Attainment of the Respondents.

Source: Author's calculations based on (field survey 2019).

5.4 General Information of the Respondents Business Activities

This section further describes the various business activities of the respondents.

5.4.1 Types of Respondents' Employment

The distribution of the respondents of whether they are self-employed or wage-employed is presented in Figure 5.5. Consequently, 278 of the respondents constituting 74 percent of the respondents are self-employed and 100 respondents constituting 26 percent of the respondents are wage-employed. According to the field survey, although a small number of wage-employed clients receive microfinance loans, most microfinance recipients are self-employed clients who obtain microfinance loans to invest their businesses. Finally, microfinance loans are taken by MFI's clients regardless of whether they are self-employed or wage-employed.

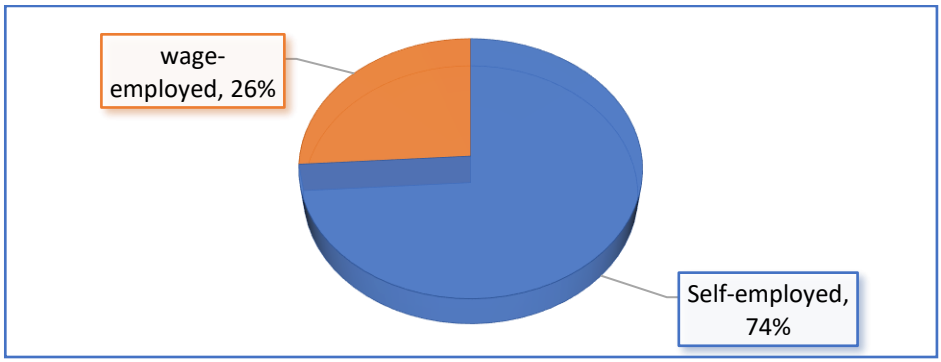

Figure 5.5: Types of Employment.

Source: Author's calculations based on (field survey 2019).

5.4.2 The Nature of the Respondents' Business Activities

Those microfinance beneficiaries interviewed involve very different business activities according to the field survey. Business activities such as boutique, building materials, electronics, home decoration, pharmacy, and retail shops are mostly involved by respondents. Moreover, the vast majority of microfinance borrowers which is around 209 respondents representing of that 55 percent of the respondents involve retail shops and 43 respondents representing of that 11 percent of the respondents involve boutiques. Furthermore, 47 respondents which constitutes 12 percent of the respondents involve building materials while 14 respondents, 4 percent of the respondents involve electronics. At the same time, 11 respondents constituting 3 percent of the respondents are having business activities of pharmacy and 26 respondents constituting of 7 percent of the respondents involve business activities such as home decorations. Finally, only 28 respondents which is 7 percent of the total respondents involve other business that is categorized into others.

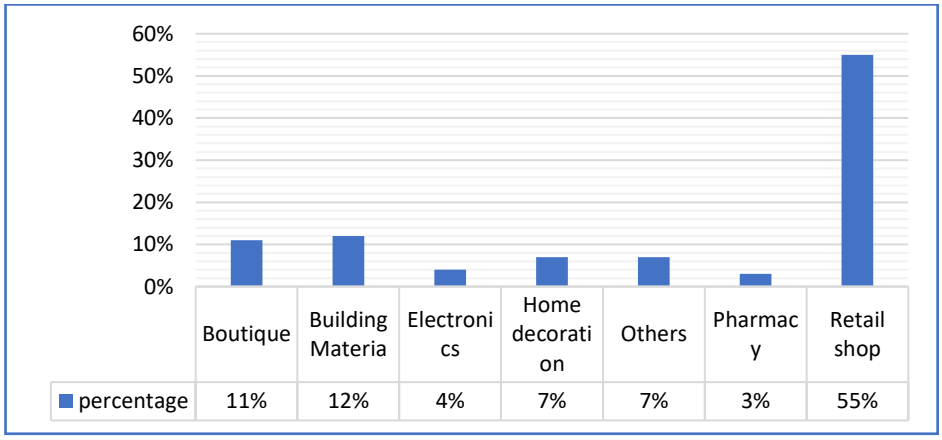

Figure 5.6: Nature of Occupations.

Source: Author's calculations based on (field survey 2019).

5.4.3 Locations of Respondents' Business Activities

Business activities of the microfinance clients are categorized according to locations they operate in. The respondents are asked whether their business operates in urban or rural areas. Thus, 314 of the respondents representing 83 percent of the total respondents have a business activity operating in urban areas and the remaining 64 respondents represent 17 percent of respondents operating in rural areas. Based on

the statistics described, the overwhelming majority of urban business activities are borrowing small loans from microfinance institutions to fund their businesses.

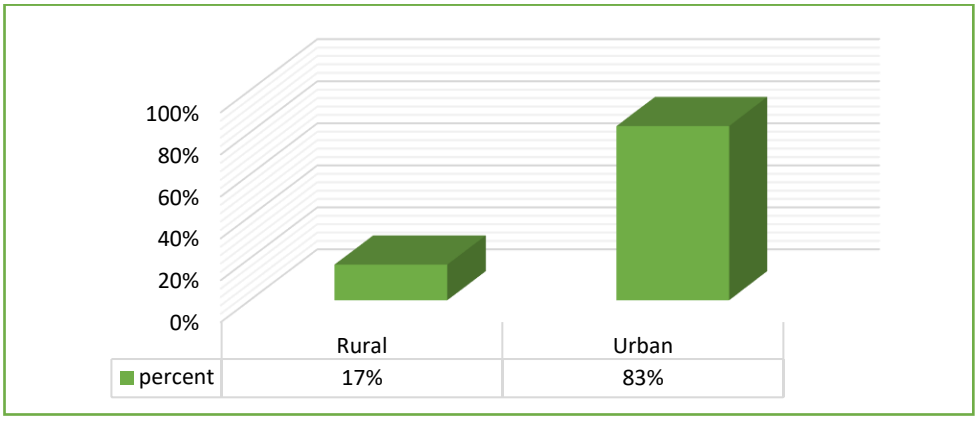

Figure 5.7: Business locations.

Source: Author's calculations based on (field survey 2019).

5.4.4 The Number of the Respondent's Business Employees

The respondents have business activities with different sizes. They are categorized into two groups; business with employees less than five and business with employees more than five. From the results of the field survey, 340 respondents make up 90 percent of respondents in a business with fewer than five employees, while only 38 respondents make up 10 percent of respondents in a business with employees more than 5. From the point of view of the statistics obtained from the questionnaire, it is clear that those people who involve small business with less than five employees are the main clients of the microfinance loans to invest their business.

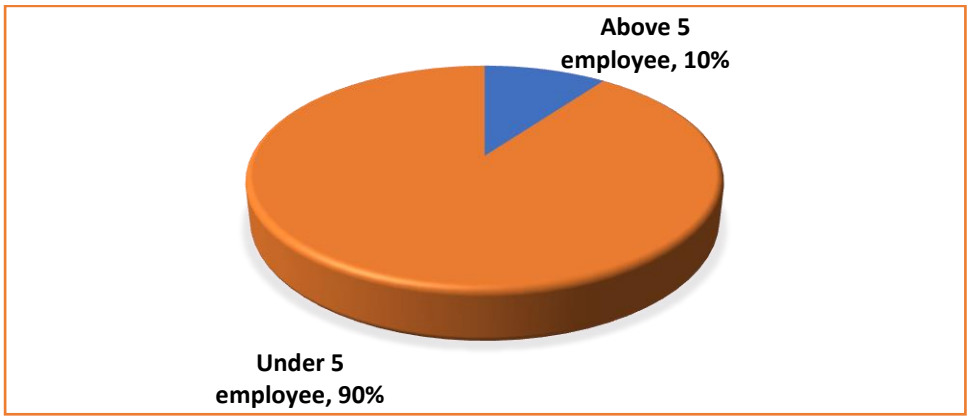

Figure 5.8: Number of Employees.

Source: Author's calculations based on (field survey 2019).

5.5 The General Attitude of the Respondents Towards Microfinance Institutions

This section presents the attitude of the respondents towards microfinance institutions.

5.5.1 Clients' Attitude Towards Islamic Microfinance Banking System

Majority of the banking system in Somalia is based on Islamic mode of financing. Similarly, those microfinance institutions are also based on Islamic mode of financing. In order to evaluate client's attitude towards this kind of finance, they are asked whether their attitudes toward Islamic microfinance is positive. 290 respondents representing 77 percent of the respondents have a strongly positive attitude towards MFIs, while 66 respondents representing 17 percent of the respondents have a positive attitude towards MFIs. As a result, 94 percent of respondents have a positive attitude towards Islamic financing.

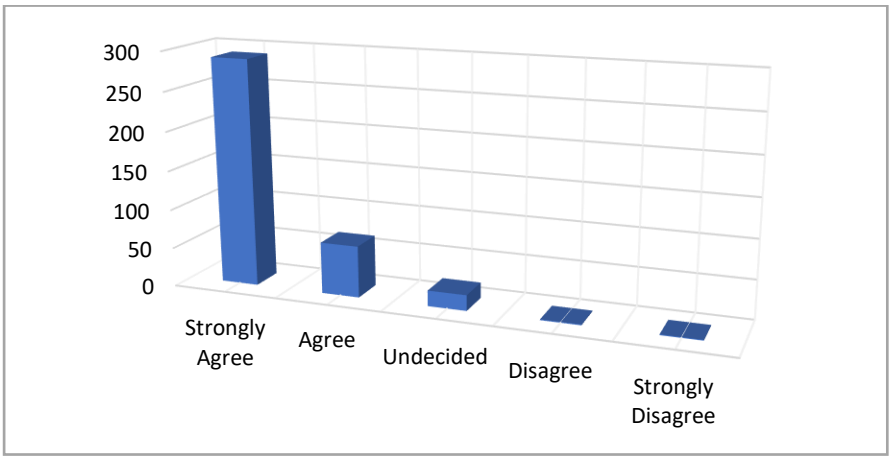

Figure 5.9: Attitudes towards Islamic MFI.

Source: Author's calculations based on (field survey 2019).

5.5.2 Profit Profiles Before and After the Loan

Figure 5.10 presents and compares the profit before and after the microfinance taken based on the experience of the respondents. Borrowers of the microfinance are asked to compare their business profiles before and after taking the loan. As a consequence, 247 respondents constituting 65 percent of the respondents confirms their profit is higher than before the loan and 95 respondents constituting 25 percent

of the respondents argue their current profit is very higher compared to before taken the loan. Because combined 90 percent of the borrowers confirm that their profit after the loan has increased, it can be said that microfinance loans can improve the lives and business of poor societies.

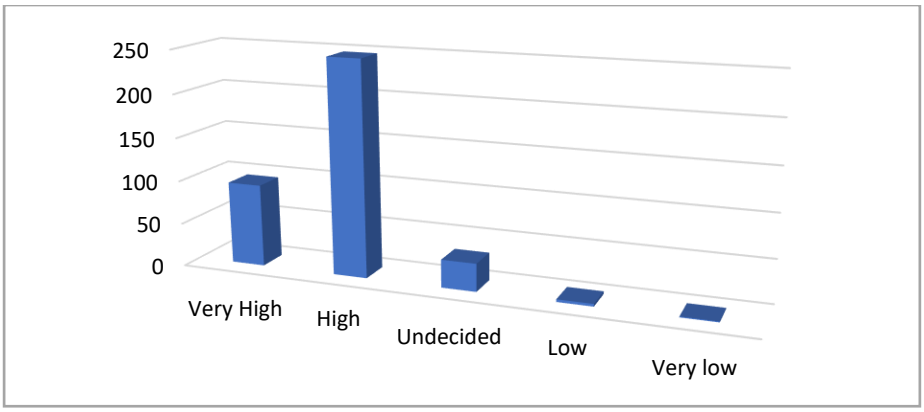

Figure 5.10: Comparison of Profit Levels Before and After the Loan.

Source: Author's calculations based on (field survey 2019).

5.5.3 The Respondents' Loan Frequency

The respondents of the microfinance customers are categorized by the number of times they have taken the loan. As shown in Figure 5.11, 87 percent of the respondents takes the loan once. At the same time, 43 respondents making up 11 percent of the respondents takes the loan twice while 8 respondents making up 2 percent of the respondents takes the loan three times. From the information above, it is clear that the large majority of the microfinance borrowers has taken the loan only once.

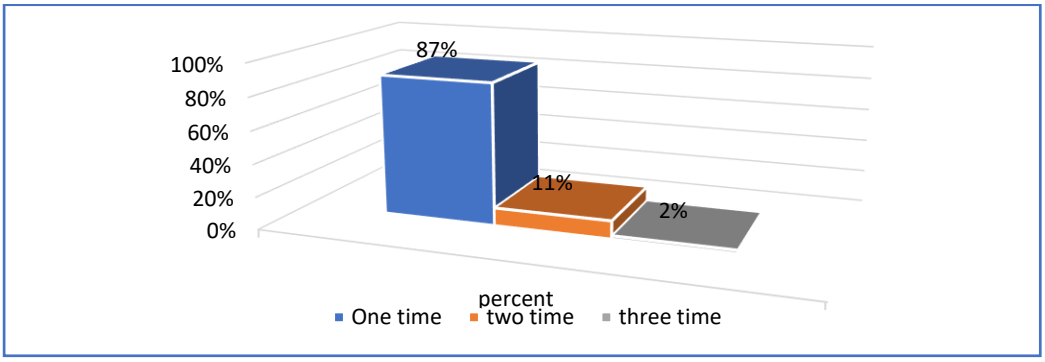

Figure 5.11: Microcredit Frequency of the Respondents.

Source: Author's calculations based on (field survey 2019).

5.6 Ordinary Least Squares Estimation Results

In order to evaluate the specific objectives of the study, various Ordinary Least Squares (OLS) estimates are undertaken. Tables below report the OLS estimates. Except for the variables of "first loan received", all other variables are used as binary[1] variables (0,1), with one of the sub-categories excluded from the regression analysis to avoid perfect linearity and a situation of the dummy-variable trap in the model. For instance, for the gender variable, the female sub-category is excluded to serve as the reference. In the same way, the divorced and married sub-category is excluded from the marital status dummies to serve as a reference. In addition, secondary and below secondary education sub-category is excluded as a reference group for education dummy variable while wage-employment is the reference category for the nature of the employment variable. The Boutique, Home Decoration, Building Material, Electronics, Pharmacy sub-category are excluded to serve as a reference category of Retail Shop dummy variable. Businesses with employees more than five are excluded to serve as the reference for the number of employee variable, and those employees that took the loan once and three times are excluded to stands as a reference for the loan frequency variable.

5.6.1 Mincer's Model of Determinants of Earnings Among MFI Customers

In order to assess quantitatively the impact of microfinance on the income of the respondents in the MFIs, the Mincer's Model of determinants of earnings is carried as specified in Chapter 3 of the thesis. The OLS results are reported in Table 5.2. The dependent variable is the logarithm of the monthly income declared by the respondents. Therefore, the slope coefficients measure the constant proportional or relative change in a dependent variable for a given absolute change in the regressor value. R-squared of approximately 0.55 implies that 55 percent of the variations in the log monthly income are explained by the independent variables included. The F-

[1] Our variables are not collected as binary variables, as shown above. We collapsed almost all of them into the binary forms for the practical reasons to obtain more precise results. However, we also report the full estimates for the extended measures at the APPENDIX TABLES A1 to A5. Our main conclusions from both sets of estimates are almost the same and our overall conclusions are substantially robust.

statistics is statistically significant at 1 percent, which consequently shows that the model is well fit, econometrically.

Table 5.2 Results of the Regression Analysis of Mincer's income Model

Dependent Variable: Log (Monthly Income)

Heteroscedasticity-Robust Standard Errors

Independent variables	*β*	*t*	*p-value*
Constant	4.23297**	11.99	<0.0001
Age of respondents	0.0517685	1.729	0.0846
Education dummy (post secondary=1 and secondary and below secondary=0)	0.0680951	1.434	0.1523
Gender dummy (male=1 and female=0)	0.0502442	0.9701	0.3326
Marital status dummy (single=1, married and divorced=0)	0.0543870	0.8241	0.4104
Nature of Employment dummy (self-employed is 1 and 0 wag-employed)	−0.0506122	−1.018	0.3092
Type of employment dummy (retail shop=1, 0 otherwise)	−0.00986518	−0.2421	0.8088
Number of Employment dummy (Under 5 employees=1 and above 5 employees=0)	−0.742940**	−9.513	<0.0001
Loan frequency dummy (two times=1, 0 otherwise)	0.331246**	4.796	<0.0001
Log (the amount of first loan received)	0.372052**	8.728	<0.0001
	R^2=.548735	F=41.66686	Sig=.000

Note: **p<0.01, *p<0.05.

As reported in the results of the regression, the estimated coefficient on the age variable is positive and statistically significant at the 10 percent level. The positive relationship indicates that the monthly income increases by ages. At the same time, education attainment dummy variable has an insignificant relationship with income. The regression result shows that the respondents' monthly income does not change with the educational status. Similarly, income do not show any gender and marital status differential for our sample.

On the one hand, the insignificantly estimated coefficient on nature of employment dummy shows that the nature of employment does not matter for the level of monthly income. Similarly, regarding to the business variables in the model, retail shops owners have basically similar level of income with other store owners. The significantly estimated coefficient on the number of employees indicates that business activities with employees under five have a lower income than those business activities with employees between five and ten. According to the microfinance borrowers interviewed, most of the respondents obtained the loan once while others received the loan twice or three times. Those respondents who borrowed twice experienced a proportional increase in income relative to those who borrowed once, and it is statistically significant.

According to the results in Table 5.2, the estimated coefficient on the amount of the first loan received carries a positive sign ($\beta = .372$) and the corresponding t-statistic (8.728) is significant at all levels of significance ($p<.0001$). This result implies that the amount of loan received has the significantly positive impact on the income levels of beneficiary households. Therefore, our results substantially support the alternative hypothesis (H1) that the income levels of beneficiary households have increased as a result of the microcredit provided to them.

5.6.2 Estimations for Standard of Living Based on the Respondents' Opinion

Table 5.3 reports the results of the impact of loan on standard of living based on respondents' opinion. The dependent variable for the model is a Likert scale survey question (1, 5) in which having standard of living higher than before the loan from the MFI is scored 5 to 4, while those that have not are scored 3 to 1. The regression variables of the model are dummy variables entered into the regression equation as binary, and the sub-categories of the main variables has been excluded to prevent the dummy-variable trap. The only variables that are non-binary are the age of the respondents and the first amount of loan received by the respondents from the MFI. The coefficient estimates obtained for variables in several categories in the regression are the differential coefficients of the excluded categories. This is because the constant term was not constrained to be equal to zero. The effects of the excluded variables in the regression model are absorbed by the constant term.

The result shown in Table 5.3 shows an R-square of 20 percent which means that 20 percent of the dependent variable variation is explained by the independent variables included. The F-statistic is significant at the level of 0.00, showing a very good fit, econometrically.

Table 5.3 Results of the Standard of Living Regression Analysis

Dependent Variable: Standard of Living

Heteroscedasticity-Robust Standard Errors

Independent variables	β	*t*	*p-value*
Constant	3.58207**	6.594	<0.0001
Age of respondents	0.0290913	0.5140	0.6076
Education dummy (post secondary=1 and secondary and below secondary education=0)	−0.184025*	−2.074	0.0388
Gender dummy (male=1 and female=0)	−0.0810254	−0.8560	0.3926
Marital status dummy (single=1, married and divorced=0)	−0.565108**	−4.705	<0.0001
Nature of Employment dummy (self-employed=1 and wag-employed=0)	−0.155213	−1.428	0.1542
Type of employment dummy (retail shop=1, 0 otherwise)	−0.119571	−1.407	0.1602
Number of Employment dummy (Under 5 employees=1 and above 5 employees=0)	−0.191693*	−1.959	0.0509
Loan frequency dummy (two times=1, 0 otherwise)	0.227358**	2.588	0.0100
Log (the amount of first loan received)	0.183655**	2.774	0.0058
	R^2=.198713	F=8.943534	Sig=.000

Note: **p<0.01, *p<0.05.

With regard to the education of the participants, those with post-secondary education encounters a few changes of their standard of living compared to the reference group. It is also statistically significant at the 5 percent level, which indicates that even a small amount of loans can enhance the educated of the poor individuals. According to the marital status of the respondents, the standard of living of single participants decreases compared to reference group. Those respondents in self-employed have a similar standard of living with those in wage-employed. There is no

statistically significant difference between those in retail shops and those in other businesses activities.

Furthermore, those respondents in business activities that have an employee fewer than 5 have lower standard of living after loan compared to those business activities that has an employee more than 5, since it's statistically significant at the 10 percent level. Because their differential coefficient is positive and statistically important at 1 percent level, microfinance customers who have borrowed in two times have witnessed a better quality of living relative to those customers who have borrowed in once.

Ultimately, the hypothesis of whether microcredit has any effect on the living standards of beneficiary households are tested according to the results of Table 5.3. We find that the standard of living is positively related to the amount of the first loan received (β =. 184, p<.0058). Hence, we support the alternative hypothesis (H1) that the standard of living of beneficiary households have increased due to the microcredit provided to them.

5.6.3 Estimations for Education Based on the Respondents' Opinion

Table 5.4 reports the impact of microfinance on access to education estimated on the basis of experience among respondents. The dependent variable for the model is a question of the Likert scale survey (1, 5) with higher access to education than before the MFI loan is scored 5 to 4, while those not scored 3 to 1. The regression variables are dummy variables and the reference group of the main variables are excluded to avoid the dummy variable trap. The age of the respondents and the amount first of loan received by the respondents from the MFI are the only non-binary variables in the model. The differential coefficients of the excluded categories are the coefficients obtained for variables in several regression categories. The constant term is therefore not restricted to zero. The effects of the excluded variables are absorbed by the constant term in the regression model.

Table 5.4 gives the summary of the model estimated, the R-square is 9.6 percent showing that only 9.6 percent of the variations in the education dependent variable is explained by the included explanatory variables. The F-statistic (shown in Table 5.4) is statistically significant at the 1 percent level and thus shows that the model has an acceptable fit.

Table 5.4 Results of Education Regression Analysis

Dependent Variable: Access on Education

Heteroscedasticity-Robust Standard Errors

Independent variables	β	*t*	*p-value*
Constant	3.20774**	4.724	<0.0001
Age of respondents	0.0525465	0.7953	0.4270
Education dummy (post secondary=1 and secondary and below secondary=0)	−0.00785496	−0.07625	0.9393
Gender dummy (male=1 and female=0)	0.181610	1.675	0.0947
Marital status dummy (single=1, married and divorced=0)	−0.380570**	−2.739	0.0065
Nature of Employment dummy (self-employed=1 and wag-employed=0)	−0.135045	−1.133	0.2578
Type of employment dummy (retail shop=1, 0 otherwise)	0.0201113	0.2146	0.8302
Number of Employment dummy (Under 5 employees=1 and above 5 employees=0)	0.143255	1.359	0.1748
Loan frequency dummy (two times=1, 0 otherwise)	0.110956	1.337	0.1821
Log (the amount of first loan received)	0.161817*	1.993	0.0470
	R^2=.096205	F=2.548350	Sig=.000

Note: **p<0.01, *p<0.05.

Due to the positive and statistically significant slope coefficient on the gender variable, microfinance is more likely to raise access to education for males rather than females. The educational access of single participants is below than married and divorced participants. There is no statistically significant difference between retail respondents and respondents in other business activities. In addition, the amount of the first loan received from the MFI increases the access of respondents to education, as shown by the positive coefficient of the variable (β = 0.162), which is also statistically significant at the 5 percent level. The **H1** is thus supported, which means that the access to education of beneficiary households has increased due to the involvement of microcredit programs.

5.6.4 Estimations for Health Services Based on the Respondents' Opinion

Table 5.5 reports the impact of microfinance on access to health care services estimated on the basis of experiences among respondents. The dependent variable for the model is a question of the Likert scale survey (1, 5) with more access to health care services than before the MFI loan is scored 5 to 4, while those not scored 3 to 1. Regression variables are dummy and the reference variables are excluded to prevent the dummy variable trap. The only non-dummy variables in the model are age and amount of the first loan received by respondents. The differential coefficients of the excluded categories are the coefficients obtained for variables in several regression categories. The constant term is therefore not restricted to zero. The effects of the excluded variables are absorbed by the constant term in the regression model.

Table 5.5 gives the summary of the model. The R-square is 24 percent, showing that 24 percent of the variations in the health care dependent variable is explained by the included explanatory variables. The F-statistic (shown in Table 5.5) is statistically significant at 1 percent level and thus shows that the model has an acceptable fit.

Single participants have experienced a lower health care than the reference sub-category of married and divorced participants, as the differential slope coefficient is negative and statistically significant at the 1 percent level. Self-employed borrowers and businesses with fewer than 5 employees have also experienced a lower level of health care compared to wage employed borrowers after they involved the microfinance, which is statistically significant at the 10 percent level. Borrowers who have borrowed more than once use healthcare more than borrowers who have borrowed only once. The differential coefficient is positive and statistically significant at the 1 percent level, suggesting that the more microfinance involves customers, the greater the increase in their health care services.

As a result, the first loan obtained by microfinance clients has a positive impact on access to health care services, as the coefficient associated with the first loan is positive and statistically significant (β=.307, P<.000). The alternative hypothesis (H1) is therefore supported, which means that the beneficiary households' access to healthcare services has increased due to the microcredit granted to them.

Table 5.5 Results of the Health Regression Analysis
Dependent Variable: Access on Health Care Services
Heteroscedasticity-Robust Standard Errors

Independent variables	β	*t*	*p-value*
Constant	2.72407**	4.946	<0.0001
Age of respondents	−0.0551156	−1.213	0.2261
Education dummy (post secondary=1 and no schooling=0)	−0.0350604	−0.4537	0.6503
Gender dummy (male=1 and female=0)	−0.0803651	−1.014	0.3114
Marital status dummy (single=1, married and divorced=0)	−0.342479**	−3.436	0.0007
Nature of Employment dummy (self-employed=1 and 0 wag-employed)	−0.149657	−1.660	0.0978
Type of employment dummy (retail shop=1, 0 otherwise)	0.00754205	0.1032	0.9178
Number of Employment dummy (Under 5 employees=1 and above 5 employees=0)	−0.413671**	−4.295	<0.0001
Loan frequency dummy (two times=1, 0 otherwise)	0.238268**	2.800	0.0054
Log (the amount of first loan received)	0.306521**	4.599	<0.0001
	R^2=.235733	F=13.02148	Sig=.000

Note: **p<0.01, *p<0.05.

5.6.5 The Impact of Microfinance on Overall Welfare

In order to obtain the composite welfare variable, we first undertake a principal component analysis through which we obtain only one factor load for all of the seven variables used in the analysis, as explained above. The score and the correlation of the seven variables are strong suggesting that they all measure the same variable. The seven variables we reduced in the principal component analysis generally consists the main indicators of the welfare such as income, education, health care, poverty reduction, profits and benefits of SMEs. These variables are the views and experienced of microfinance beneficiaries gathered through survey data. We have then computed the mean of the seven variables to calculate the combined welfare measure. Thus, the

main objective is to assess whether microfinance improves the overall welfare of the beneficiary clients.

Table 5.6 reports the results of the welfare of the participants after lending. The amount of first loan received has clearly raised the welfare of respondents. It is statistically significant and positive at the 1 percent level, indicating its direct impact on welfare. Loan frequency also illustrates a positive impact on welfare measure, which suggests those clients taken the loan more than once experience an improved welfare. It is a highly significant coefficient, indicating the more an individual access on microfinance, the more their welfare improves.

Table 5.6 Results of the Regression Analysis of Overall Welfare

Dependent variable: Welfare

Heteroscedasticity-robust standard errors

Independent variables	β	*t*	*p-value*
Constant	2.46517**	5.279	<0.0001
Age of respondents	−0.0138674	−0.3275	0.7435
Education dummy (post secondary=1 and secondary and below secondary=0)	0.000905648	0.01296	0.9897
Gender dummy (male=1 and female=0)	0.0517849	0.6877	0.4921
Marital status dummy (single=1, married and divorced=0)	−0.329030**	−3.652	0.0003
Nature of Employment dummy (self-employed=1 and 0 wag-employed)	−0.141248	−1.636	0.1027
Type of employment dummy (retail shop=1, 0 otherwise)	0.0295061	0.4463	0.6557
Number of Employment dummy (Under 5 employees=1 and above 5 employees=0)	−0.194804*	−2.436	0.0153
Loan frequency dummy (two times=1, 0 otherwise)	0.250284**	4.082	<0.0001
Log (the amount of first loan received)	0.279660**	4.888	<0.0001
	R^2=.234435	F=11.48052	Sig=.000

Note: **p<0.01, *p<0.05.

Estimation results in Table 5.6 also show that male respondents do not show a higher improvement on welfare than females do. According to the marital status of the respondents, the welfare of married and divorced beneficiaries improves more than the single beneficiaries. The results also indicate that welfare levels of respondents in the large businesses are significantly higher than those in small businesses are.

5.7 Comparison and Discussion of the Estimation Results

Considering the regression results of the assessment of welfare regression and the Mincer's income model together, both findings indicate that microfinance has a substantially beneficial effect on welfare and earnings. Both models clearly suggest that the beneficiary individuals enhance their income as well as their welfare. The findings also indicate the welfare and income of the participants positively correlates the frequency of microfinance loans. The welfare and the income of the participants that access microcredit loans twice or more are higher than those taking only once. There is no statistically significant difference in welfare and income for self-employed and wage-employed respondents. In addition, respondents owning small and medium-sized businesses with fewer than 5 employees encounter a small change in welfare and earnings relative to those with more than 5 employees. At the same time, both results show that the number of employees in SMEs is statistically significant. Regarding the educational attainment measures, both analyzes reveal that participants with post-secondary education have considerably higher welfare and earnings than those with under-secondary education after involvement in microfinance. However, the income model and the welfare analysis find somewhat different outcomes on the role of microfinance on the type of businesses of the clients even though both estimated coefficients are not statistically significant. Finally, the results confirm that microfinance can be used as a tool to improve the welfare and income of the poor to get out of poverty.

In addition to participants' welfare and income, we also assess the effect of microcredit on other important welfare and poverty reduction factors. The OLS findings in Table 5.3 report that the respondent's standard of living is positively related to microcredit. At the same time, after accessing microfinance programs, respondents experience an enhancement in living standards. As verified by the OLS outcomes in Table 5.4, microfinance also increases access to education for receiving families. In addition, as shown in Table 5.5 of OLS results, access to micro-credit has a positive

effect on health care facilities. Microfinance programs are therefore vital ways of supporting the poor in developing their lives and fighting poverty.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter sums up the key results of the research. It also makes a number of recommendations based on the findings and insights generated by the data analysis on how microfinance and microfinance institutions (MFIs) can improve welfare and reduce poverty among micro-credit beneficiaries. The chapter concludes with a number of closing remarks.

6.2 Conclusions of the Study

Microfinance is a key strategy for the poverty alleviation. One of the fundamental factors contributing to poverty is identified as inadequate access to credit by the poor. Microfinance programs have been successful in adapting to the internal credit markets in Somalia since the last decade. Microfinance institutions have enabled the poor to access to productive capital and therefore contributed to breaking the various circles of poverty caused by low income and low investment.

The major objective of the study is to assess whether microfinance is an initiative strategy to improve welfare and reduce poverty of the poor in Somaliland particularly in Borama city. The study exploits a unique cross-sectional survey to examine the impact of microfinance on income, standard of living, education, and health care services of microcredit beneficiaries. The estimation results confirm that the microfinance institutions are playing a positive role in reducing poverty amongst their members, who in the past had no or little access to credit through financial institutions. The Salaam Financial Service and the Kaaba Microfinance Institution have proven to be a source of income for most of its members who are now benefiting from their programs. Research findings show that microfinance credit programs have contributed positively to improving the living standards of their beneficiaries in terms of increased beneficiary income, access to income-generating activities to support child education, and improving beneficiary access to health care services.

On the other hand, the results of Table 5.2 imply that microfinance loans have the positive impact on the income of beneficiary households. Additionally, most

beneficiary households agreed that their incomes increased after participating in the microcredit programs. At the same time, the results of Table 5.2 also provide the evidence for the hypothesis that income of the beneficiary households has increased after the loan. Likewise, the results of Table 5.3 show that the living standards of micro-credit borrowers is improved after the micro-credit granted to them. The standard of living has risen due to the increase in income that allows beneficiaries to pay for health services and food for themselves and their families. The perception of an increase in the living standards of micro-credit beneficiaries is also attributed to their increased ownership of micro-enterprises. Some borrowers have also improved living conditions by acquiring assets, which contributes to a better quality of life and a dignified standard of living, such as television, land cattle, and so on.

The study also finds that the educational access of beneficiary households has increased due to the microcredit granted to them. According to the results of Table 5.4, there is no statistically significant between the post-secondary education and secondary and pre-secondary education. It can be argued that microcredit programs enable beneficiary households to send their children to local schools using income generated through the small business enterprises established.

The study also reports that microfinance contributed significantly to health improvements for the beneficiary households of the Kaaba Microfinance Institutions and Salaam Financial Services microcredit programs. The results of Table 5.5 show that the health care services of microcredit program beneficiaries have increased due to the microcredit granted to them. This indicates that the beneficiary households managed to pay for medical services at the local clinic due to increased income from small business. Finally, it becomes evident that the provision of MFI services to participants of the Kaaba Microfinance Institutions and Salaam Financial Institutions contributed well to the improvement of their health and education.

The study also finds that microfinance improves the overall welfare of participants as confirmed by the Table 5.6. The amount and frequency of the loans borrowed by clients have a positive impact on their welfare. These results clearly imply that the more clients participate in microfinance programs, the more their welfare improves. Note that the welfare variable is the result of the average of several variables that measure welfare such as income, education, health care, poverty reduction, and

SMEs' profits. Moreover, higher welfare means an increase in income, education, health care, poverty and profits of SMEs of the clients. Thus, this study confirms and supports that microfinance programs can enhance the welfare and reduce poverty.

In summing-up, the research confirms that the microfinance programs have impacted positively in the businesses and the lives of the beneficiaries. It also particularly improves their economic circumstances through access to fundamental life-enhancing facilities and services. Although it might be useful to include education for the credit-taker about how to invest the money in order to make it profitable, as investing in non-profit activities may have the opposite result and put people further towards poverty by pushing them in more debt. This also demonstrates that access to credit alone cannot keep increasing the reduction of poverty. A wider range of support services such as improvements in physical infrastructure, health care, education, and skills training are required to help the poorest out of poverty.

6.3 Recommendations

The Salaam Financial Services and the K-MFI, despite their limitations, provide financial services contributing to poverty reduction efforts for the poor. However, if the poor had access to financial services with a form of economic relief or financial services without the support of physical collateral, they would be able to develop and restore their economic and financial status.

Based on the empirical findings and secondary data provided us by K-MFI as well as the reviewing literature, we put forward the following recommendations:

- Since male micro-credit involvement is greater than female, K-MFI and Salaam Financial Services should establish procedures, policies and products to enhance the participation of both men and women in their various programs in order to achieve gender responsiveness and equity.
- K-MFI and Salaam Financial Services should enhance their institutional capacity and seek membership in effective international microfinance networks to work closely on issues of common interest.
- MFIs should provide their customers with occasional entrepreneurial training and education programs to improve entrepreneurial skills of their customers.
- Government incentives should be provided to support MFIs in order to extend their services further to rural areas.

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AUTOBIOGRAPHY

Ahmed Moumin Hussein was born in July 1990 in Somalia. He studied his primary, intermediate and secondary school in Borama city. He earned his bachelor's degree from Amoud University, Economics Department. He is currently completing his master degree at Gebze Technical University in Turkey.

APPENDIX TABLE A1:

The extended results of Regression Analysis of Mincer's Income Model in Table 5.2

Dependent Variable: Log (Monthly Income)
Heteroscedasticity-Robust Standard Errors

	Coefficient	***t-ratio***	***p-value***
Constant	4.31837	12.72	<0.0001
Age	0.0555680	1.803	0.0723
Education dummy 1 (1=primary education, 0 = otherwise)	−0.00901742	−0.07295	0.9419
Education dummy 2 (1= Intermediate, 0=otherwise)	1.34655e-05	0.0002394	0.9998
Education dummy 3 (1 = Postsecondary, 0 = Otherwise)	0.0374563	0.5837	0.5598
Gender dummy (1= Male, 0 = female)	0.0391515	0.7401	0.4597
Marital Status dummy 1 (1 = married, 0 = otherwise)	−0.0202742	−0.3108	0.7561
Marital Status dummy 2 (1 = divorced, 0= Otherwise)	−0.145187	−1.580	0.1149
Employment type dummy (1= Self-employed, 0 = wage employed)	−0.0767073	−1.590	0.1127
Business activity dummy (boutique =1, 0= otherwise)	−0.00857757	−0.1437	0.8858
Business activity dummy (building material=1, 0= otherwise)	−0.0162227	−0.2544	0.7993
Business activity dummy 1 (1 = electronics, 0 = Otherwise)	0.217629	2.013	0.0449
Business activity dummy 2 (1= Home decoration, 0= Otherwise)	0.00202654	0.02236	0.9822
Business activity dummy 3 (1= remaining business, 0= otherwise)	0.0277472	0.4398	0.6604
Number of employment dummy (1= below 5 employee, 0= above 5 employee)	−0.719010	−8.716	<0.0001

Loan frequency dummy 1 (1= once, 0= Otherwise)	0.343686	5.016	<0.0001
Loan frequency dummy 2 (1= three times, 0= otherwise)	0.217414	1.141	0.2548
Log (loan received)	0.363634	8.370	<0.0001

Mean dependent var	6.436145	S.D. dependent var	0.541112
Sum squared resid	48.45894	S.E. of regression	0.366890
R-squared	0.561006	Adjusted R-squared	0.540275
F (17, 360)	24.96802	P-value(F)	9.34e-51
Log-likelihood	−148.1193	Akaike criterion	332.2385
Schwarz criterion	403.0666	Hannan-Quinn	360.3491

APPENDIX TABLE A2:

Extended results of Standard of Living Regression Analysis in Table 5.3

Dependent Variable: Standard of Living
Heteroscedasticity-Robust Standard Errors

	Coefficient	***t-ratio***	***p-value***
Constant	2.89734	5.106	<0.0001
Age	0.0421084	0.6832	0.4949
Education dummy 1 (1=primary education, 0 = otherwise)	0.0970014	0.6362	0.5251
Education dummy 2 (1= Intermediate, 0=otherwise)	0.143954	1.258	0.2091
Education dummy 3 (1 = Postsecondary, 0 = Otherwise)	−0.114650	−0.9432	0.3462
Gender dummy (1= Male, 0 = female)	−0.131094	−1.181	0.2382
Marital Status dummy 1 (1 = married, 0 = otherwise)	0.546981	4.364	<0.0001
Marital Status dummy 2 (1 = divorced, 0= Otherwise)	0.500693	2.917	0.0038
Employment type dummy (1= Self-employed, 0 = wage employed)	−0.136832	−1.251	0.2117
Business activity dummy (boutique =1, 0= otherwise)	−0.0200590	−0.1266	0.8993
Business activity dummy (building material=1, 0= otherwise)	0.243223	2.799	0.0054
Business activity dummy 1 (1 = electronics, 0 = Otherwise)	0.378478	2.075	0.0387
Business activity dummy 2 (1= Home decoration, 0= Otherwise)	0.305988	2.078	0.0384
Business activity dummy 3 (1= remaining business, 0= otherwise)	−0.0374839	−0.2686	0.7884
Number of employment dummy (1= below 5 employee, 0= above 5 employee)	−0.237900	−2.342	0.0197
Loan frequency dummy 1 (1= once,	0.236303	2.592	0.0099

0= Otherwise)			
Loan frequency dummy 2 (1= three times, 0= otherwise)	−0.279639	−1.992	0.0471
Log (loan received)	0.177740	2.649	0.0084

Mean dependent var	4.378307	S.D. dependent var	0.755005
Sum squared resid	166.3092	S.E. of regression	0.679684
R-squared	0.226116	Adjusted R-squared	0.189572
F (17, 360)	6.693259	P-value(F)	6.12e-14
Log-likelihood	−381.1812	Akaike criterion	798.3624
Schwarz criterion	869.1905	Hannan-Quinn	826.4730

APPENDIX TABLE A3:

The Extended Results of the Education Regression Analysis in Table 5.4

Dependent Variable: Access on Education
Heteroscedasticity-Robust Standard Errors

	Coefficient	***t-ratio***	***p-value***
Constant	2.75787	4.126	<0.0001
Age	0.0718498	1.005	0.3155
Education dummy 1 (1=primary education, 0 = otherwise)	0.150699	0.8403	0.4013
Education dummy 2 (1= Intermediate, 0=otherwise)	0.259113	2.037	0.0423
Education dummy 3 (1 = Postsecondary, 0 = Otherwise)	0.142726	0.9868	0.3244
Gender dummy (1= Male, 0 = female)	0.133137	1.068	0.2861
Marital Status dummy 1 (1 = married, 0 = otherwise)	0.390641	2.760	0.0061
Marital Status dummy 2 (1 = divorced, 0= Otherwise)	0.302886	1.507	0.1327
Employment type dummy (1= Self-employed, 0 = wage employed)	−0.117467	−1.001	0.3176
Business activity dummy (boutique =1, 0= otherwise)	−0.0688209	−0.3949	0.6932
Business activity dummy (building material=1, 0= otherwise)	0.0521273	0.5165	0.6059
Business activity dummy 1 (1 = electronics, 0 = Otherwise)	0.282936	1.499	0.1349
Business activity dummy 2 (1= Home decoration, 0= Otherwise)	0.136118	0.9939	0.3210
Business activity dummy 3 (1= remaining business, 0= otherwise)	−0.155191	−1.021	0.3080
Number of employment dummy (1= below 5 employee, 0= above 5 employee)	0.0964294	0.8736	0.3829
Loan frequency dummy 1 (1= once, 0= Otherwise)	0.128436	1.495	0.1359

Loan frequency dummy 2 (1= three times, 0= otherwise)	0.00844814	0.03534	0.9718
Log (loan received)	0.151016	1.887	0.0599

Mean dependent var	4.582011	S.D. dependent var	0.767299
Sum squared resid	194.1499	S.E. of regression	0.734374
R-squared	0.125284	Adjusted R-squared	0.083978
F (17, 360)	1.887064	P-value(F)	0.018033
Log-likelihood	−410.4349	Akaike criterion	856.8699
Schwarz criterion	927.6980	Hannan-Quinn	884.9804

APPENDIX TABLE A4:

The extended Results of the Health Regression Analysis in Table 5.5

Dependent Variable: Access on Health care service
Heteroscedasticity-Robust Standard Errors

	Coefficient	***t-ratio***	***p-value***
Constant	2.29058	4.279	<0.0001
Age	−0.0424096	−0.8718	0.3839
Education dummy 1 (1=primary education, 0 = otherwise)	−0.0593797	−0.2918	0.7706
Education dummy 2 (1= Intermediate, 0=otherwise)	0.180898	2.129	0.0340
Education dummy 3 (1 = Postsecondary, 0 = Otherwise)	0.0449223	0.4614	0.6448
Gender dummy (1= Male, 0 = female)	−0.125491	−1.429	0.1538
Marital Status dummy 1 (1 = married, 0 = otherwise)	0.380309	3.726	0.0002
Marital Status dummy 2 (1 = divorced, 0= Otherwise)	0.314968	2.550	0.0112
Employment type dummy (1= Self-employed, 0 = wage employed)	−0.161221	−1.789	0.0744
Business activity dummy (boutique =1, 0= otherwise)	0.00710729	0.05593	0.9554
Business activity dummy (building material=1, 0= otherwise)	0.0518764	0.6135	0.5399
Business activity dummy 1 (1 = electronics, 0 = Otherwise)	0.342808	2.876	0.0043
Business activity dummy 2 (1= Home decoration, 0= Otherwise)	−0.0177519	−0.1354	0.8924
Business activity dummy 3 (1= remaining business, 0= otherwise)	−0.0839165	−0.6164	0.5380
Number of employment dummy (1= below 5 employee, 0= above 5 employee)	−0.410875	−4.036	<0.0001
Loan frequency dummy 1 (1= once, 0= Otherwise)	0.257684	2.965	0.0032

Loan frequency dummy 2 (1= three times, 0= otherwise)	0.167011	0.8390	0.4020
Log (loan received)	0.301246	4.507	<0.0001

Mean dependent var	4.177249	S.D. dependent var	0.665808
Sum squared resid	123.5032	S.E. of regression	0.585717
R-squared	0.261010	Adjusted R-squared	0.226113
F(17, 360)	8.180322	P-value(F)	1.57e-17
Log-likelihood	−324.9382	Akaike criterion	685.8765
Schwarz criterion	756.7046	Hannan-Quinn	713.9870

APPENDIX TABLE A5:

The Extended results of the Regression Analysis of Welfare in Table 5.6

Dependent variable: Welfare
Heteroscedasticity-robust standard errors

	Coefficient	***t-ratio***	***p-value***
Constant	2.10855	4.564	<0.0001
Age	−0.000312245	−0.006807	0.9946
Education dummy 1 (1=primary education, 0 = otherwise)	−0.0331127	−0.2597	0.7953
Education dummy 2 (1= Intermediate, 0=otherwise)	0.115914	1.378	0.1690
Education dummy 3 (1 = Postsecondary, 0 = Otherwise)	0.0423557	0.4406	0.6598
Gender dummy (1= Male, 0 = female)	0.0241459	0.2783	0.7810
Marital Status dummy 1 (1 = married, 0 = otherwise)	0.329820	3.568	0.0004
Marital Status dummy 2 (1 = divorced, 0= Otherwise)	0.295769	2.280	0.0232
Employment type dummy (1= Self-employed, 0 = wage employed)	−0.128505	−1.479	0.1401
Business activity dummy (boutique =1, 0= otherwise)	−0.0901712	−0.7442	0.4573
Business activity dummy (building material=1, 0= otherwise)	0.0296711	0.4196	0.6750
Business activity dummy 1 (1 = electronics, 0 = Otherwise)	0.203608	1.778	0.0763
Business activity dummy 2 (1= Home decoration, 0= Otherwise)	0.0875403	0.8172	0.4143
Business activity dummy 3 (1= remaining business, 0= otherwise)	−0.0857837	−0.7707	0.4414
Number of employment dummy (1= below 5 employee, 0= above 5 employee)	−0.208883	−2.498	0.0129

Loan frequency dummy 1 (1= once, 0= Otherwise)	0.255712	4.067	<0.0001
Loan frequency dummy 2 (1= three times, 0= otherwise)	−0.0844110	−0.5185	0.6044
Log (loan received)	0.276225	4.831	<0.0001

Mean dependent var	4.156085	S.D. dependent var	0.583881
Sum squared resid	96.02102	S.E. of regression	0.516454
R-squared	0.252904	Adjusted R-squared	0.217625
F (17, 360)	6.722679	P-value(F)	5.18e-14
Log-likelihood	−277.3669	Akaike criterion	590.7339
Schwarz criterion	661.5620	Hannan-Quinn	618.8445

APPENDIX B:

QUESTIONNAIRE ON:

MICROFINANCE AS KEY TO POVERTY REDUCTION: THE CASE OF BORAMA CITY IN SOMALILAND. MICROFINANCE INSTITUTION'S CUSTOMERS.

II. Personal Data

Please answer the following questions as objectively as you can by ticking the answer which you consider appropriate among the alternatives provided.

a) Age:

18 – 25 □ 26 – 35 □ 36 – 45 □ Above 45 □

b) Sex:

Male □ Female □

c) Educational Background:

No formal Education □ Elementary Education □ Secondary Education □ Bachelor's Degree□ Master Degree □ PhD □ Others/Specify □

d) Marital Status:

Single □ Married □ Divorced □

e) What type of employer are you?

Self-employed □ wage employed □

f) Nature of Occupation/Business Activities:

Boutique □ Home decoration □ Retail shop □ Building Material □ Electronics □ Pharmacy □Others □

g) Which area does your business operate?

Urban □ Rural □

h) Size of Enterprise – Number of employees:

Under 5 □ Under 10 □ 10 and above □

i) Length of Service:

1 – 5years □ Over 5years □

II. General.

Please indicate your answer by ticking one of the options provided to the following:

1. How many times have you taken microfinance(loan)?

   One time □ two times □ three times □ four times □ more than four times □

2. How much did you take as a first loan?

   ……..

3. What is your monthly income? (in US dollars)

   …….

4. Which type of Microfinance Institution did you take from the loan?

   Salaam Financial Services □ Kaaba Microfinance Institution (K-MFI) □

5. Do you agree that your income has increased after the period when you were given funds by your Microfinance Institution?

   Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

6. Can you say that the loan you obtained from Microfinance Institution has raised the standard of living in your family?

   Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

7. Do you agree that after you have received the loan, you can have better access to healthcare?

   Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

8. Do you agree that after you have received a loan from Microfinance institution that you or your family has a better access to education?

   Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

9. Do you agree that many microfinance customers have obtained financial assistance from their Microfinance Institutions to start small businesses?

   Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

10. It is possible to obtain startup funding from microfinance institutions by low income groups?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

11. Do you think that the mark-up based on Islamic finance charged by the microfinance institutions are too high for their loans?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

12. Do you think that financial assistance received from microfinance institutions is helpful to run the business and improved wellbeing?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

13. Is it easier to obtain loans from Microfinance Institutions if customers belong to Groups, in which case, a borrower is guaranteed by the other members of the Group?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

14. Do you agree that staff of Microfinance Institutions will perform their functions better if they undergo training from time to time?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

15. Do you agree that more Microfinance Institutions should be established in the rural areas?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

16. Do you think many customers of microfinance institutions have been refused loan because they have no collaterals?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

17. Are you aware that some banks have to write off loans given to some customers because they fail to repay?

    Yes □ No □

18. The introduction of microfinance in Somaliland has reduced the poverty level in the nation, do you agree?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

19. In your opinion do customers of Microfinance Institutions repay loans promptly?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

20. Should Microfinance Institutions provide loans to the poor people only?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

21. To what extent do you believe that SMEs have benefited from the services of microfinance in Somaliland?

    Very Substantially □ Substantial □ Undecided □ Averagely □ Poorly □

22. Can you compare your profit profile before and after the period when you were given funds by your Microfinance Institution?

Very low□ Low □ Undecided□ High □ Very High □

23. Would you say that your general attitude towards Islamic Microfinance is positive?

    Strongly Disagree □ Disagree □ Undecided□ Agree □ Strongly Agree □

24. What type of Islamic loans you have taken from the Microfinance?

    Musharaka □ Murabaha □Mudaraba □ Qardul-Hassan □ Ijarah □