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SCHOOL OF GRADUATE STUDIES

**THE EFFECT OF SOCIAL PERFORMANCE ON FINANCIAL
PERFORMANCE OF MICROFINANCE INSTITUTIONS:
EVIDENCE FROM ETHIOPIA**

**BY
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FACULTY OF BUSINESS

**The Effect of Social Performance on Financial Performance of
Microfinance Institutions: Evidence from Ethiopia**

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Declaration

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Abebaw Kassie (PhD). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Anteneh Kifle**Signature****St. Mary's University, Addis Ababa****February, 2020**

Endorsement

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor. Abebaw Kassie (PhD).

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ABSTRACT

This paper aims to identify the effect of social performance on financial performance in the Ethiopian Microfinance Institutions (MFIs). The study conducted using quantitative data from a sample of 20 MFIs to empirically analyze the effect of social performance on financial performance in the Ethiopian MFIs. To the analysis secondary data collected from the Association of Ethiopian Microfinance Institutions annual financial performance bulletin from 2009 to 2018. To the data analysis both descriptive and random effect panel data analysis are employed. The Ethiopian MFIs were achieving a significant growth in operational self-sufficiency, return on asset, asset value, outstanding loan and savings in that period. The econometric result show both positive and negative significant and insignificant effect of social performances on financial performances among Ethiopian MFIs. In number of borrowers and loan portfolio social performances have positive and significant effect on financial performance among Ethiopian MFIs. In loan amount social performance have negative and significant effect on financial performance among Ethiopian MFIs. Saving amount and percentage of women borrower have no significant influence on operational self-sufficiency and percentage of women borrowers has no significance influence on return on asset. Therefore, MFIs can achieve financial objective while serving low income people. By this fact MFIs should focuses on efficient utilization of asset and other resource so that to be financially sustainable while serving low income peoples.

Keywords: Financial Performance, Microfinance Institutions and Social Performance

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List of Acronyms and Abbreviations

ACSI - Amhara Credit and Saving Institution
ADCSI - Addis Credit and Saving Institution
AEMFI - Association of Ethiopian Microfinance Institutions
AVFS - Africa village Financial Services
CGAP – Consultancy Group to assist the Poor
DECSI - Dedebit Credit and Saving Institution
MFIs - Microfinance institutions (MFIs)
MIX - Microfinance Information Exchange
MoFED - Ministry of Finance and Economic Development
NGOs – Non Governmental Organizations
OCSSCo - Oromia Credit and Saving Share Company
OSS - Operational Self-Sufficiency
PaR - Portfolio at Risk
ROA - Return on Asset
SFPI - Specials Financial Provider Institution
SPA - Social Performance Assessment
SPM - Social Performance Tools

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Lack of access to financial services may have adverse consequences for the poor seeking to escape poverty. To fill the gap between the supply and demand for financial services in the formal financial sector constitutes a major challenge. This gap has arisen not because of the shortage of funds in the formal financial sector but because lending to the poor results in high transaction costs, moral hazards and high risk (Stiglitz & Weiss, 1981). In several developing economies, governments have intervened with microfinance to minimize this gap by using innovative new contracts to cater to under-served people (Armendáriz de Aghion & Morduch, 2004).

The idea of Microfinance started after the concept of microcredit of Grameen Bank initiated by Muhammad Yunus successfully brought financial services to poor women in Bangladesh (Yunus and Weber, 2007). Microfinance institutions (MFIs) are provider credit to less advantaged people who seek small amounts of money with little or no assets to offer as collateral (Hermes and Lensink, 2007). The microcredit of Microfinance is to avoid informal sector finance to the poor or low income people. Microfinance in developing countries or low income countries is the most important tools to help and solve financial problem of the poor (Guntz, 2011).

In the recent time MFIs are not only providing credit but also MFIs are providing a range of financial products such as savings; money transfers; insurance services, and financial education (CGAP, 2012). Considered as a financial service provider for poor people, MFIs help poor or low income people to alleviate risks, build assets, create and improve incomes, and furthermore contribute to the development of the local communities (Cull et al., 2009).

The establishment of MFIs in Ethiopia related with Proclamation No. 40/1996. Proclamation No. 40/1996 was the first and major law used to regulate and supervise MFIs until its replacement in 2009. The Ethiopian MFIs are also providing all the financial and non-financial service of MFIs all over the world.

However, MFIs have unique behavior, they are face double challenges. On the one hand they have to meet the financial challenge (financial sustainability) and on the other hand they aim to serve the low income poor peoples (social performances) (Morduch, 1999).

Social performance measure MFI's intentions to have a social impact and proper integration in its environment (Boye et al., 2006). Social performances of MFIs are measured by number of clients/customers, percentage of women borrowers, loan per borrowers, asset per borrowers and capital per borrowers (Hartarska and Nadolnyak, 2007; Hartarska, 2005).

The number of customers indicates the level of social performance as to how microfinance institutions are reaching to the needy poor (see for instances Mersland and Strom, 2009; Luzzi and Weber, 2006). According to Luzzi and Weber (2006) number of customers is a very important indicator to understand the ability of MFIs to penetrate to the poor in its social. The Ethiopian MFIs reached more than 5 million poor peoples in their credit services and more than 6 million poor peoples in their other financial services (AEMFI, 2020).

Women are facing greater difficulty in accessing financial services than men (Navajas, 2000). In this regard, number of women being served is used as a proxy measure to determine whether microfinance institutions are focusing on the real poor. In the Ethiopian MFIs, almost more than 35% of their customers are women. This shows the Ethiopian MFIs are good in achieving social performance in terms of customer bases and percentage of women borrowers.

However, over the past few decades several theoretical frameworks on the relationship between social and financial performance have emerged (Carroll, 1999). Some argue MFIs can achieve their financial objective while serving the poor and the other argue MFIs are not able to achieve

their financial objective while serving the poor. Therefore, the aim of this study was to analyze the effect of social performance on financial performance in the Ethiopian MFIs.

1.2 Statement of the Problem

MFIs face dual objective of providing financial services to the poor (social performances) and attaining financial sustainability. There are two schools of thought concerning the ultimate goal of MFIs: welfarists and institutionalists. Welfarists argue that the essence of establishing MFIs is to serve the poor, and hence, they should focus on social performances, whereas institutionalists reemphasize that MFIs should be financially sustainable (Tsegaye, 2009).

In the existing literature there is a mixed result on the effect of social performance on financial performances of MFIs. Some found social performance of MFIs negatively affects their financial performances. Olivares-Polanco (2005) in the study of the relationship between social performance and financial performance in MFIs found the presence of negative relationship social performance and financial performance in MFIs. Supported by Hermes (2011) ; Hermes (2011) using data from 435 MFIs all over the world in the period 1997-2007 found social performance is negatively affect financial performances of MFIs. Kipsha and Zhang (2013) in the study of the effect of social performances of MFIs in financial performance using unbalanced panel regression analysis model from 47 MFIs in the years 2008 to 2011 from Mix market data found social performance negatively affect financial performers of MFIs.

Other found the absence of relationship between social performance and financial performances of MFIs. For instance chemining'wa (2013) in the study of the effect of social performance on financial performance in the Kenya MFIs in found social performance of MFs have insignificant effect on financial performances of MFIs.

Others found social performances of MFIs positively affect financial performances of MFIs. Woller and Schreiner (2002) found positive relationship between social performance and financial performances in the MFIs sector. Paxton (2002) in the study of the relationship between

social performances and financial performances in 18 MFIs in Africa and Latin America found strong relationship between financial performance and social performances of MFIs.

Cull et al (2007) in the cross sectional study on 124 institutions in 49 countries concluded that there is possibility of increasing yield while maintaining repayment rates and thereby meeting both the social mission and viability given that the clients are economically active poor. In the study of the effect of social performance on financial performance of MFIs by utilizing data from 702 MFIs (from Mix Market data) operating in 83 countries Quayes (2012) found empirical evidence that shows positive effect of social performances on financial performances of MFIs.

However, in Ethiopia, the effect of social performance and financial performance in MFIs is not yet studied enough; there are few studies on the area of performance of microfinance institutions and determinants of MFIs financial sustainability.

Befkadu (2007) found the absence of relationship between social performance and financial performances in the Ethiopian MFIs. In the study of the relationship between social performance and financial performance of Ethiopian MFIs Abiyot (2015) concluded social performance and financial are complimentary. However, Abiyot (2015) studies focus on a single performance indicator of MFIs.

This study is therefore; aim to identify the effect of social performance on financial performances in the Ethiopian MFIs.

1.3 Research Objective

1.3.1 General objective

The general objective of the study is to identify the effect of social performance on financial performance in the Ethiopian MFIs.

1.3.2 Specific objectives of the study

Specifically, the study tries to address the following key research objectives:

1. Analyze the effect of percentage of women borrower (depth of outreach) on financial performance of MFIs
2. Analyze the effect of saving per borrowers on financial performance of MFIs
3. Analyze the effect of loan portfolio per borrowers on financial performance of MFIs
4. Analyze the effect of number of active borrow on financial performance of MFIs
5. Analyze the effect of asset size on financial performance of MFIs

1.4 Hypothesis of the Study

There is an ongoing theoretical debate between welfarits and institutionalist comp on the relationship between social performance and financial performance sustainability of MFIs. Based on these debates, the following theoretical hypotheses are tested empirically by using ten years data (2009-2018) from Ethiopian MFIs.

H1. There is significant positive effect of increases number of active borrowers (breadth of outreach) on financial performance.

H2. There is significant positive effect of increases women borrower (depth of outreach) on financial performance.

H3. There is significant positive effect of increase borrower saving amount on financial performance.

H4. There is significant positive effect of increase borrower average loan amount on financial performance.

H5. There is significant positive effect of increase asset size of MFIs on financial performance.

1.5 Significance of the Study

The study has the potential to contribute towards building understanding whether social performance and financial performance are mutually inclusive or exclusive. It can help National Bank of Ethiopia as a regulatory body to develop rule and regulation on MFIs, in the role of MFIs to serve the poor and financial success of MFIs. The Association of Ethiopian

Microfinance Institutions (AEMFI) can use the document to develop appropriate training and advocacy manual to improve microfinance staff and encourage investors to invest in microfinance sector. Help microfinance board and management to develop clear strategy plan which make profitable and sustain MFIs without affecting their social objective.

1.6 Scope of the Study

The study limited to scan the effect of social performance on financial performance of MFIs in Ethiopia. Social performance variables: Outreach breadth (active borrowers), outreach depth (women borrowers), saving amount per borrowers and loan amount per borrowers versus financial performance indicators like: return on Assets (ROA), operational self-sufficiency (OSS) and portfolio quality PaR > 30 days; these variables are selected by the availability of data and most of the time they are used as a proxy to social performance and financial performance in MFIs. There are 40MFIs in Ethiopia which are considered as a target population of this study. The sample size for this study is 20 MFIs which, is 50% (20/40) of the total MFIs and study period covered to the study is 2009-2018 because of most MFIs join the industry with this period so it helped to show the true figures of social and financial performance s of the MFIs.

1.7 Organization of the Study

The study has five chapters. The first chapter is introduction, which include back ground of the study, statement of the problem objective and scope of the study. The second chapter is literature review. The third chapter is about methodology of the study. The fourth and fifth chapter is result and discussion and conclusions and recommendations respectively.

CHAPTER TWO

LITERATURE REVIEW

This chapter contains the literature reviewed related with financial performance and social performance in the microfinance industry. The first section is about the history of microfinance, which includes the issue how the MFIs started to where they are reached now. The second section is about social and financial performance of MFIs; the section in detail explain the welfare and institutionalist approach, the definition of social and financial performance in MFIs and the relation between social and financial performances in MFIs. Then detail review of undergone with the issues of the effect of social performances on financial performances in MFIs. The final section of this chapter is conceptual framework of the study.

2.1. Overview

Historically, there were many significant reasons for introducing microfinance in the first place. About 90 percent of the people in developing countries have no access to institutional financial services (Robinson, 2001). For that reason, poor become poor day by day though they are ready to do hard work for their better life (Thurman, 2007). Microfinance programs reach 154 million people in all sorts of countries and environments. 110 million of these clients are women and 107 million are considered “poorest clients”, according to the report of the Microcredit Summit Campaign (Daley-Harris, 2009). The two most important objectives for microfinance institutions to be successful are financial sustainability and substantial outreach to the target population (Yeron 1995).

Microfinance started by Muhammad Yunus, who pioneered the idea of microcredit, the Grameen Bank concept has successfully brought financial services to poor women in Bangladesh as a solution to poverty in the developing world. This new way of doing business secures finance from public and private sector investors, lenders and donors to solve developing country

problems such as employment, health and education. The concept has helped to create entrepreneurs who work to improve living standards (Yunus& Weber, 2007). Nearly 70 million low-income individuals throughout the world are served by MFIs (Daley-Harris, 2006). It is estimated that in 2007 there was a total of around 10,000 MFIs in the world (Ming-Yee, 2007), serving over 113 million clients. MFIs are seen to play a significant role in eradicating poverty in developing nations around the world (Caudill, Gropper, &Hartarska, 2009).

According to Grameen's foundation, microfinance is sometimes called the 'banking for the poor'. 'Microfinance is an amazingly simple approach that has been proven to empower very poor people around the world to pull themselves out of poverty. A key to microfinance is the recycling of loans. As each loan is usually repaid within six months to a year the money is recycled as another loan, thus multiplying the value of each dollar in defeating global poverty, and changing lives of communities (Grameen Trust, 1995).

The lack of access to financial services may have adverse consequences for the poor seeking to escape poverty. To fill the gap between the supply and demand for financial services in the formal financial sector constitutes a major challenge. This gap has arisen not because of the shortage of funds in the formal financial sector but because lending to the poor results in high transaction costs, moral hazards and high risk (Stiglitz& Weiss, 1981). In several developing economies, governments have intervened with microfinance to minimize this gap by using innovative new contracts to cater to under-served people (Armendáriz de Aghion&Morduch, 2004). The microfinance industry serves as an important provider of credit to less advantaged people who seek small amounts of money with little or no assets to offer as collateral. Recent public media have commented extensively on microfinance as an important instrument to combat extreme poverty in some nations (Hermes &Lensink, 2007).

Even though evidence shows that more developed financial services reduce the poverty level and income disparity in a nation, such services are not available on an equal basis, especially in developing countries (Claessens, 2006). Millions of people live without access to financial services and the demand for them far exceeds the currently available supply. According to Sinclair (2012), this gap is called the "missing middle." Even though evidence shows the

significance of financial development for a country, most of the formal banking sector and capital market systems in developing countries focus on people who are already wealthier and better established (Daley-Harris, 2006; Wang, 2007). Among the financial services available in developing countries, the formal banking sector serves only around 20 per cent of the population (Berenbach& Churchill, 1997; Robinson, 2001).

In literature, there are two schools of thoughts to evaluate MFI mission. Researchers have discussed both a welfarist approach to microfinance and an institutionalist approach. The welfarist evaluates MFI's success by values like poverty reduction and credit penetration (Gutiérrez-Nieto, Serrano-Cinca, & Mar Molinero, 2009; Hartarska& Denis, 2008), while the institutionalists measure on the basis of sustainability and profitability (Cull, Demirguc-Kunt, &Morduch, 2008; Nawaz, 2010). Most recent studies have tried to address both schools of thought and present outcomes in light of both financial and social (welfare) findings.

2.1.1. Microfinance in Ethiopia

The establishment of MFIs in Ethiopia related with Proclamation No. 40/1996. Proclamation No. 40/1996 was the first and major law used to regulate and supervise MFIs until its replacement in 2009. Proclamation No. 40/1996 was replaced by a relatively stronger Proclamation No. 626/2009 that focuses institutionalized financial discipline, prudent lending and transparency of MFIs. The proclamations empowered NBE to license, supervise and regulate the delivery of financial services to the excluded population through MFIs. The proclamation allows MFIs to mobilize public savings, provide credit and other financial services. To support the proclamations, NBE set 20 directives to MFIs as the basis for prudential regulation, good governance and prudent lending of MFIs.

As of September 2020 there are 40 MFIs in Ethiopia registered at the National Bank of Ethiopia (NBE). Since their introduction 1996 with proclamation No.40/1996 MFIs in Ethiopia registered a remarkable growth in terms of outreach and performance. As of September 2020, MFIs have above 5.1 million active borrowers with an outstanding loan portfolio of about Birr 43 billion.

The 40 microfinance institutions mobilized about 28.9 billion Birr of savings. Moreover, about 45 percent of the clients of the MFIs are female.

Although loan and saving products are the dominant financial products, some have also introduced micro-insurance, leasing, money transfer and managing pension funds on behalf of the Social Security Authority. MFIs in Ethiopia provide a variety of loan products which can be broadly categorized into agricultural loans, micro-business loans, micro and small enterprise loans (micro-bank loans), employee loans, package loans (food security loans), and housing loans. Many of the loans are group loans followed by individual loans and cooperative loans. Recently MFIs have started introducing individual lending methodology to MSE operators that needs larger loans (above 5,000 Birr). Although the frequency of repayment for business loans is usually on monthly basis, the agricultural loans in many of the MFIs are end-term loans which are paid at the end of the loan period. However, interest is paid mostly on monthly and in some cases on weekly basis.

All MFIs provide both types of saving product such as compulsory saving products to promote saving culture and serve them as cash collateral for the group loans. Voluntary savings are for both clients and non-clients. The voluntary savings of Ethiopian MFIs include: pass book saving, time deposit, regular saving, joint account, minor account, institutional saving and demand deposit.

Considering the potential demand, particularly in rural areas, MFIs in Ethiopia only satisfies an insignificant proportion of the population. In 2018, the 28 MFIs in Ethiopia delivered loans to 5.1 million clients. The three largest MFIs; namely OMO (29.12%), ACSI (26.57%) and OCSSCO (19.41%) accounted for 75% of all borrowers. The largest five MFIs (ACSI, OCSSCO, DECSI, AdCSI and Omo MFI) accounted for 87.57% of total clients, while the remaining 23 MFIs accounted only for 12.43 % of the total borrowers (AEMFI Bulletin, 2019). There are several reasons to MFIs for serving only small portion of the rural poor population such as rural poor people are dispersed populated and they have low educational levels. Another issue that makes difficult to serve the rural poor through traditional banking is that the poor does not have any assets to use as collateral.

The sole strategic plan of MFIs in Ethiopia is their double bottom line (the social and business objectives that they seek to achieve). Many of the MFIs in Ethiopia have been successful in establishing financial performance management system that track financial and institutional sustainability, profitability and growth through systemic bookkeeping and accounting system, good governance, internal control systems, and management information system (MIS). On the other hand, since the MFIs in the country are allowed by law to mobilize public savings from day one of their registration the NBE started to strengthen regulatory and supervisory role to performance and started collecting and publishing financial performance reports on regular basis. All these have forced MFIs in Ethiopia to balance the social and financial objectives. However, MFIs did not assess, monitor and manage the progresses in achieving their social objectives (Wolday 2008).

2.1.2. Concept of Social Performance

Social performance reflects a measure of the MFI's intentions to have a social impact and proper integration in its environment (Boye et al., 2006). It clarifies the objective of the struggle against poverty for a microfinance institution. With the absence of harmonized and standard indicators worldwide, proxies are employed, which essentially measure the social impact in terms of degree or scope (Adair & Berguiga, 2010). "The number of customers" is used as a measure of the scale of outreach of an MFI services in several studies (Mersland & Strom, 2009; Luzzi & Weber, 2006). In addition, Hartarska and Nadolnyak (2007) and Hartarska (2005) used "the logarithm of the number of active borrowers".

The effective translation of an institution's social mission into practice in line with accepted social values. This notion of social performance ("do good"), goes beyond the concept of client protection and social responsibility ("do no harm"). Social responsibility applies to all economic sectors and refers to an organization's responsibility for the impact of its decisions and activities on society and the environment through transparent and ethical behavior MFI (Hashemi, 2007).

Social objectives of microfinance are defined as "the effective translation of an institution's social goals into practice in line with accepted social values; these include sustainably serving

increasing number of poor people, improving the quality and appropriateness of financial services and improving the economic and social conditions of clients”. Social performance is being measured by using some variables as proxies like number of borrowers, average loan size, percentage of female borrowers, etc. A properly designed and well maintained social performance management (SPM) system benefits the MFIs in various ways. It directly helps the MFIs to balance between the financial and social objectives of the institutions. It also helps the MFIs to improve the products services and outreach. SPM helps the clients to get better services in a transparent manner (Murdoch 2000).

Most MFIs have a social mission, such as reducing poverty, increasing female autonomy, or stimulating small businesses, which is always related with improving the quality of life of the poor (Serrano-Cinca and Gutierrez-Nieto, 2014). Due to the social appeal that microfinance can have many MFIs have access to lines of credit with more attractive interest rates, subsidies, and donations from people and institutions (Hermes and Lansink, 2011). The social performance indicators enable it to be verified whether the MFIs are really providing improvements in the quality of life of the customers and communities they serve. A positive result in the social performance indicators also gives the MFI credibility in the microfinance market and among investors in order for it to continue receiving resources (Schicks, 2014).

The Social performance tools (SPM) tool mainly builds upon financial and client information which MFIs regularly collect and uses it as proxies for the social performance assessment (SPA). The SPA tool includes a scorecard with a set of indicators monitoring six dimensions of outreach: breadth, depth, length, scope, cost, and worth of outreach to clients and the community: Breadth of outreach includes the number of borrowers, the percentage of clients with non-enterprise loans, and voluntary savers as a percentage of borrowers, Depth of outreach measures average loan size, percentage of female clients, and percentage of rural clients, Scope of outreach includes the number of distinct enterprise loan products, number of other financial services, the type of savings offered, and the percentage of clients with three or more products or services., Cost of outreach calculates the financial costs in providing services, including number of days taken to process loans and number of staff visits, Worth of outreach measures client

retention rate, loan loss rate, and portfolio growth that can be attributed to clients (Consultancy group assisting the poor 2006).

Outreach is a very important indicator to understand the ability of microfinance institutions to penetrate to the poor its social performance. Microfinance institutions contribution on the overall poverty reduction can be seen from the perspective of the scope of outreach by measuring the number of poor clients they have reached. In this regard, this section analyzes the number of active of borrowers being served by MFIs, percentage share of women borrowers, the total volume and growth of outstanding loan, the size and growth trends of average loan size per borrower and deposit mobilization capacity and trend of microfinance institutions selected for the study.

- **Number of Active Borrowers**

As a measure of outreach, number of active borrowers indicates the level of performance as to how microfinance institutions are reaching to the needy poor. In Ethiopia, it is estimated that 13 million poor people needed to get access to microcredit service (MoFED, 2010).

- **Women borrowers**

There are literature evidences that women are facing greater difficulty in accessing financial services than men. In this regard, number of women being served is used as a proxy measure to determine whether microfinance institutions are focusing on the real poor. For that, number of women borrowers being served can be used as an indicator of targeting the poorest (Navajas, 2000).

- **MFI age**

Here is a thought that as MFIs mature, and thus acquire experience in their sector; they increase their likelihood of attaining financial sustainability. This can be explained by the fact that MFIs gradually improve their control over all operations related to issuance of microcredit. In other

case, MFIs that have considerable experience in the microfinance sector have diligently applied credit risk management and general efficient management techniques to attain financial sustainability (Ayayi, 2010). The age refers to the period that an MFI has been in operation since its initial inception. Studies indicate that the MFIs age relates to the financial performance. Jorgensen, (2011) states that Age, is grouping by new (1 to 4 years), young (5-8 years) or mature (more than 8 years). The number of years is calculated as the difference between the year they started their microfinance operations and the year of data submitted by the institutions.

- **Saving**

Savings collection performance indicates how much the poor are accumulating assets as the result of participating in the program and an important indicator of microfinance impact on poverty reduction (Ledgerwood, 2002). Various studies indicate that the old notion saying “the poor have nothing to save” is not right and many MFIs in the world including Grameen Bank has shown that the poor can save if access to the service is granted. Savings can help households to build up assets to use as collateral, it can also help them better smooth seasonal consumption needs, finance their regular expenditures and self-insure against major shocks such as crop failure, old age, disability etc. Research also reveals that the large majority of poor savers lack access to safe and sound institution for depositing their savings. MFIs need to provide micro-saving to enable poor and low-income people to store their money safe and give them the possibility to earn a return on savings (Ledgerwood, 2002).

There are two types of savings as compulsory savings and voluntary savings. The purpose of compulsory savings is to teach the poor how to save and to comply with some financial discipline: Small savings deposits are required each week and more substantial sums are withdrawn in order to refund the loans, a guarantee of loan fund will thus be set up by MFIs. Voluntary savings imply MFIs’ customers that already work and save, so that they require services adjusted to their need: Customers can withdraw deposit funds, on which they often receive interests. The interest rate on these two types of deposits must be such as the gap between this rate and the (debtor) rate on credit is positive and is high enough, in order to cover all expenses and to ensure a margin.

2.1.3. Concept of Financial Performance

MFI's financial performance could be affected by a number of determining factors. In most literatures MFI's profitability is usually expressed as a function of internal and external determinants. Muriu (2011) pointed out that the determinants of MFI's profitability could be divided into internal determinants which are management controllable and the external determinants, beyond the control of management. Empirical literatures in relations to determinants of MFI's financial performance are very limited. Previous studies carried out in the area highly depended upon theory of retail banking financial performance by assuming that MFIs also provide banking services to the poor. Following are elaborations of empirical studies in connection with determinants of MFI's financial performance.

- Financial Profitability

Profitability is the ability of an organization to generate earnings and make a profit and provides an insight into the degree of success of the owners' investments. A company's profitability can be assessed in relation to its level of sales, asset levels (ROA) or invested capital (ROE). Indicators of financial profitability according to Rosenberg (2009) are Return on assets (ROA), reflects that organization's ability to deploy its assets profitably. Return on equity (ROE), measures the returns produced on the owner's investment.

The financial self-sufficiency ratio (FSS) indicates the institution's ability to operate without ongoing subsidy, including soft loans and grants, and operational self-sufficiency (OSS) ratio, indicates the institution's ability to operate without subsidy and without drawing down capital to pay for operating expenses. Unlike the financial self-sufficiency ratio, the OSS is not adjusted.

- Loan Repayment (Portfolio Quality)

Loan repayment defined as "how well is the lender collecting its loan". Loan collection has proved to be a strong proxy for general management competence, long experience with evaluating microfinance projects has shown that very few successful projects have bad

repayment and very unsuccessful projects have good repayment (Rosenberg 2009). Portfolio quality “reflects the risk of loan delinquency and determines future revenue and an institution’s ability to increase outreach and serve existing clients”. The standard international measure of portfolio quality in banking is portfolio at risk (PAR) beyond a specified number of days.

- **Efficiency**

Two main indicators recommended by (CGAP 2006) to measure whether a retail microfinance provider is cost effective are: Operating expense ratio (OER) and cost per client (or loan). Operating Expense Ratio (OER) allows a quick comparison between an MFI’s portfolio yield with its personnel and administrative expenses how much it earns on loan versus how much it spends to make them and monitor them. According to Rosenberg (2009), its substantial drawback is to make an MFI doing small loans look worse than an MFI doing large loans, even if both are efficiently managed. Cost per Client (or loan), shows how much it costs the retail financial service provider to serve each client. Because it does not penalize MFIs making smaller loans, cost per client is a better efficiency ratio for comparing institutions. He added that if one wishes to benchmark an MFI’s cost per client against similar MFIs in other countries, the ratio should be expressed as a percentage of per capita GNI which is used as a rough proxy for local labor costs. Poverty focused MFIs are not avoiding pricing their services so as to cover their costs. MFIs that focus on the very poor and engage in very small transactions particularly tend to set their interest rates relatively high compared to average MFIs they also tend to have the highest staff productivity in their respective regions and delivery techniques and compressed staff pays (Christen, 2000).

2.1.4. Relationship between Social and Financial Performance

Over the past few decades several theoretical frameworks on the relationship between social and financial performance have emerged. In fact, most of them refer to the relationship between social and financial performance, since they are largely based on the concepts of corporate social responsibility (Carroll, 1999). The suggested previous frameworks about the link between social predictors and financial performance are ambiguous; some studies confirm a negative link while

others demonstrate a positive others said no strong relations. Friedman (1962) proposes the trade-off hypothesis indicating that firms have only one social responsibility, which is to increase profits and by increasing social performance, they unnecessarily incur costs and reduce their profitability. This empirical evidence showing a negative link between social and financial performance was also confirmed by Vance (1975) and Bird et al. (2007). While Alkhafaji (1989), Posner and Schmidt (1992) and Preston and O'Bannon (1997) prove the managerial opportunism hypothesis demonstrating the fact that managers will reduce expenditure on social performance when financial performance is strong to maximize personal compensation (which is tied to short term financial performance), thus higher financial performance leads to lower social performance.

There are contradictory viewpoints regarding the pairing of financial performance and social objectives. Some observers suggest an incompatibility, pointing to problems of mission drift experienced by MFIs that pursue profitability by insisting on physical guarantees, increasing loan amounts and targeting the better-off (Christen, 2001). Others emphasize synergy, arguing that social performance improves mutual trust, client participation and satisfaction, which translates into higher repayment rates and lower transaction costs (Lapenu, 2000; Paxton, 2002).

The first economist to focus specifically on the trade-off between financial and social performance of MFIs was Conning (1999). He highlights the special role of microfinance as a tool to increase the access to loans for people who lack high collateral. However, with little collateral, monitoring is of an even higher importance than in traditional financing. Monitoring can reduce moral hazard within the borrower-lender relationship. Examples for the implementation of monitoring are weekly interim repayments, loans of short maturity, and ex-ante screening of the potential client's financial and social situation. However, Conning hypothesizes that the marginal costs of monitoring rise when MFIs intend to reach poorer segments of clients. He claims that empirical evidence supports his hypothesis. However, due to a low availability of data, he only provides descriptive empirical results.

According to Woller and Schreiner (2002) the relationship between depth of outreach and financial performance sustainability is multidimensional. In their study they found that depth of

outreach has a positive relationship with financial self-sustainability. Woller and Schreiners' finding put evidence against a wide spread belief that small loans are highly risky and associated with lower financial performance

2.2. Theories

According to Otero and Rhyne (1994), the future of microfinance lies precisely at the intersection of these two approaches. The welfarist approach and the institutionalist approach do not represent two models of structuring the microfinance but two stages of the development of microfinance. If the welfarist approach can lead to a process immediately by relieving the poorest, only an expansion of sources of financing made possible by the institutionalist approach allows sustainability of MFIs and a real improvement of general well-being. According to Robinson (2001), the approach adopted by the financial system aims at institutional self-reliance. This approach calls for commercial microfinance for the poor with economic activity. She believes that financial institutions, to be sustainable, should seek financial independence and be able to achieve profitability, that is, to bear their loads by applying interest rates in a position to provide sufficient margin. In addition, formal microfinance institutions carry out their duties under the supervision of the supervising bank. The approach to the poor is based on grants as funding sources for loan portfolios of microfinance to the poor.

The Welfarist Approach or the Approach of "Social Welfare" It is also called approach of "directed credit" (Credit Directed Approach). Welfarists perceive microfinance as part of an integrated programme of fight against poverty, vulnerability and improving the welfare of the poor. In addition to providing financial services, this approach favours the granting of nonfinancial services such as training, technical assistance to micro entrepreneurs and literacy.

According to Simon (1993), economic actors do not seek only to maximise financial returns, they also seek to maximise their utility function, which may involve altruistic concerns. It is this vision that prevailed in the 1980s, which resulted in gradual disappearance of many microcredit programmes. Along with these problems of poor financial performance, a revival of economic and financial thinking is characterised by a desire to liberalise financial markets. Faced with this

double evolution, the “welfarist approach” was the subject of much criticism. The aim of evaluating effectiveness of MFI programmes is to measure the impact of microcredit on the lives of the target populations MFIs making poverty-lending have as the focal point of “family.” The welfarists attach particular importance to the depth or extent of poverty and achievement of MFI interventions aims at improving the immediate welfare of clients. However, microfinance is often integrated into a strategy against poverty and vulnerability and improving well-being of the poor (Mayoux 1998). These studies seek to measure the impact of microcredit on the lives of targeted populations, that is, to measure change in terms of well-being and quality of life of beneficiaries. Mayoukou (1997, 2000) suggests that sociological analysis of target groups can provide a better understanding of the risks of failure of an individual by revealing the logic at work in the working groups and processes that lead to building social trust. Indeed, these welfarists focus on poverty levels of clients as well as on the rapid improvement of living conditions of the participants, even with extensive use of subsidies. This welfarist approach, however, resulted in reimbursement rates below 50 per cent and operating costs leading to high failure and disappearance of some MFIs. Although based on logic of subsidies and dependence of the beneficiaries, these MFIs come up against obstacles (problem of viability and sustainability) that can impede their development and their ability to help develop the people they support. Thus, the welfarist approach has been widely criticised because of its subjectivity and cost and methodological difficulties it entails (De Briey 2005).

The Institutional Approach or the Approach of the Financial System Supported by international bodies such as the World Bank and the United Nations, a new approach has emerged: the institutional approach (Institutionalist Approach) or "financial market" (Woller, Dunford and Woodworth 1999). Under this approach, MFIs should not only be able to cover their operational and financial income through their own business but they should also be able to generate profits to ensure their financial viability and sustainability. Indeed, microfinance institutions are capitalist structures like the others, one of whose aims is the search for profitability.

The institutionalists believe that the unique way to reach the vast majority of the poor who lack access to financial services is to increase the microfinance movement through its integration into

the formal financial system. Thus, they seek to register MFIs within a market approach focusing on the will of the establishment of sustainable microfinance systems and on the will of massification of credit (De Briey 2005). Each MFI should seek financial sustainability and maximize its efficiency and productivity. Therefore, sustainability requires financial independence. Indeed, the institutionalists believe in the need for large-scale intervention that requires financial resources beyond what can be provided by donors. But the only way to have the financial resources needed is to use private sources (savings, commercial debt, equity and venture capital). To access, strict management, transparency and efficiency are required, but mostly it takes a profitable institution. Therefore, to achieve financial self-sufficiency, the institutionalists have made substantial efforts to try to design a set of “best practices” which refer to practices that improve efficiency, such as systems management, finance and accounting, marketing, service delivery, etc. The widespread adoption of “best practices” is an essential step to achieve financial self-sufficiency on an industrial scale, access to financial markets, and reach as many customers as possible (Morduch 2000).

The institutionalist approach or sales approach focuses on economic efficiency to generate what would be economic and social development in the long run. The MFI commercial loan targeted at “not-so-poor-as-it” (not-so-poor) can start or expand their micro-enterprise, which ultimately will create employment for the very poor. The IMF puts the commercial promotion of micro enterprises in the centre of its agenda for funding. It contributes to development by improving the economic efficiency of micro-enterprises, which improves the position of the most disadvantaged.

The institutionalist approach considers “one of the primary goals of microfinance is financial deepening, the creation of a separate and viable financial intermediation for the poor, their approach to microfinance is an approach to financial system, in which the future of microfinance is dominated by many institutions working on a large scale, in search of profits who provide quality financial services to large numbers of poor clients.” In fact, these institutionalists focus on the performance evaluation from the perspective of the institution rather than from the perspective of customers. They consider financial independence as a criterion that best fulfills the social mission (Cornée 2007). They measure social impact through a proxy, profitability, and

then they judge the success through self-sufficiency programme (Otero and Rhyne 1994). This approach shows two major trends. On the one hand, we find the process of upgrading where some regulated MFIs are beginning to emerge in countries that provide a regulatory process of specialized microfinance institutions. These MFIs are NGOs that give rise to financial institutions which are clearly within the logic of profitability (De Briey 2005).

On the other hand, we find the process of downgrading where certain traditional commercial banks that are seeking new market niches have entered the microfinance industry more recently. These banks not only have been convinced of the potential of microcredit, but they also have easier access to funds and the best marketing tools. They can directly grant credit to micro-entrepreneurs or make equity investments in MFIs. Prominent examples of these institutions are the Bank Rakyat Indonesia (BRI) and Banco Solidario (BancoSol) in Bolivia. However, this institutional approach has registered a number of criticisms. The welfarists focus on the borrower through impact studies, while institutionalists propose to integrate the microfinance sector in financial markets (Cornée 2007).

For Ghatak and Guinane (1999), the institutionalists rely instead on contract theory that considers that the incompleteness of contracts can lead to opportunistic behavior of credit applicants. The institutionalists evaluate the performance in terms of the institution by targeting a clientele of poor households and financial sustainability of MFIs. They design a set of “best practices” to increase the effectiveness of management systems (finance and accounting, marketing, service delivery, etc.), whose adoption is an essential step to achieve financial self-sufficiency on an industrial scale and access to financial markets. They consider financial independence as a criterion that best fulfills the social mission. They are essentially financial institutions: either specialized microfinance institutions (NGOs, non-bank financial institutions and microcredit associations) that fall clearly within the realm of profitability or village banks and some commercial banks that are more traditional involved in microfinance. However, the welfarist and institutionalist approaches have a number of criticisms.

The first approach faces the problem of viability and sustainability induced by subsidies, low reimbursement rates and rising operating costs, while the second approach prefers customer

micro-entrepreneurs close to the poverty line (\$ 2 per day). This "microfinance schism" (Morduch, 2000) refers to the tradeoff between targeting the poor and profitability. Moreover, the "financial market" registered microcredit programmes work withinmarket logic. In order to develop sustainable MFIs, these programmes promote self-sufficiency and financial viability of institutions. The goal is not focused on improving the welfare of the poor in general, rather on improving access to financial services for the poor category. One thing is certain, the current challenge for MFIs (whether commercial or social) is to strike a balance between financial profitability and satisfactory maintenance of the social mission of the organization which is the reason for their existence.

In light of the foregoing discussion, it should be stressed that the reasoning developed by institutionalists seems relevant and plausible in terms of stability and survival of MFIs. Indeed, in the current context where microfinance occupies a prominent place in the global economy, it must be based on the logic of sustainability and viability; it must be able to guarantee its financial autonomy by mobilizing savings necessary to achieve equilibrium and without losing its social objective of helping the most vulnerable to access credit.

Microfinance performance theory states that for any microfinance institution to be seen as achieving its goals, its performance must be analyzed based on key indicators such as profit margin, client outreach, operational self-sufficiency, portfolio at risk, return on assets, return on equity, cost of funds ratio, operating expense ratio, quality of reporting. All of the above indicators are key outputs for the MFI to address the needs of the various stakeholders who hold both social and financial perspectives of performance (Consultative group to assist the poor, 2009).

Organizational performance as a concept suffers from the problem of conceptual clarity in a number of areas. The first of these is the area of definition. The term performance is often used indiscriminately to describe everything from efficiency. Research on organizational performance reveals definition ranging from social performance or contribution to charity to company profits and organizational effectiveness (Zabra and Pearce, 1998). The second of these problems lies in measurement. An adequate definition leads to the problem in measurement including input

efficiency, output efficiency and in some cases, transactional efficiency (Hefferman and Flood, 2000).

2.3. Empirical Literature Review

Paxton (2002) examined the relationship between depth of outreach and financial performance sustainability 18 MFIs (in Africa and Latin America) and found strong correlation between outreach and financial sustainability in Latin America and weak correlation in Africa. The study concludes that outreach and financial sustainability are not mutually exclusive concepts. Cull et al (2007) cross sectional study on 124 institutions in 49 countries concluded that there is possibility of increasing yield while maintaining repayment rates and thereby meeting both the social mission and viability given that the clients are economically active poor.

Quayes (2012) studied the Depth of outreach and financial performance of microfinance institutions by utilizing data from 702 MFIs (from Mix market) operating in 83 countries and found empirical evidence that shows positive complementary relationship between financial sustainability and depth of outreach.

Some studies found no or inconclusive correlations between social and financial performance due to the fact that companies supply a demanded and unique level of social performance to maximize their profits (Anderson and Frankle, 1980; Freedman and Jaggi, 1982; Aupperle et al., 1985; McWilliams and Siegel, 2001). Hermes, (2011) Using data for 435 MFIs for the period 1997-2007, he focus on the relationship between cost efficiency as a proxy for sustainability of MFIs and the depth of outreach measured by the average loan balance and percentage of women borrowers. He concludes that outreach is negatively related to sustainability of MFIs. The results remain robustly insignificant even after taking into account a long list of control variables.

Other studies suggest negative, Olivares-Polanco (2005) uses less rigorous techniques and/or smaller datasets, their study also confirms the existence of this trade-off. These findings are however inconsistent with Ayayi and Sene (2010) who after estimating a pooled regression model, show that outreach and the percentage of women among the clientele do not significantly

influence the MFIs' financial performance. Kipesha and Zhang (2013) examined the presence of tradeoffs between sustainability, profitability and outreach using a panel data of 47 Microfinance institutions for four years of 2008 to 2011 from Mix market Data using unbalanced panel regression analysis model. Using Welfarists approach the study found the presence of negative tradeoffs between profitability and outreach to the poor.

Chemining'wa (2013), Microfinance breadth of outreach (numbers of borrowers) was found to be insignificantly related with financial sustainability in Kenya. On the other hand, depth of outreach was negative and significantly correlated with financial sustainability implying that MFIs with higher loan sizes are associated with sustainability.

In Ethiopia, the relationship between social performance and financial performance is not yet studied enough; there are few studies on the area of performance of microfinance institutions and determinants of MFIs financial sustainability.

Befkadu(2007) identified no evidence of trade-off between outreach and financial sustainability for Ethiopian MFIs, rather positive correlation was observed between them. Yet, correlation test among loan size (which measure poverty level), outreach and profit performance, revealed imprecise result.

Abiyot (2015) concluded in his research the relationship between breadth of outreach and financial performance sustainability is complimentary. The increase in number of active borrowers and gross loan to total asset ratio (breadth of outreach) significantly improves financial sustainability of MFIs in Ethiopia. There is strong tradeoff between serving the poor (lending small loan size) and being financially sustainable as the decrease in loan size negatively and significantly impacts financial sustainability. The significant inverse relationship between ratio of operating expense per loan portfolio and financial sustainability justifies the tension between efficiency and outreach to the poor. To sum up, the relationship between outreach and financial performance depends on the variable used in the regression models. In addition to this he recommended for further study to consider the influence of saving outreach on financial sustainability of MFIs by establishing their relationship.

2.4. Summary and Literature Gap

Many studies addressing the performance of MFIs focus on the potential trade-off between financial and social performance. From the existing literature there is a mixed picture on the trade-off between financial and social performance. A number of studies suggest a negative relationship between social performance and financial performance (Cull et al., 2007; Louis and Baesens, 2013; Abate et al., 2013; Abdullai and Tewari, 2017). On the other hand, several studies find no evidence for a trade-off. In some cases, studies even report a positive relationship between financial and social performance (Kar, 2011; Kar, 2013; Adhikary and Papachristou, 2014; Gakhar and Meetu, 2014; Kaur, 2016).

Some studies also found that the association between size and the financial performance is negative (Kar and Swain, 2014). Though contradict evidence also available in this regard, where the size of MFI significantly influences the financial performance (Bogan, 2012; Cull et al., 2007). In addition, Cull et al. (2007) and Nurmakhanova et al. (2015) also found that the MFIs' experience has a significant positive relationship with financial performance. On the other hand, counter-evidence reported that negative association between maturity and financial attainment (Ahmed et al., 2016; Kar and Swain, 2014). The actual influence of size and maturity on the financial performance of MFIs is still ambiguous.

Nasrin et al. (2017) also asserted that outreach to female borrowers; serving more clients and increasing the average loans can significantly improve the financial performance. Their study focused on MFIs in Bangladesh over the period 2007–2013 using portfolio yield and profit margin as the financial performance indicators, but excluded other key financial performance indicators, such as, financial self-sufficiency (FSS), operational self-sufficiency (OSS) and return on assets (ROA) that may keep the findings ambiguous.

A recent study that critically analyzed the role of age and size of MFIs on their financial performance found very convincing evidences. Wijesiri et al. (2017) used a two-stage data

envelopment analysis (DEA) bootstrapped met frontier approach and revealed that MFIs with longer market experience attain better financial growth than newly established ones and larger MFIs are more financially efficient. The authors further concluded that using traditional financial ratios are unable to reflect adequately MFIs' dependence on subsidies (Wijesiri et al., 2017). Hence, several studies suggested including subsidy indicator while examining the financial performance of MFIs (Kharti, 2014).

The results from related studies carried out on MFIs outside Ethiopia varied with studies and economies which insures the value added by the study. In this study therefore, try to fill existing knowledge gap in microfinance literature on relationship between social performance and financial performance of microfinance institutions in Ethiopia by incorporate a large sample size (20 MFIs from 38 MFIs , all large MFIs included to reflect the true picture of the industry and the longer the time period (2009 -2018).

Based on the literature the following hypotheses are developed:

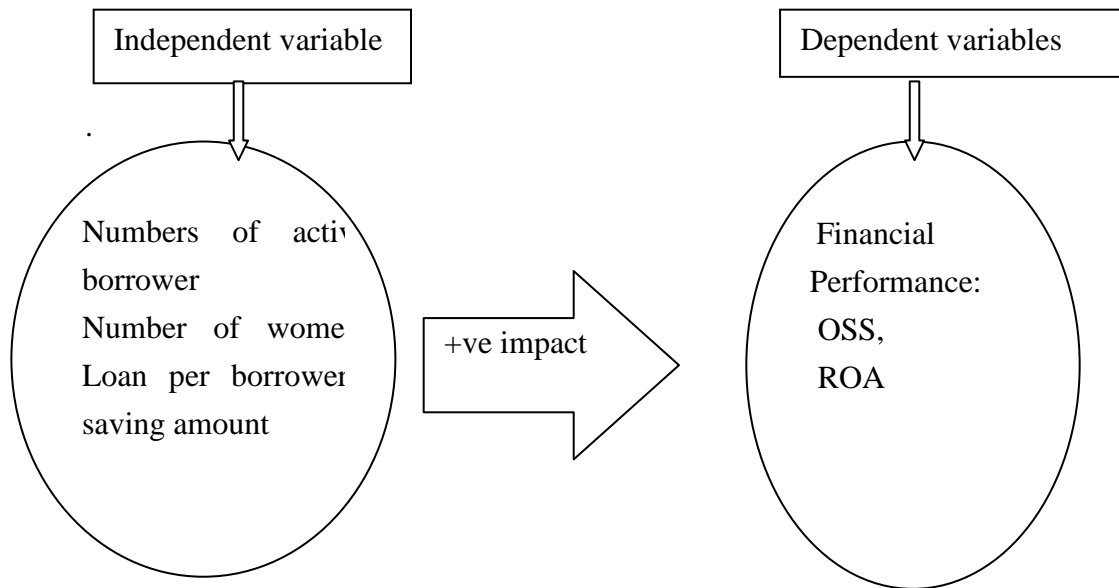
- H1. There is significant positive effect of increases number of active borrowers (breadth of outreach) on financial performance.
- H2. There is significant positive effect of increases women borrower (depth of outreach) on financial performance.
- H3. There is significant positive effect of increase borrower saving amount on financial performance.
- H4. There is significant positive effect of increase borrower average loan amount on financial performance.
- H5. There is significant positive effect of increase asset size of MFIs on financial performance.

2.5. Conceptual Framework

As it is noted in the summery of gap and statement of the problem in many of the studies social performance of MFIs have positive effect on financial performances of MFIs. Moreover, the hypotheses of the study also developed based on the assumption social performance of MFIs have positive effect on financial performances of MFIs. Therefore, the conceptual framework of the study developed as social performances of MFIs have positive effect on financial performances of MFIs.

In the study active borrowers, percentage of women borrowers, saving per borrowers, loan per borrower and asset per borrowers as the proxy of social performances and Financial sustainability (FSS), Return on Assets (ROA) and operational self-sufficiency (OSS) as proxy to financial performances measure.

Figure 1: Conceptual Framework



Theoretical model on the relationship between social performance and financial sustainability
(Source: own construct based on literature review and previous empirical works).

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter is about the methodology used in the study. The first two sections present the research design and research approach that used to conduct the study. The chapter presents population of the study, sample size of the study and sampling design of the study. The chapter presents the type of instruments used to collect data and how the data are analyzed. In the chapter also presents the details of dependent and independent variables and the model specification of the study.

3.1. Research Design

Research design is the framework of research methods and techniques. The research design allows refining the research methods that are suitable for the subject matter. Mainly there are two types of research designs; qualitative research design and quantitative research design: to this study quantitative design are used as the data are quantitative in nature.

Furthermore there are five types of research design descriptive, experimental correlation, diagnostic and explanatory research design. Descriptive research design is sole description of the situation or case of the research. Experimental research design is to establish a relationship between the cause and effect of a situation: it is a causal design where one observes the impact caused by the independent variable on the dependent variable. Correlational research design is a non-experimental research design technique that helps researchers establishes a relationship between two closely connected variables. Diagnostic research design is to evaluate the underlying cause of a specific topic or phenomenon. Explanatory research design is explains unexplored aspects of a subject and details about what, how, and why of the research questions.

This study used experimental research design to identify the effect of social performance on financial performance in the Ethiopian MFIs. Given the nature of the research question for this study, does microfinance social performance have effect on financial performance measure by Return on Asset (ROA), Operational Self-Sufficiency (OSS) and portfolio quality PaR > 30 days? The appropriate research design should be explanatory research design.

3.2. Research Approaches

There has been widespread debate in recent years within many of the social sciences regarding the relative merits of quantitative and qualitative strategies for research. The positions taken by individual researchers vary considerably, from those who see the two strategies as entirely separate and based on alternative views of the world, to those who are happy to mix these strategies within their research projects. For example, Bryman (1988) argued for a 'best of both worlds' approach and suggested that qualitative and quantitative approaches should be combined. Hughes (1997), nevertheless, warns that such techniques underestimate the politics of legitimacy that are associated with choice of methods. Bryman and Bell (2007) stated that qualitative research is a research strategy that indicates the relationship between theory and research and usually emphasizes on how theories were generated. As a research strategy qualitative research is inductivity, constructionist, and interpretive, but qualitative researchers always don't subscribe to all three of these methods.

According to Matthews & Ross (2010) quantitative research methods are basically applied to the collection of data that is structured and which could be represented numerically. Generally quantitative data is collected when researcher has adopted the positivist epistemological approach and data is collected that can be scientifically analysed. Fellows and liu (2008) said that quantitative research methods are typically adopted because they are scientific methods and provide immediate results.

In quantitative research approach data are collected by using two strategies of inquiry. The first is survey design which provides a quantitative or numeric description of trends, attitude or opinion of a population by studying a sample of that population. It includes cross-sectional and longitudinal studies using questionnaires or structured interviews for data collection, with the intent of generalizing from a sample to a population. The second type of design is experimental design which seeks to determine if a specific treatment influences an outcome. This impact is assessed by providing a specific treatment to one group and withholding it from another and then determining how both groups scored an outcome. In experiment design researcher may also identify a sample and generalize to a population (Creswell, 2009).

The purpose of this study is to examine the relationship of social performance and financial sustainability of MFIs by establishing relationship of same and is also interested both in generalizing the findings to a population and to conduct an in-depth investigation, this study used quantitative approach.

3.3 Population

Polit and Hungler (1999:37) refer the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. A research population is generally a large collection of individuals or objects that is the main focus of a scientific query. It is for the benefit of the population that researches are done. However, due to the large sizes of populations, researchers often cannot test every individual in the population because it is too expensive and time-consuming.

The attributes that are the object of study are referred to as characteristics and the units possessing them are called as elementary units. The aggregate of such units is generally described as population (Kothari, 2004). The population in this study is 40 MFIs in Ethiopia who are registered and licensed by National Bank of Ethiopia.

3.4 *Sampling Design and Technique*

A sample design is the framework, or road map, that serves as the basis for the selection of a survey sample and affects many other important aspects of a survey as well. A sample design is a definite plan for obtaining a sample from the sampling frame. It refers to the technique or the procedure the researcher would adopt in selecting some sampling units from which inferences about the population is drawn (Kothari, 2004). Sampling frame is the elementary units or the group or cluster of such units may form the basis of sampling process in which case they are called as sampling units.

Sampling techniques means selecting a group that represents the entire population. In order to ensure homogeneity of subjects use in a sample and for easy matching of data, purposive sampling technique are implemented which is a non-probability approach. This sampling method involves purposive or deliberate selection of particular units of the universe for constituting a sample which represents the universe (Kothari, 2004). The rationale behind adopting purposive sampling is to select MFIs whose data is available for the study periods of 10 years (2009-2018).

Therefore, the sample frame consists of MFIs operating between 2009 and 2018; this time is selected to have time series data. Looking at the time series data of 2009-2018 the sample size of the study become 20 MFIs. Mugenda and Mugenda (2003) stated that a sample size of 10-30% of the total population is considered enough for the generalization of the findings to the whole study and also time series data availability determined the size and institution selection. According to AEMFI bulletin of 2019 MFIs in Ethiopia classified based on the size as large, medium and Small MFIs. In 2018, the largest five MFIs (ACSI, OCSSCO, DECSI, AdCSI and Omo MFI) included as a sample to this study are accounted for 89% of total clients. In addition to this the two largest MFIs, ACSI and OCSSCO account for 55% of all borrowers of MFIs. The contribution of ACSI and OCSSCO in terms domestic saving mobilization was 37% and 18% respectively.

Table 1: Sample MFIs

No.	MFIs Name	Years of operation	Category by Loan portfolio size	Ownership structure
1	Amhara Credit and Saving Institution (ACSI)	22	large	Government Afflicted
2	Addis Credit and Saving Institution (ADCSI)	18	large	Government Afflicted
3	Aggar	15	Medium	Private shareholder
4	Africa village Financial Services (AVFS)	21	small	Private shareholder
5	Benshangul	18	large	Government Afflicted
6	Buusaa Gonofaa	20	large	Private shareholder

7	Dedebit Credit and Saving Institution (DECSI)	22	large	Government Afflicted
8	Digaf	15	small	Private shareholder
9	Harbu	14	Medium	Private shareholder
10	Letta	15	small	Private shareholder
11	Meklit	19	Medium	Private shareholder
12	Metemamen	17	large	Private shareholder
13	Oromia Credit and Saving share company (OCSSCo)	22	large	Government Afflicted
14	Specials Financial Institution (SFPI)	21	large	Private shareholder
15	Shashemene	18	Medium	Private shareholder
16	Wasasa	19	large	Private shareholder
17	Wisdom/ Vision Fund	20	large	Private shareholder
18	Eshet	20	Medium	Private shareholder
19	Omo	22	large	Government Afflicted
20	Poverty PEACE	20	large	Private shareholder

Source: AEMFI Financial performance Bulletin (2019)

3.5 Data Collection

The data is collected using secondary source from published data. The use of such data is advantageous because the data already exist. The use of secondary data also allows for a large volume of data to be analysed which would have been a problem in collecting primary data. The quality of attributed data is also a merit to the use of published data. Published financial information has a prior approval by auditors before its publication. The data are collected from the Association of Ethiopian Microfinance Institutions (AEMFI) bulletins. The bulletins contain all social performance and financial performances indicator's data of the MFIs.

3.6 Method of Data Analysis

To the data analysis both descriptive and econometrics methods are used. The descriptive analysis is the presentation of individual MFIs social and financial performance and the aggregated 20 MFIs. The 10 years data from 20 MFIs on social and social performance are used for panel data analysis. Panel data have the advantage to control individual heterogeneity, less co-linearity among variables and tracks trends in the data which is both time series and cross sectional data have not (Baltagi, 2005). The general trends of the data from 2009 to 2018 based on 20 MFIs and a correlation matrix used to examine the relationship between social performance and financial performance in MFIs. The panel data regression conducted using Stata 14 to test the effect of social performance on financial performances in MFIs. Diagnostics tests of classical linear regression assumptions including Multicollinearity, Heteroskedasticity, autocorrelation and normality tests are conducted.

3.7 Variables and Measurements

3.7.1. Financial Performance Indicators/Dependent Variables

MFIs financial performance could be affected by a number of determining factors. In most literatures MFIs profitability is usually expressed as a function of internal and external determinants. Four instances Muriu (2011) pointed out that the determinants of MFIs profitability could be divided into internal determinants which are management controllable and external determinants, beyond the control of management. Empirical literatures in relations to determinants of MFIs financial performance are very limited. Previous studies carried out in the area highly depended upon theory of retail banking financial performance by assuming that MFIs also provide banking services to the poor. Following are elaborations of empirical studies in connection with determinants of MFIs financial performance.

- **Financial Profitability**

Profitability is the ability of an organization to generate earnings and make a profit and provides an insight into the degree of success of the owners' investments. A company's profitability can be assessed in relation to its level of sales, asset levels (ROA) or invested capital (ROE). Indicators of financial profitability according to Rosenberg (2009) are Return on assets (ROA), reflects that organization's ability to deploy its assets profitably. Return on equity (ROE), measures the returns produced on the owner's investment.

The financial self-sufficiency ratio (FSS) indicates the institution's ability to operate without ongoing subsidy, including soft loans and grants, and operational self-sufficiency (OSS) ratio, indicates the institution's ability to operate without subsidy and without drawing down capital to pay for operating expenses. Unlike the financial self-sufficiency ratio, the OSS is not adjusted.

- **Loan Repayment (Portfolio Quality)**

Loan repayment defined as "how well is the lender collecting its loan". Loan collection has proved to be a strong proxy for general management competence, long experience with evaluating microfinance projects has shown that very few successful projects have bad repayment and very unsuccessful projects have good repayment (Rosenberg 2009). Portfolio quality "reflects the risk of loan delinquency and determines future revenue and an institution's ability to increase outreach and serve existing clients". The standard international measure of portfolio quality in banking is portfolio at risk (PAR) beyond a specified number of days.

Dependent variables

Operational self-sufficiency ratio (OSS) and return on assets (ROA) measure is the main indicator of financial performance. This ratio demonstrates the ability of MFIs to be fully sustainable in the long run, in the sense that they can cover all their operating costs and maintain the value of their capital. OSS and ROA have been used widely to measure the financial sustainability of MFIs (Cull, Demirgüç and Morduch 2007; 2011; Mersland and Strøm 2009).

The dependent variables calculated as:

ROA= net profit / total Asset

OSS =Financial revenue/ (financial expense +operating expense+ loan loss provision expense),

3.7.2. Social Performance Indictors/Independent Variables

Social performance reflects a measure of the MFI's intentions to have a social impact and proper integration in its environment (Boye et al., 2006). It clarifies the objective of the struggle against poverty for a microfinance institution. With the absence of harmonized and standard indicators worldwide, proxies are employed, which essentially measure the social impact in terms of degree or scope (Adair & Berguiga, 2010). "The number of customers" is used as a measure of the scale of outreach of an MFI services in several studies (Mersland & Strom, 2009; Luzzi & Weber, 2006). In addition, Hartarska and Nadolnyak (2007) and Hartarska (2005) used "the logarithm of the number of active borrowers".

The effective translation of an institution's social mission into practice in line with accepted social values. This notion of social performance ("do good"), goes beyond the concept of client protection and social responsibility ("do no harm"). Social responsibility applies to all economic sectors and refers to an organization's responsibility for the impact of its decisions and activities on society and the environment through transparent and ethical behavior MFI (Hashemi, 2007).

Social objectives of microfinance are defined as "the effective translation of an institution's social goals into practice in line with accepted social values; these include sustainably serving increasing number of poor people, improving the quality and appropriateness of financial services and improving the economic and social conditions of clients". Social performance is being measured by using some variables as proxies like number of borrowers, average loan size, and percentage of female borrowers. A properly designed and well maintained social performance management (SPM) system benefits the MFIs in various ways. It directly helps the MFIs to balance between the financial and social objectives of the institutions. It also helps the MFIs to improve the products services and outreach. SPM helps the clients to get better services in a transparent manner (Murdoch, 2000).

Most MFIs have a social mission, such as reducing poverty, increasing female autonomy, or stimulating small businesses, which is always related with improving the quality of life of the poor (Serrano-Cinca and Gutiérrez-Nieto, 2014). Due to the social appeal that microfinance can have many MFIs have access to lines of credit with more attractive interest rates, subsidies, and donations from people and institutions (Hermes and Lensink, 2011). The social performance indicators enable it to be verified whether the MFIs are really providing improvements in the quality of life of the customers and communities they serve. A positive result in the social performance indicators also gives the MFI credibility in the microfinance market and among investors in order for it to continue receiving resources (Schicks, 2014).

The Social performance tools (SPM) tool mainly builds upon financial and client information which MFIs regularly collect and uses it as proxies for the social performance assessment (SPA). The SPA tool includes a scorecard with a set of indicators monitoring six dimensions of outreach: breadth, depth, length, scope, cost, and worth of outreach to clients and the community: Breadth of outreach includes the number of borrowers, the percentage of clients with non-enterprise loans, and voluntary savers as a percentage of borrowers, Depth of outreach measures average loan size, percentage of female clients, and percentage of rural clients, Scope of outreach includes the number of distinct enterprise loan products, number of other financial services, the type of savings offered, and the percentage of clients with three or more products or services., Cost of outreach calculates the financial costs in providing services, including number of days taken to process loans and number of staff visits, Worth of outreach measures client retention rate, loan loss rate, and portfolio growth that can be attributed to clients (Consultancy group assisting the poor 2006).

Outreach is a very important indicator to understand the ability of microfinance institutions to penetrate to the poor its social performance. Microfinance institutions contribution on the overall poverty reduction can be seen from the perspective of the scope of outreach by measuring the number of poor clients they have reached. In this regard, this section analyzes the number of active of borrowers being served by MFIs, percentage share of women borrowers, the total volume and growth of outstanding loan, the size and growth trends of average loan size per

borrower and deposit mobilization capacity and trend of microfinance institutions selected for the study.

- **Number of Active Borrowers**

As a measure of outreach, number of active borrowers indicates the level of performance as to how microfinance institutions are reaching to the needy poor. In Ethiopia, it is estimated that 13 million poor people needed to get access to microcredit service (MoFED, 2010).

- **Women borrowers**

There are literature evidences that women are facing greater difficulty in accessing financial services than men. In this regard, number of women being served is used as a proxy measure to determine whether microfinance institutions are focusing on the real poor. For that, number of women borrowers being served can be used as an indicator of targeting the poorest (Navajas, 2000).

- **Saving per borrowers**

Savings collection performance indicates how much the poor are accumulating assets as the result of participating in the program and an important indicator of microfinance impact on poverty reduction (Ledgerwood, 2002). Various studies indicate that the old notion saying “the poor have nothing to save” is not right and many MFIs in the world including Grameen Bank has shown that the poor can save if access to the service is granted. Savings can help households to build up assets to use as collateral, it can also help them better smooth seasonal consumption needs, finance their regular expenditures and self-insure against major shocks such as crop failure, old age, disability etc. Research also reveals that the large majority of poor savers lack access to safe and sound institution for depositing their savings. MFIs need to provide micro-saving to enable poor and low-income people to store their money safe and give them the possibility to earn a return on savings (Ledgerwood, 2002).

There are two types of savings as compulsory savings and voluntary savings. The purpose of compulsory savings is to teach the poor how to save and to comply with some financial discipline: Small savings deposits are required each week and more substantial sums are withdrawn in order to refund the loans, a guarantee of loan fund will thus be set up by MFIs. Voluntary savings imply MFIs' customers that already work and save, so that they require services adjusted to their need: Customers can withdraw deposit funds, on which they often receive interests. The interest rate on these two types of deposits must be such as the gap between this rate and the (debtor) rate on credit is positive and is high enough, in order to cover all expenses and to ensure a margin.

Independent variables

According to MIX (2010) social performance of MFIs can be assessed by annual comparative analysis through measurement of several variables including number of active borrowers, percentage of woman borrowers, saving per borrowers and loan portfolio per borrowers. Likewise, previous studies for instance, Meyer and Zeller (2002), Zerai and Rani (2012) and Nara (2013) were used similar indicators in their framework for measuring microfinance social performance. Number of active clients (borrowers) serves as a proxy for the 'breadth of outreach' (Rosenberg 2009; Schreiner 2002). Saving and loan size and share of female borrowers are rough proxies for 'depth of outreach' (Armendáriz and Szafarz, 2011; Hermes, Lensink, and Meesters 2011; Cull, Demirgüç-Kunt, and Morduch 2009; Cull, Demirgüç-Kunt, and Morduch 2007; Ahlin, Lin, and Maio 2011; Schreiner 2002; Mersland and Strøm 2009).

3.8 Model Specification

Panel regression model are used to identify the effect of social performance on financial performance of MFIs. the dependant variables are financial performances proxy by operational self-sufficiency and return on asset and the independent variables are social performance which are proxy by numbers of borrower, percentage of women borrowers, loan portfolio, saving, asset size and age of MFIs.

Financial Performance = f (numbers of borrower, percentage of women borrowers, loan portfolio, saving, asset size, age)

$$Y_{it} = \alpha + \beta'X_{it} + u_{it} \dots\dots\dots \text{eq (1)}$$

Where: Y_{it} is the dependent variable (operational self-sufficiency and return on asset), α is the intercept term, β is a $K \times 1$ vector of parameters to be estimated on the explanatory variables, X_{it} is the $1 \times K$ vector of observations on the explanatory variables, i denote cross section unit, $i=1 \dots N$ and t is the time period when the cross sections observe. u_{it} is the combined time serial and cross sectional error term.

In order to examine the effect of social performance on financial performance two econometric panel data models are developed. These models specify Return on Assets (ROA) and operational self-sufficiency (OSS) as a function factors.

$$ROA_{it} = \alpha + \beta_1 NB_{it} + \beta_2 PW_{it} + \beta_3 SPB_{it} + \beta_4 LPP_{it} + u_{it} \dots\dots\dots \text{eq (2)}$$

ROA is the measure of financial performance (investment return) of i MFI in period t

$$OSS_{it} = \alpha + \beta_1 NB_{it} + \beta_2 PW_{it} + \beta_3 SPB_{it} + \beta_4 LPP_{it} + u_{it} \dots\dots\dots \text{eq (3)}$$

OSS is the measure of financial performance of (profitability and sustainability) i MFI in period t

Where: NB_{it} the number of active borrowers of the MFI i observe at time (breadth of outreach), PW_{it} is the percentage of women borrowers of the MFI i observe at time (depth of outreach), SPB_{it} is the saving amount of the MFI i observe at time (breadth of outreach), LPP_{it} is the loan Portfolio of the MFI i observe at time (depth of outreach). t is the time period, $\beta_1, \beta_2, \beta_3, \beta_4$, are the coefficients for each independent variable in the model, term and u_{it} is the combine time serial and cross sectional error term which control for all omitted variables (size of Assets and age).

CHAPTER FOUR

RESULT AND DISCUSSION

In the result and discussion, the effect of social performance on financial performance of MFIs analyzed using panel data from 20 MFIs in Ethiopia are presented. The first section of this chapter is description of the data; which is the description of social performance and financial performance of MFIs. The second section is correlation analysis of MFIs social and financial performances. The third and fourth sections are about diagnostic test of classical linear regression assumptions and random effect panel data analysis.

4.1. MFIs Social and Financial Performance

20 MFIs both governments affiliated and private shareholders MFIs; and small, medium and large MFIs data merged to look at the correlation between social performance and financial performances. OSS of the 20 MFIs improves through time and in the past 10 years are more than 100 %; that is the 20 MFIs are operationally self-sufficient. ROA of the 20 MFIs improves through time, in 2009 it was 1.4% and in 2018 it is 4.1%. Portfolio Quality PaR>30 days of the 20 MFIs decrease through time; in 2009 it was 7.0% and 2.8% in 2018. The 20 MFIs customers/active borrowers increase by two folds in the past 10 years and 45 percentages of active borrowers/customers of the 20 MFIs are women borrowers. The 20 MFIs saving amount, loan portfolio and asset size are increase by more than 7 times (see annex).

Table 2: Descriptions of Data

. xtsum \$id \$t \$ylist \$xlist

Variable		Mean	Std. Dev.	Min	Max	Observations	
id	overall	10.5	5.780751	1	20	N =	200
	between		5.91608	1	20	n =	20
	within		0	10.5	10.5	T =	10
t	overall	2013.5	2.879489	2009	2018	N =	200
	between		0	2013.5	2013.5	n =	20
	within		2.879489	2009	2018	T =	10
oss	overall	1.3817	.4816044	.47	3.23	N =	200
	between		.3118898	.802	1.986	n =	20
	within		.3729168	.4157	3.0997	T =	10
roa	overall	.08015	.1815967	-1.82	1.28	N =	200
	between		.0771862	-.13	.308	n =	20
	within		.1651941	-1.60985	1.05215	T =	10
active~s	overall	170788.5	310669.2	115	1490356	N =	200
	between		292859.1	303.4	1003202	n =	20
	within		120945.3	-218389.1	975328.9	T =	10
womenb~s	overall	.4938	.190061	.12	.9	N =	200
	between		.175853	.171	.8	n =	20
	within		.0812249	.1648	.9318	T =	10
saving~t	overall	6.12e+08	1.79e+09	24118	1.56e+10	N =	200
	between		1.34e+09	340953	5.57e+09	n =	20
	within		1.22e+09	-3.97e+09	1.06e+10	T =	10
loanpo~o	overall	8.73e+08	2.12e+09	94004.78	1.77e+10	N =	200
	between		1.68e+09	417876.7	6.72e+09	n =	20
	within		1.35e+09	-4.19e+09	1.18e+10	T =	10
age	overall	13.48	3.818706	4	21	N =	200
	between		2.539706	8.5	16.5	n =	20
	within		2.902434	8.38	18.38	T =	10
assets~e	overall	1.27e+09	3.21e+09	629545	2.71e+10	N =	200
	between		2.52e+09	1385545	1.02e+10	n =	20
	within		2.06e+09	-6.59e+09	1.81e+10	T =	10

4.2 Diagnostic Analysis of Classical Linear Regression Assumptions

To the regression analysis the model can be fit if it is not violate classical linear regression assumptions. The tests for the assumption of classical linear regression conducted before the regression analysis are undergoing.

Assumption One: Heteroskedasticity Test

The other assumption of classical linear regression is the variance of the disturbance (error) term is constant (homoscedastic). The heteroskedasticity test is to check whether the error terms variance is constant (homoscedasticity) or not (Brooks, 2008). The most widely used heteroscedasticity test is the white test which test the null hypothesis the error variances are all equal versus the alternative the error variance are a multiplicative function of one or more variables.

A. The OSS model

Table 3: Heteroskedasticity Test the OSS model

White's test for H_0 : homoskedasticity			
against H_a : unrestricted heteroskedasticity			
chi2(27)	=	42.25	
Prob > chi2	=	0.0311	
Cameron & Trivedi's decomposition of IM-test			
Source	chi2	df	p
Heteroskedasticity	42.25	27	0.0311
Skewness	18.03	6	0.0062
Kurtosis	3.50	1	0.0613
Total	63.78	34	0.0015

The results of White test for heteroskedasticity in the OSS model show that it is difficult to reject the null hypothesis for homoskedasticity. Therefore, the data for OSS analysis have constant variance of the disturbance or error term.

B. The ROA model

Table 4: Heteroskedasticity Test: the ROA model

White's test for Ho: homoskedasticity against Ha: unrestricted heteroskedasticity			
chi2(27)	=	71.30	
Prob > chi2	=	0.0000	
Cameron & Trivedi's decomposition of IM-test			
Source	chi2	df	p
Heteroskedasticity	71.30	27	0.0000
Skewness	11.12	6	0.0849
Kurtosis	1.22	1	0.2697
Total	83.63	34	0.0000

The results of White test of ROA model for heteroskedasticity show that it is difficult to reject the null hypothesis for homoskedasticity. Therefore, the data for ROA analysis have constant variance of the disturbance or error term.

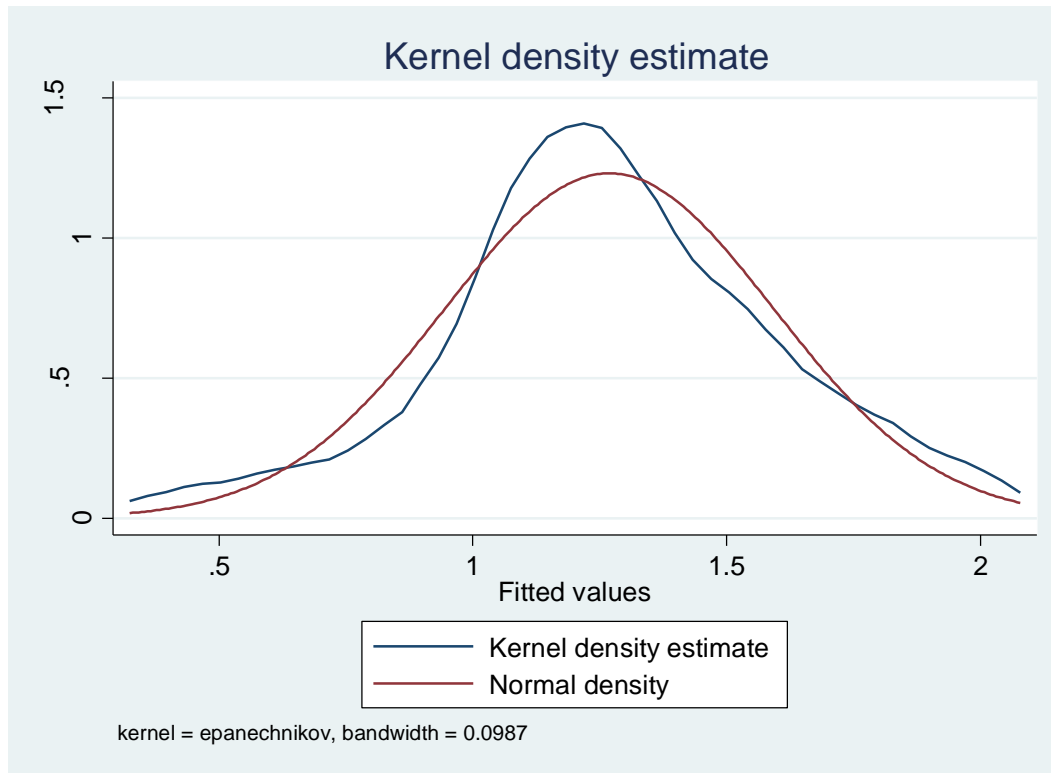
Assumption Two: Normality Test

The second assumption of classical linear regression is normality of the distribution of disturbance term or in other word the sum of the residual is zero. The test for normality undertaken using Bera-Jarque test and a Kernel density distribution are plotted. The Bera-Jarque test shows the model are normally distributed as the Prob>chi2 greater than 5%. And the Kernel distribution graph with the normality also shows that the error disturbance terms are normally distributed.

Table 5: Normality Test

Variable	Skewness)	Kurtosis	Adjusted chi2(2)	Prob>chi2
Residuals	0.6733	0.4379	0.79	0.6721

Figure 2: Assumption Two: Normality Test



Assumption Three: Autocorrelation Test

The notion of autocorrelation defines that there is no serial correlation or autocorrelation among the disturbances u_i entering the population regression function (Gujarati D.N, 2008). If there is autocorrelation in panel data models it may create biases on the standard errors and causes the results to be less efficient. The widely used test for this assumption in time series data is Durbin-Watsen (DW) test. Recently a new test for autocorrelation in random- or fixed-effects is derived by Wooldridge (2002); it test for first order autocorrelation (a test for a relationship between an error and its immediately previous value).

Table 6: Assumption Three: Autocorrelation Test

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

$$F(1, 19) = 17.881$$

$$\text{Prob} > F = 0.0005$$

Therefore, the null hypothesis of no serial correlation is not rejected. If there is no autocorrelation in the idiosyncratic error term, clustering at the panel level will produce consistent estimates of the standard errors, and other estimators will produce more efficient estimates.

Assumption Four: Multi-collinearity test

Multi-collinearity is an assumption of a linear relationship between explanatory variables that creates bias on regression model (Gujarati, 2004). This problem occurs when the explanatory variables are very highly correlated with each other. The problem of multicollinearity make the estimated regression model estimates coefficients to become unstable and the standard errors for the coefficients get wildly inflated. If the correlation coefficients between to explanatory variables are low it indicates the absence of multicollinearity. Moreover, Kennedy (2008) stated that multicollinearity problem exists when the correlation coefficient among the variables are greater than 0.80. As it can be seen in the correlation analysis the correlation between the independent variables are low which shows multicollinearity is not a problem in panel data analysis. After estimation also the variance inflation factor are tested. And the variance inflation factors to the explanatory variables are below 10; by this fact Multicollinearity is not the problem to the panel data analysis.

Table 7: Assumption Four: Multi-collinearity test

Variable	VIF	1/VIF
Asset	7.43	0.231808
Loan	6.88	0.253053
Saving	4.64	0.290404
Active borrowers	3.01	0.33235
Women borrowers	1.11	0.900782
Mean VIF	4.614	

4.2 Panel data Regression result

In the panel data analysis there are two broadly used method; the random effect and fixed effect method. The selections of the best from the two methods are done by using Hausman specification test. The Hausman test for both OSS and random effect reject the null hypothesis of fixed effect. Therefore, the random effect methods of panel data analysis are used

1. OSS Result

The Hausman specification test shows in the OSS models the random effect is preferred over fixed effect. The first measure used to see whether the model is well specified is the R-Square (Coefficient of determination). The R-square show the regression model explains the actual variations in the dependent variable (Brooks, 2008). In OSS analysis the R-squared is found 69%; that is in the OSS model the social performance indicators can perfectly explain OSS. The Wald Chi2 is 49.78 and prob>Chi2 is 0.000 this show the model is correctly specified. That is social performance indicator's active borrowers, percentage of women borrowers, saving amount loan amount and asset size can perfectly explain the OSS

Table 8: OSS Random Effect results

OSS	Coefficient	Standard error	z	P>z	95% Confidence Interval
Active borrowers	5.0107	2.2607	2.22	0.026	5.8808-9.4407
Women borrowers	0.2622202	0.2299792	1.14	0.254	-0.18853-0.712971
saving	-0.0945469	0.0762337	-1.24	0.215	-0.24396-0.054869
loan	0.4015278	0.0978274	4.1	0.000	0.20979-0.593266
asset size	-3.6411	1.8711	-1.94	0.053	-7.3111-3.9413
Constant	-1.355849	0.479469	-2.83	0.005	-2.29559-(-0.41611)

As it can be seen from the table OSS are positively influenced by active borrowers, women borrowers and loan size and negatively influenced by saving amount and asset size. But women borrowers and saving amount influence on OSS is not statistically significant; that is any change in these two social performance indicators is not change OSS.

2. ROA result

The Hausman specification test shows in the ROA models the random effect is preferred over fixed effect. The first measure used to see whether the model is well specified is the R-Square (Coefficient of determination), R-squared is found 75%; that is in the ROA model the social performance indicators can perfectly explain ROA. The Wald Chi2 is 41.62 and prob>Chi2 is 0.000 this show the model is correctly specified. That is social performance indicator's active borrowers, percentage of women borrowers, saving amount loan amount and asset size can perfectly explain ROA

Table 9: ROA Random Effect results

ROA	Coefficient	Standard error	z	P>z	95% Confidence Interval
Active borrowers	2.397	9.3108	2.56	0.01	1.21-5.62
Women borrowers	0.053	0.0729368	0.7	0.484	-0.092- 0.194
Saving amount	-1.721	3.8711	-4.43	0.000	-2.47-(-9.57)
Loan portfolio	3.841	6.4411	5.97	0.000	2.58-5.10
Asset size	-1.461	4.1211	-3.54	0.000	-2.27-(-6.51)
Constant	0.051	0.0407796	1.25	0.213	-0.029-0.137

As it can be seen from the table ROA are positively influenced by active borrowers, women borrowers and loan size and negatively influenced by saving amount and asset size. But women borrowers influence on ROA is not statistically significant; change in the percentage of women borrowers have no effect on ROA in the Ethiopian MFIs.

4.4. Discussions of Findings

There have been three different arguments in literature between MFIs financial sustainability and the social performance. The first argument is there is inverse relationship between MFIs financial sustainability and the social performance because as MFIs get more vulnerable group the transaction cost will increase which can negatively affect financial performance. The second group argues that MFIs financial sustainability and the social performance has a complementary relationship in the sense that larger numbers of clients enable MFIs to boost economies of scale and reduce costs. The third group argues that MFIs financial sustainability and the social performance has no significant relationship. In this regard this study finding supports all the three arguments. Asset sizes have negative and significant influence on financial performance of

MFI's which support the first argument. In number of borrowers and loan portfolio, social performances have positive effect on financial performance which supports the second argument. Saving amount and percentage of women borrower have no significant influence on OSS and percentage of women borrowers have no significance influence on ROA; hence in this indicators, social performance and financial performance have no relationship.

- **Number of active borrowers**

Number of active borrower indicates the level of the breadth of outreach; meaning that the number of poor served by a microfinance institution. Number of active borrowers is a proxy for breadth of outreach as it relies on the assumption that increasing the client basis reaches more poor people. The number of borrowers which measures the breadth of outreach improves the financial sustainability of microfinance institutions. The econometric result for this variable indicates positive relationship between the number of borrowers and MFI's financial sustainability. The relationship was highly statistically significant at 5% significant level. This due to the fact that increasing number of borrowers will increase the volume of sell; and increasing volume of sell is one means to maximize profitability, and then financial sustainability. Its coefficient of determination is positive (5.0107) and (2.397); for OSS and ROA, respectively.

This finding also match with previous findings by Cull et al (2007), Ayayi and Sene (2010) and Zerai and Rani (2012), they reported the absence of tradeoffs between number of active borrowers and financial sustainability measures. Crombrughe et al (2008), confirms the fact that increasing the number of borrowers per MFI would lower the average operating cost and would raise total operating costs less than proportionately with the number of borrowers.

- **Percentage of women borrowers**

It denotes the portion of women clients, among the total number of active loan clients of the MFI. In microfinance, the belief is that women clients need to be empowered through financial strength; for women are perceived to be poorer than men and less autonomous in all financial

respects. The more women clients (alternatively, the lesser the number of men clients) indicates the more the MFIs reaches the poor. This variable has positive coefficient of (0.262), and (0.053) with OSS and ROA, respectively but it is not statistically significant both in the OSS and ROA model.

This finding is inconsistent with D'Espallier et al (2011), who reported negative correlation with women suggesting that MFIs that lend to more women are less sustainable. Therefore, in this study, the tradeoff hypothesis of the institutionalist view (women are poorer and more excluded than men especially in developing countries and the focus on more women clients increases the chance for low repayment rates which affect the sustainability of the MFIs) is not yet supported. This finding is also inconsistent with the findings of Kipesha and Zhang (2013) whose report is negative and has significant relationship between percent of women borrowers and OSS; and Marakkath (2014), also reported negative but insignificant relationship between percent of women borrowers and OSS. Therefore, in Ethiopia the self sufficiency of MFIs should indifference whether the portion of women loan clients increasing or not from the total borrowing clients, beyond the mission they stand for.

- **Loan portfolio amount per borrowers**

The average loan size (loan portfolio per borrowers) measures the depth of outreach. The lower the average loan size, the higher the poverty level of the clientele and the lower the MFIs financial sustainability is. This variable is measured by dividing the gross loan portfolio by the number of borrowers. The value for this variable will be increased if the gross loan portfolio is increased, other thing being constant. If the gross loan portfolio is increased instead of increasing the number of borrowers, it increases the efficiency of MFIs in making collection in two terms. The first thing is that the portfolio at risk will be reduced; if the outstanding loans are on the hand of few numbers of borrowers, for the MFI, there is nothing to worry about since it is on the hand of critically selected borrower. Second, if the borrowers are relatively few in number, the collection effort made by the MFI will be reduced which will greatly affects the cost spend per borrower and increases personnel productivity. Thirdly, the cost will be minimal for an MFI when it process and manage large loans with the lower number of borrowers.

The coefficient of this variable is positive (0.4015278) and (3.841) and statistically significant at 5% significant level. This indicates that microfinance financial sustainability is associated with higher loan sizes since larger loans are associated with higher cost efficiency and, therefore, financial sustainability. The result supported by Ashim (2010) in his dissertation on sustainability and mission drift in microfinance positive effect of loan size on financial performance of MFIs. Crombrugghe et al. (2008) has also observed a similar relationship in Indian context. Therefore, loan per borrowers have positive influence on MFIs financial sustainability.

- **Saving amount per Borrowers**

Kinde, (2012) indicated that it is through savings that MFIs can expand loan portfolios, improve on sustainability, reduce loaning rates and move towards satisfying demand. Though, Tehulu, (2013) finds an insignificant influence of deposits on FS in East Africa, Khandker, (1996) perceives that savings mobilization indicates an MFI's ability to self-finance. Deposits are attracted at a low cost and are used to churn-out loans allowing MFIs to enjoy salient profit margins from the interest rate differential. This lessens pricey borrowing for on-lending by MFIs (Kiiru, 2008; de SousaShields & Frankiewicz, 2004). However, Cull et al., (2008) notes that many countries outlaw deposit collection unless where regulatory requirements are observed. The coefficient of this variable is negative (-0.0945469) and (-1.721) OSS and ROA, respectively but not statistically significant to both OSS and ROA model.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATION

This study identifies the effect of social performance on financial performance of MFIs in Ethiopia. The study conducted using a sample of 20 MFIs that are operating in Ethiopia. To the analysis secondary data collected from the Association of Ethiopian Microfinance Institutions (AEMFI) annual financial performance bulletin. In view of that, the following conclusions and recommendations have drawn.

5.1 Conclusions

The collected data are presented quantitative research design through experimental design. Both descriptive statistics and Econometrics analysis are undertaken. The descriptive analysis shows the OSS of Ethiopian MFIs shows improvement through time and in the past 10 years almost in all MFIS the OSS are more than 100 %; that is Ethiopian MFIs are operationally self-sufficient. ROA of the Ethiopian MFIs shows improvement through time, for instance in the 20 MFIs data ROA in 2009 was 1.4% and in 2018 it growing to 4.1%. Customers of the Ethiopian MFIs in the past ten years show a growth of more than and almost 45 percentages customers of MFIs were women. The MFIs saving amount, loan portfolio and asset size are increase by more than 7 times from 2009 to 2018.

In the correlation analysis it is found that OSS has positively correlation with all social performances indictors other than women borrowers but ROA found to have negative relationship with all social performance indictors other than women borrowers. The intuition is if social performances increase other than women borrowers OSS can be increased but ROA decrease. But the correlation analysis shows the direction of the relation between social performance and financial performance not the effect of the dependent variables. To achieve the

objective of identifying the effect of social performances on financial performance there should have regression analysis.

By this fact, panel data regression analysis was conducted using stata 14. Before the regression analysis the assumption of classical linear regression were tested. The process of the test one of the control variables age of the MFIs dropped. Other than this challenge all the assumption of the classical linear regression were achieved.

The Hausman specification test shows the random effect is preferred over fixed effect. The R-Square, Wald Chi2 were sufficiently high and $\text{prob} > \text{Chi2}$ is 0.000 this show the model were correctly specified. That is social performance indicator's can correctly explain financial performance indicators.

In this study asset size negatively affected financial performances this result similar Kar and Swain result; they found that the association between size and the financial performance is negative (Kar and Swain, 2014).

Finally in the panel data analysis it is found that social performance have positive effect on financial performances, with many of social performance indicators. Active borrowers, women borrowers and loan portfolio per borrowers (average loan size) positively influence financial performances. This result shows that an MFI's ability to manage its loan portfolio significantly improves its financial performance. These results are consistent with those of prior studies (Cull et al. 2007; Vanroose and D'Espallier 2013) but financial performances negatively influenced by saving amount per borrowers.

5.2. Recommendations

The results bring some implications that might be useful to academics and policymakers as well as practitioners of microfinances industry. First, the positive relationship between social and financial performance suggests that although being a socially responsible institution has a financial cost, in the long-run, it positively contributes to financial performance through retain customers and increases services volume. Second, a competitive financial system helps MFIs to reach out to the unbanked segment of the population. Hence, sustainability target doesn't make MFIs to drift from their mission. It indicates that competition helps borrowers to have financial accesses and MFIs to be financially sustainable by widening the base and applying the innovative lending methodology. Third, the results show that providing financial services to the poor at an affordable price is the fundamental social responsibility that implants accountability and transparency into the microfinance sector. Last but not least, the social mission is an integral part of the microfinance sector that helps them to be financially self-sufficient.

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ANNEX (DATA)

1. ACSI Financial and social performance

ACSI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	210%	6%	4%	687,586.00	63%	1,437.07	2,410.00	2,338,007,889.00	12	Government Afflicted
2010	102%	0%	3%	677,331.00	64%	1,553.32	2,606.37	2,533,220,850.00	13	Government Afflicted
2011	214%	6.60%	1.46%	694,993.00	68%	1,964.52	2,792.59	3,279,192,202.00	14	Government Afflicted
2012	244%	7.10%	1.00%	784,541.00	69%	2,290.12	3,833.97	4,382,488,309.50	15	Government Afflicted
2013	227%	6%	0.73%	880,606.00	64%	2,781.78	4,898.00	5,875,241,345.00	16	Government Afflicted
2014	214%	6.0%	0.60%	955,218.00	63%	4,619.95	5,551.73	8,460,216,309.00	17	Government Afflicted
2015	198%	8%	0.86%	1,350,422.00	50%	5,568.39	6,470.02	13,333,804,714.00	18	Government Afflicted
2016	211%	9%	0.90%	1,372,352.00	59%	6,613.77	7,790.60	15,402,587,845.00	19	Government Afflicted
2017	188%	5%	0.34%	1,269,270.00	63%	9,041.20	9,525.97	19,309,714,000.00	20	Government Afflicted
2018	178%	5%	0.30%	1,359,699.00	65%	11,448.36	13,009.71	27,062,094,200.00	21	Government Afflicted

2. ADCSI Financial and social performance

ADCSI Financial and social performance										
Year	Operational self sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrower	Saving Amount Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	177%	3.0%	4.0%	152,260.00	45%	565.41	2,110.00	385,004,407.00	9	Government Afflicted
2010	145%	3.0%	5.0%	160,550.00	54%	676.32	2,634.57	530,138,000.00	10	Government Afflicted
2011	166%	3.1%	3.8%	156,148.00	55%	1,061.49	3,630.06	763,179,000.00	11	Government Afflicted
2012	141%	3.4%	2.5%	187,925.00	48%	1,853.23	3,477.25	1,212,396,102.00	12	Government Afflicted
2013	162%	3.0%	3.0%	204,468.00	51%	3,587.47	4,730.00	1,524,462,245.00	13	Government Afflicted
2014	147%	8.0%	2.9%	245,265.00	51%	4,910.80	6,610.11	2,189,202,292.00	14	Government Afflicted
2015	102%	7.0%	2.5%	280,620.00	48%	5,551.44	8,609.30	2,906,233,000.00	15	Government Afflicted
2016	134%	10.0%	2.9%	292,052.00	48%	3,624.19	8,227.89	2,986,496,000.00	16	Government Afflicted
2017	221%	17.0%	1.9%	291,681.00	48%	5,853.58	8,281.31	3,011,046,400.00	17	Government Afflicted
2018	124%	19.0%	1.3%	295,827.00	48%	5,425.41	9,084.87	3,955,744,400.00	18	Government Afflicted

3. Aggar MFI Financial and social performance

Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrower)	size of Assets	a	Ownership
20	123.0%	3.0%	5.0%	3,707.00	28.0%	761.07	2,305.00	10,158,102.	5	Private sharehold
20	133.0%	5.0%	8.0%	4,377.00	29.0%	916.34	3,320.62	17,286,288.	6	Private sharehold
20	155.0%	8.1%	9.3%	5,877.00	29.0%	556.15	3,255.10	23,014,012.	7	Private sharehold
20	173.0%	8.9%	7.5%	8,303.00	28.0%	2,819.14	3,799.80	39,402,160.	8	Private sharehold
20	199.0%	9.0%	5.4%	7,102.00	26.0%	2,376.72	7,220.00	69,444,726.	1	Private sharehold
20	236.0%	12.0%	2.9%	10,035.00	23.0%	3,913.94	8,153.33	100,402,704.	1	Private sharehold
20	278.0%	11.0%	2.8%	10,878.00	22.9%	5,340.86	15,234.16	201,818,377.	1	Private sharehold
20	208.0%	12.0%	2.4%	12,016.00	23.7%	3,132.82	15,784.15	244,150,221.	1	Private sharehold
20	154.0%	12.0%	0.6%	13,021.00	24.3%	6,452.69	19,184.01	323,233,000.	1	Private sharehold
20	164.0%	12.0%	0.6%	15,163.00	26.0%	5,713.63	20,082.85	410,181,600.	1	Private sharehold

4. AVFS Financial and social performance

AVFS Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	105.0%	3.0%	9.0%	11,306.0	74%	361.99	992.00	17,469,356.00	11	Private shareholder
2010	81.0%	-2.0%	4.0%	15,772.0	76%	379.81	950.90	19,826,901.00	12	Private shareholder
2011	82.0%	-1.8%	7.4%	17,359.0	75%	331.78	863.97	19,826,901.00	13	Private shareholder
2012	125.0%	3.2%	9.5%	13,758.0	75%	461.42	1,144.09	21,113,683.00	14	Private shareholder
2013	91.0%	-2.0%	4.4%	12,712.0	60%	457.33	1,153.00	25,192,831.00	15	Private shareholder
2014	76.0%	-11.0%	3.6%	13,137.0	62%	476.13	1,298.16	27,237,545.00	16	Private shareholder
2015	73.0%	-16.0%	3.9%	12,343.0	62%	619.84	1,442.11	26,529,311.00	17	Private shareholder
2016	76.0%	-11.0%	3.7%	11,393.0	62%	630.57	1,529.05	26,718,094.00	18	Private shareholder
2017	80.0%	-7.0%	3.0%	11,456.0	62%	649.10	1,560.63	21,579,000.00	19	Private shareholder
2018	91.0%	3.0%	3.9%	11,201.0	62%	632.67	1,445.70	21,061,100.00	20	Private shareholder

5. Benshangul MFI Financial and social performance

Benshangul MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	92%	-1%	22%	28,649.00	17%	325.41	1,483.00	63,728,735.00	8	Government Afflicted
2010	103%	0%	38%	28,874.00	17%	718.09	1,792.69	68,423,656.00	9	Government Afflicted
2011	90%	-3%	30%	32,125.00	20%	863.23	2,029.86	94,987,701.00	10	Government Afflicted
2012	154%	1%	38%	36,186.00	28%	1,018.44	2,176.73	135,486,532.00	11	Government Afflicted
2013	135%	5%	34%	44,785.00	16%	977.43	2,038.00	114,957,237.00	12	Government Afflicted
2014	114%	2%	24%	48,966.00	12%	865.81	2,535.51	145,761,043.00	13	Government Afflicted
2015	112%	3%	25%	41,633.00	15%	1,303.93	2,975.95	132,147,253.00	14	Government Afflicted
2016	114%	2%	13%	42,513.00	15%	1,524.00	3,806.29	180,996,793.00	15	Government Afflicted
2017	111%	0.0%	9%	42,859.00	15%	1,926.30	3,806.29	177,006,300.00	16	Government Afflicted
2018	114%	0.0%	8%	44,582.00	16%	1,623.88	3,208.73	180,996,794.00	17	Government Afflicted

6. BuusaaGonofaa MFI Financial and social performance

BuusaaGonofaa MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	145%	7%	2.00%	42,146.00	72%	205.18	1,161.00	60,137,624.00	10	Private shareholde
2010	147%	7%	2.00%	37,952.00	79%	227.86	1,289.23	60,137,627.00	11	Private shareholde
2011	159%	14%	0.68%	52,145.00	80%	230.31	1,467.88	83,601,961.00	12	Private shareholde
2012	151%	23%	0.60%	55,455.00	71%	358.74	1,967.10	124,146,513.70	13	Private shareholde
2013	150%	7%	0.44%	79,379.00	62%	411.68	2,032.00	191,002,713.00	14	Private shareholde
2014	157%	6%	0.80%	60,211.00	71%	927.65	2,679.32	190,962,804.00	15	Private shareholde
2015	159%	11%	0.88%	67,787.00	75%	433.98	2,377.35	201,341,921.00	16	Private shareholde
2016	161%	8%	0.81%	76,324.00	75.0%	1,529.35	4,258.39	234,034,819.00	17	Private shareholde
2017	163%	7%	0.38%	80,993.00	74%	1,327.84	3,666.32	401,826,300.00	18	Private shareholde
2018	158%	5%	0.27%	85,156.00	76%	2,156.59	4,904.42	468,609,600.00	19	Private shareholde

7. DECSI Financial and social performance

DECSI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	202%	3%	5.0%	407,780.00	38%	1,295.88	3,333.00	2,083,341,702.00	12	Government Afflicted
2010	107%	7%	7.0%	414,041.00	33%	1,515.28	3,651.44	2,137,258,700.00	13	Government Afflicted
2011	172%	2%	2.2%	381,920.00	25%	2,556.90	4,843.79	2,704,178,174.00	14	Government Afflicted
2012	139%	3%	4.5%	362,361.00	53%	3,425.26	5,587.36	2,990,760,165.00	15	Government Afflicted
2013	143%	2%	5.9%	380,356.00	26%	4,387.51	6,306.00	3,564,333,126.00	16	Government Afflicted
2014	148%	3%	0.8%	408,351.00	25%	5,314.56	6,899.00	4,198,502,058.00	17	Government Afflicted
2015	123%	14%	1.4%	404,109.00	25%	5,764.14	7,983.32	4,748,767,582.00	18	Government Afflicted
2016	152%	12%	1.5%	402,038.00	25%	6,411.83	7,821.66	5,048,575,469.00	19	Government Afflicted
2017	81%	-1,82%	1.2%	379,451.00	35%	12,571.33	9,653.23	7,057,217,100.00	20	Government Afflicted
2018	65%	6%	1.0%	342,261.00	30%	16,202.57	12,685.68	4,593,154,100.00	21	Government Afflicted

8. Digaf MFI Financial and social performance

Digaf MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	96%	-2%	15%	249.00	78%	382.06	980.00	1,606,750.00	5	Private sharehold
2010	71%	16%	22%	627.00	85%	1,071.33	2,175.64	1,631,959.00	6	Private sharehold
2011	94%	-41%	19%	270.00	83%	367.70	553.05	980,154.00	7	Private sharehold
2012	79%	-39%	29%	409.00	84%	835.74	977.96	788,236.00	8	Private sharehold
2013	72%	-23%	25%	435.00	84%	753.46	844.00	629,545.00	9	Private sharehold
2014	76%	-28%	15%	426.00	36%	974.86	874.54	815,895.00	10	Private sharehold
2015	89%	-11%	15%	131.00	76%	1,501.18	717.59	1,357,908.00	11	Private sharehold
2016	92%	-19%	15%	244.00	82.4%	1,166.97	1,829.57	1,697,707.00	12	Private sharehold
2017	71%	-1%	10%	115.00	40%	4,828.63	3,828.70	1,849,000.00	13	Private sharehold
2018	62%	-128%	14%	128.00	41%	3,295.69	2,350.78	2,498,300.00	14	Private sharehold

9. Harbu MFI Financial and social performance

Harbu MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	101%	0%	3%	12,541.00	70%	449.01	906.00	16,449,096.00	4	Private shareholde
2010	111%	1%	5%	17,455.00	68%	355.64	863.29	18,153,261.00	5	Private shareholde
2011	211%	12%	0%	15,753.00	65%	608.77	1,709.37	30,054,018.00	6	Private shareholde
2012	104%	12%	3%	24,096.00	65%	592.15	1,689.10	51,495,083.00	7	Private shareholde
2013	107%	1%	8%	21,241.00	39%	816.76	2,200.00	60,927,711.00	8	Private shareholde
2014	106%	9%	5%	20,543.00	39%	946.38	2,089.64	62,967,453.00	9	Private shareholde
2015	103%	16%	4%	27,565.00	42%	770.75	1,902.36	88,033,792.25	10	Private shareholde
2016	106%	19%	5%	28,825.00	32%	814.41	2,057.42	85,893,734.00	11	Private shareholde
2017	145%	1%	3%	28,901.00	45%	1,233.99	2,976.31	130,299,300.00	12	Private shareholde
2018	120%	3%	2%	30,603.00	36%	1,590.00	4,339.09	182,215,500.00	13	Private shareholde

10. Letta MFI Financial and social performance

Letta MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	83.0%	-12.0%	1.0%	434.00	90%	55.57	1,132.00	4,116,153.00	5	Private shareholde
2010	47.0%	34.0%	2.0%	811.00	51%	1,210.50	4,351.90	4,682,481.00	6	Private shareholde
2011	98.0%	19.2%	2.1%	925.00	69%	2,129.88	5,178.94	6,369,479.00	7	Private shareholde
2012	112.0%	8.8%	7.7%	2,007.00	39%	1,998.51	5,219.63	13,819,630.00	8	Private shareholde
2013	101.0%	2.0%	4.0%	2,312.00	39%	2,253.04	5,334.00	17,080,979.00	9	Private shareholde
2014	94.0%	0.0%	5.5%	2,416.00	48%	2,126.01	4,786.01	16,194,737.00	10	Private shareholde
2015	97.0%	6.0%	5.9%	1,897.00	31%	1,350.94	5,294.61	12,587,890.00	11	Private shareholde
2016	99.0%	8.0%	5.2%	1,770.00	31%	1,392.17	5,103.64	11,983,900.00	12	Private shareholde
2017	90.0%	10.0%	9.7%	1,803.00	30%	983.27	3,100.00	8,806,400.00	13	Private shareholde
2018	66.0%	-39.0%	9.1%	1,637.00	34%	733.09	1,576.85	5,275,400.00	14	Private shareholde

11. Meklit MFI Financial and social performance

Meklit MFI Financial and social performance										
Year	Operational self-sufficiency ratio	return on assets	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	136.0%	0.0%	16.0%	12,980.00	39%	590.55	1,498.00	22,216,005.00	9	Private shareholde
2010	90.0%	-2.0%	24.0%	14,224.00	43%	608.32	1,624.62	24,748,028.00	10	Private shareholde
2011	124.0%	6.5%	21.3%	11,883.00	44%	705.99	2,190.61	27,661,623.00	11	Private shareholde
2012	157.0%	9.5%	10.2%	9,845.00	46%	878.89	2,980.40	32,467,825.00	12	Private shareholde
2013	172.0%	10.0%	7.4%	10,459.00	49%	977.86	3,580.00	44,764,605.00	13	Private shareholde
2014	157.0%	9.0%	6.0%	11,059.00	47%	1,199.57	4,239.53	52,910,838.00	14	Private shareholde
2015	142.0%	9.0%	6.1%	10,619.00	46%	1,548.17	6,170.63	72,060,520.00	15	Private shareholde
2016	155.0%	9.0%	6.0%	10,947.00	39.0%	1,796.17	6,265.90	75,820,187.00	16	Private shareholde
2017	109.0%	8.0%	3.4%	10,728.00	43%	2,527.11	7,571.71	92,128,500.00	17	Private shareholde
2018	152.0%	27.0%	2.8%	7,134.00	42%	5,186.23	13,805.81	123,277,100.00	18	Private shareholde

12. Metemamen MFI Financial and social performance

Metemamen MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	116.0%	-1.0%	11.0%	14,154.00	77%	186.19	718	15,162,988.00	7	Private shareholde
2010	62.0%	-2.0%	12.0%	14,098.00	76%	192.68	804.38	16,268,100.00	8	Private shareholde
2011	85.0%	0.5%	12.8%	10,541.00	76%	273.93	1,134.88	17,238,857.00	9	Private shareholde
2012	99.0%	0.6%	4.6%	12,318.00	77%	301.42	1,659.99	22,874,919.00	10	Private shareholde
2013	125.0%	7.0%		14,352.00	66%	568.22	2,249.00	35,937,027.00	11	Private shareholde
2014	138.0%	6.0%	6.0%	17,148.00	70%	1,151.16	3,111.21	64,589,478.00	12	Private shareholde
2015	124.0%	8.0%	2.6%	17,148.00	70%	1,284.00	4,192.00	75,036,926.05	13	Private shareholde
2016	144.0%	6.0%	4.2%	15,291.00	69.6%	1,693.44	6,882.31	124,756,891.00	14	Private shareholde
2017	257.0%	17.0%	1.0%	20,149.00	70%	3,808.03	6,769.27	174,263,500.00	15	Private shareholde
2018	218.0%	19.0%	0.8%	14,915.00	64%	6,916.88	12,305.65	231,032,300.00	16	Private shareholde

13. OCSSCO MFI Financial and social performance

OCSSCO MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers	the loan Portfolio Loan per Borrowers	size of Assets	age	Ownership
2009	195.0%	3.0%	7.0%	364,584.00	39%	984.55	2,015.00	901,144,034	12	Government Afflicted
2010	161.0%	7.0%	5.0%	458,762.00	31%	949.48	2,282.18	1,388,149,603	13	Government Afflicted
2011	160.0%	5.4%	3.5%	502,540.00	35%	1,351.41	2,670.12	1,690,984,565	14	Government Afflicted
2012	205.0%	6.5%	3.2%	516,382.00	38%	1,930.26	3,333.71	2,208,736,910	15	Government Afflicted
2013	142.0%	4.0%	2.8%	724,802.00	34%	1,911.76	3,441.00	2,901,898,049	16	Government Afflicted
2014	142.0%	4.0%	2.6%	809,318.00	31%	2,662.86	4,392.68	4,566,488,272	17	Government Afflicted
2015	112.0%	4.0%	3.2%	908,828.00	36%	2,452.63	3,729.00	4,448,317,493.	18	Government Afflicted
2016	146.0%	6.0%	2.1%	1,008,828.0	32%	2,136.24	3,523.97	5,842,841,354.	19	Government Afflicted
2017	221.0%	18.0%	2.1%	889,146.00	32%	4,217.52	7,152.28	8,628,006,700.	20	Government Afflicted
2018	165.0%	17.0%	1.6%	993,013.00	34%	4,544.49	8,422.78	12,280,474,500	21	Government Afflicted

14. OMO MFI Financial and social performance

OMO MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers	size of Assets	age	Ownership
2009	102.0%	2.0%	7.0%	296,638.00	32%	547.98	1,559.00	511,045,896	12	Government Afflict
2010	150.0%	15.0%	7.0%	299,154.00	30%	707.73	1,796.21	633,155,638	13	Government Afflict
2011	116.0%	1.4%	15.2%	379,551.00	31%	803.58	1,779.72	737,095,007	14	Government Afflict
2012	110.0%	2.6%	9.4%	470,846.00	31%	1,041.64	1,967.34	1,324,741,093	15	Government Afflict
2013	141.0%	3.0%	1.7%	512,450.00	36%	1,515.03	2,626.00	1,944,344,190	16	Government Afflict
2014	139.0%	2.0%	3.5%	612,956.00	32%	1,899.48	3,329.53	2,710,586,819	17	Government Afflict
2015	131.0%	6.0%	6.2%	627,888.00	31%	1,148.31	1,784.46	3,202,698,427	18	Government Afflict
2016	122.0%	2.0%	3.2%	892,154.00	30%	1,852.77	3,247.66	5,113,468,141	19	Government Afflict
2017	109.0%	2.0%	3.8%	1,276,163	30%	2,064.17	2,918.50	5,794,756,800	20	Government Afflict
2018	126.0%	2.0%	2.6%	1,490,356	35%	2,385.33	3,737.20	8,628,254,800	21	Government Afflict

15. PEACE MFI Financial and social performance

PEACE MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	123.0%	2.0%	6.0%	18,174.00	81.0%	607.71	2,339.00	49,142,564.00	10	Private shareholde
2010	92.0%	2.0%	0.0%	18,894.00	81.0%	671.97	2,335.22	52,964,216.00	11	Private shareholde
2011	143.0%	9.3%	0.3%	18,156.00	82.0%	817.31	2,861.87	56,865,855.00	12	Private shareholde
2012	134.0%	6.5%	0.1%	19,004.00	82.0%	817.31	2,861.87	64,400,142.66	13	Private shareholde
2013	128.0%	4.0%	0.1%	22,935.00	79.0%	1,071.54	3,230.00	83,801,567.00	14	Private shareholde
2014	138.0%	5.0%	0.9%	21,845.00	81.0%	1,278.57	3,772.14	96,192,496.00	15	Private shareholde
2015	143.0%	17.0%	0.1%	22,210.00	81.4%	1,611.30	4,209.75	108,003,207.00	16	Private shareholde
2016	138.0%	5.0%	2.1%	20,476.00	81.3%	1,804.35	4,478.70	115,637,996.00	17	Private shareholde
2017	245.0%	24.0%	0.1%	19,016.00	77.7%	2,629.96	6,216.02	136,886,400.00	18	Private shareholde
2018	283.0%	17.0%	0.1%	21,065.00	74.0%	3,332.51	7,543.17	197,408,619.00	19	Private shareholde

16. SFPI Financial and social performance

SFPI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	120.0%	1.0%	3.0%	29,044.00	53.0%	553.94	1,170.00	53,603,247.00	11	Private shareholder
2010	77.0%	1.0%	3.0%	31,157.00	56.0%	604.09	1,382.09	61,356,680.00	12	Private shareholder
2011	143.0%	6.8%	6.0%	33,335.00	56.0%	657.38	1,524.14	69,884,320.00	13	Private shareholder
2012	129.0%	7.6%	2.7%	34,573.00	53.0%	768.24	2,527.17	92,953,802.00	14	Private shareholder
2013	153.0%	8.0%	1.9%	35,943.00	53.0%	983.25	3,508.00	140,984,345.00	15	Private shareholder
2014	152.0%	8.0%	0.1%	36,060.00	54.0%	1,171.46	4,127.06	164,347,228.00	16	Private shareholder
2015	139.0%	13.0%	1.1%	41,914.00	54.0%	1,457.57	4,060.89	242,568,468.00	17	Private shareholder
2016	152.0%	18.0%	0.1%	40,224.00	54.0%	1,787.40	5,600.16	256,855,822.00	18	Private shareholder
2017	323.0%	33.0%	0.8%	35,948.00	53.0%	2,430.73	5,794.10	290,582,900.00	19	Private shareholder
2018	124.0%	4.0%	0.6%	22,956.00	58.0%	4,602.46	11,080.62	344,065,600.00	20	Private shareholder

17. Kendil Financial and social performance

Kendil Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	145.0%	4.0%	3.0%	2,800.00	46%	331.15	3,371.00	11,735,531.00	8	Private shareholde
2010	223.0%	4.0%	2.0%	3,158.00	42%	620.72	3,129.82	13,308,958.00	9	Private shareholde
2011	140.0%	6.4%	2.3%	4,144.00	28%	800.93	2,644.63	15,527,900.00	10	Private shareholde
2012	124.0%	18.9%	2.0%	1,449.00	32%	2,638.51	7,236.97	15,600,130.00	11	Private shareholde
2013	129.0%	7.0%	1.7%	2,244.00	38%	2,538.85	6,029.00	20,096,756.00	12	Private shareholde
2014	164.0%	7.0%	2.4%	2,241.00	43%	2,659.69	8,201.68	25,658,526.00	13	Private shareholde
2015	161.0%	10.0%	2.1%	2,015.00	36%	3,992.43	12,088.80	36,006,569.00	14	Private shareholde
2016	166.0%	9.0%	2.5%	4,293.00	30%	1,969.35	5,514.61	35,260,727.97	15	Private shareholde
2017	139.0%	9.0%	1.9%	3,293.00	45%	2,454.73	7,063.89	35,303,200.00	16	Private shareholde
2018	143.0%	11.0%	1.0%	4,049.00	48%	3,062.13	11,025.99	59,813,800.00	17	Private shareholde

18. Wasasa Financial and social performance

Wasasa Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	184.0%	8.0%	1.0%	42,276.00	46%	496.91	1,515.00	84,441,028.00	9	Private shareholde
2010	145.0%	3.0%	4.0%	42,862.00	45%	561.66	1,946.42	95,162,636.00	10	Private shareholde
2011	163.0%	6.4%	2.3%	53,981.00	43%	593.10	2,111.26	127,656,983.00	11	Private shareholde
2012	185.0%	7.5%	1.3%	58,911.00	41%	651.39	2,555.26	191,969,351.00	12	Private shareholde
2013	139.0%	6.0%	0.5%	65,768.00	41%	1,099.69	3,097.00	238,820,224.00	13	Private shareholde
2014	141.0%	5.0%	1.1%	68,827.00	43%	1,193.09	3,731.03	309,331,652.00	14	Private shareholde
2015	115.0%	3.0%	0.8%	77,392.00	45%	1,536.78	4,575.93	441,750,530.00	15	Private shareholde
2016	141.0%	15.0%	1.0%	78,778.00	45%	1,042.38	3,259.74	558,265,214.00	16	Private shareholde
2017	238.0%	21.0%	0.5%	67,381.00	44%	2,423.27	5,937.41	550,942,651.00	17	Private shareholde
2018	256.0%	70.0%	0.5%	57,681.00	42%	1,770.58	7,091.53	571,858,533.00	18	Private shareholde

19. Vision Fund Financial and social performance

Vision Fund Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age	Ownership
2009	107.0%	-2.0%	5.0%	56,302.00	66%	384.02	1,702.00	107,449,971.00	10	Private shareholde
2010	71.0%	-1.0%	9.0%	47,685.00	78%	469.58	1,882.53	120,607,946.00	11	Private shareholde
2011	86.0%	-2.6%	2.1%	45,331.00	64%	619.92	3,994.52	138,728,224.00	12	Private shareholde
2012	96.0%	1.3%	1.4%	59,219.00	65%	949.82	3,057.73	254,225,085.00	13	Private shareholde
2013	139.0%	6.0%	1.8%	63,024.00	66%	1,472.98	4,344.00	383,459,929.00	14	Private shareholde
2014	118.0%	4.0%	0.7%	55,924.00	63%	2,432.06	5,098.52	434,864,823.00	15	Private shareholde
2015	102.0%	4.0%	5.2%	90,922.00	56%	2,119.44	4,690.00	538,622,278.00	16	Private shareholde
2016	118.0%	4.0%	0.7%	102,656	54%	2,229.42	4,911.22	614,734,472.00	17	Private shareholde
2017	271.0%	25.0%	2.8%	126,648	51%	2,503.30	5,379.15	776,365,100.00	18	Private shareholde
2018	255.0%	22.0%	1.7%	169,183	49%	1,861.86	6,560.58	1,270,298,855	19	Private shareholde

20. Eshet MFI Financial and social performance

Eshet MFI Financial and social performance										
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Asset	age	Ownership
2009	101.0%	1.0%	11.0%	27268	32%	1,350.00	1,754.00	42881802	10	Private shareholde
2010	195.0%	4.0%	17.0%	18,378.00	44%	208.88	1,834.34	45,253,660	11	Private shareholde
2011	86.0%	-0.3%	12.5%	18,935.00	42%	307.02	2,153.79	46,208,674	12	Private shareholde
2012	77.0%	12.4%	5.1%	22,785.00	35%	439.7257	2231.617	55,007,219	13	Private shareholde
2013	118.0%	3.0%	4.6%	22,297.00	33%	801.6714	2,706	65,610,607	14	Private shareholde
2014	102.0%	3.0%	6.6%	19,565.00	35%	1299.877	2951.197	66,238,779	15	Private shareholde
2015	114.0%	6.0%	5.0%	15,406.00	34%	1,582.24	3,474.89	59,802,430	16	Private shareholde
2016	123.0%	3.0%	6.6%	14,692.00	33%	1,461.04	3,341.96	58,969,024	17	Private shareholde
2017	126.0%	8.0%	4.7%	12,825.00	32%	1,645.63	3,825.70	57,977,300	18	Private shareholde
2018	120.0%	6.0%	4.8%	10,148.00	36%	2,186.28	4,679.10	56,936,200	19	Private shareholde

21. All 20 MFI Financial and social performance

20 MFI Financial and social performance									
Year	Operational self-sufficiency ratio (OSS)	return on assets (ROA)	Portfolio Quality PaR>30 days	Active borrowers	women borrowers	Saving Amount (Saving per Borrowers)	the loan Portfolio Loan per Borrowers)	size of Assets	age
2009	133.2%	1.4%	7.0%	110,543.00	54.3%	593.58	1,722.65	338,942,144.00	8.95
2010	115.7%	5.1%	9.0%	115,308.10	54.1%	710.98	2,132.72	392,086,759.40	9.95
2011	134.4%	2.9%	7.7%	121,795.00	53.5%	880.07	2,469.51	496,661,780.50	10.95
2012	136.9%	5.2%	7.2%	134,018.00	53.0%	1,303.49	3,014.25	661,743,644.57	11.95
2013	138.7%	3.4%	5.7%	155,383.00	48.1%	1,587.20	3,578.25	865,149,487.85	13
2014	138.0%	3.0%	4.6%	170,975.55	46.5%	2,101.20	4,221.60	1,194,173,587.55	14
2015	130.9%	6.5%	4.7%	200,586.00	46.7%	2,346.91	5,099.15	1,543,874,429.80	15
2016	137.9%	6.4%	3.9%	221,393.30	45.9%	2,230.63	5,261.74	1,850,987,220.50	16
2017	167.1%	10.4%	3.2%	229,042.00	45.7%	3,578.61	6,210.53	2,348,989,492.55	17
2018	149.2%	4.1%	2.8%	248,837.00	45.8%	4,233.53	7,947.05	3,032,262,565.05	18

