The Determinants of Profitability

(Evidence from MFIs in Addis Ababa)

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BOARD OF EXAMINERS APPROVAL SHEET

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DECLARATION

I, Khalid Abdishakur Bedri, declare that the study entitled "The Determinants of Profitability: evidence from MFIs in Addis Ababa" is the result of my own effort in research undertaking. All information in this document has been obtained and presented in accordance with the academic rules and ethical conduct. This Research has not been submitted to any Degree or Diploma in any college or university. It is submitted in the partial fulfillment of the requirement for the Award of Master's of Business Administration degree in Accounting and Finance. Lastly I have fully cited, acknowledged and referenced all material and results that are not original to this work. Therefore, this thesis is my original work.

Name: Khalid Abdishakur Bedri

      Signature_____

This Thesis has been submitted for examination with my approval as College supervisor.

Advisor: Abraham Gebregiorgis

      Signature___ _____ _____

      Date_____26/08/2020___

CERTIFICATION

This is to certify that Mr. Khalid Abdishakur Bedri has properly completed his research work entitled "The Determinants of Profitability: evidence from MFIS in Addis Ababa" with my guidance through the time. In my suggestion, his task is appropriate to be submitted as a partial fulfillment requirement for the award of Master's of Business Administration degree in Accounting and Finance.

Research Advisor

_____ _____

Signature and Date

ABSTRACT

The role of MFIs in the development process of a nation is remarkable. Micro finance has fascinated noteworthy attentiveness in recent years, both from policy makers and in the academia. The main objective of this study was to examine the determinants of profitability using mixed research approach and explanatory research design. Besides, the study used multivariate regression analysis and relied on statistical techniques aided by panel data analysis for the problem under study. The study found that number of borrowers, capital to asset ratio operational efficiency and GDP are positively and significantly affects profitability at 1%. Moreover, quality of portfolio and age are positively and significantly affects MFIs profitability at 5%. However, inflation negatively and significantly affects profitability MFIs at 1%. MFIs have to advance their service quality by expanding their operation to meet the needs of unbanked society and to increase a number of women clients. So, the management of MFIs needs to improve the idle resource management and focus on their internal factors such as capital adequacy, credit risk provisioning and efficiency in the management of operating expenses. In addition, additional policy support is needed such as financial provision, market information and training, to enhance the development of economic growth and the different areas where difficulties are being faced on the way to provide microfinance services.

Keywords: Profitability, Return on Asset, Microfinance Institutions

ACKNOWLEGEMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AdCSI	Addis Credit and Saving Institution Share Company
AEMFI	Association of Ethiopian Microfinance Institutions
AVFS	African village financial service
CAR	Capital adequacy ratio
CLRM	Classical linear regression model
EFF	Efficiency
ETB	Ethiopian Birr
GDP	Gross domestic product
GLP	Gross loan portfolio
IMF	International Monetary fund
InTA	Natural logarithm of total assets
MFIs	Microfinance Institutions
MFO	Microfinance Organizations
MIX	Microfinance Information exchange
MoFED	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia
NGOs	Non-Governmental Organization
OLS	Ordinary least square
PEACE	Poverty Eradication and Community Empowerment Microfinance Institution Share Company
RMP	Relative market power
ROE	Return on Equity
SFPI	Specialized Financial and Promotional Institution, Share Company
US $	United states Dollar

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CHAPTER ONE
1. INTRODUCTION

The first chapter presents introductory part of the study which covers background of the study, statement of the problem, main and specific objectives and research questions, and definitions of different terms, significance and scope of the study with organization of the study.

1.1 Background of the Study

Microfinance provides strength to boost the economic activities of low-income earners and thus contributes to poverty reduction. Due to this fact, microfinance organizations are aggressively prevalent in developing countries, and participation in Microfinance Organizations' (henceforth, MFO's) is costly (Kahiga, 2014). Additionally, there is the opportunity cost of time spent attending meetings. Besides, members suffer from the risk of default from other members - which could eventually lead to the breakdown of the MFO; saving with MFOs is less flexible than saving on their own as the MFO saving rate is likely to differ from their optimal saving rate (Rosaly, Fred and Nicholas, 2013).

Micro-finance is one of the ways of enhancing the capacities of the poor who are largely ignored by commercial banks and other lending institutions and graduating them to sustainable self-employment activities by providing them financial services like credit, savings and insurance (Phillips and Donggyu, 2007). It has outstanding succeeded in improving the livelihoods of the poor, through the provision of financial services. Such initiatives are widely sponsored by a variety of organizations including United Nations, World Bank, Local and National Governments and many generous organizations (NGOs). Micro finance is capable of motivating small scale investments from otherwise unrealized market activities while rewarding investment returns through alleviating financial constraints, (Robinson, 2001).

Microfinance offers strength to boost the economic activities of low-income group people and thus contributes to eradication of their poverty. For that reason, its benefits and significant is highly noticeable the poor are unbankable in the views of the formal financial institutions. In addition, this is because the poor fail to bet collateral which these institutions put as a pre-condition for discernment of a loan (Rosaly*et al*., 2013). Multibillion poor people pursue access

to basic financial services worldwide and ignored by commercial banks for a long time (Phillips and Donggyu, 2007).

Since Ethiopia is one of the least developed countries in the world and its peoples are poor, the establishment of sustainable MFIs that reach large number of rural and urban poor who are not served by the formal financial institutions, such as commercial banks has been a prime component of the new development strategy of Ethiopia (Yonas, 2012). Therefore, Ethiopian MFIs needs to achieve more and be more important than profits. In light of this, Ethiopian MFIs should be subsidized so that they attain their intended target. While others argue that even if the goal of MFIs is alleviation of poverty by helping the active poor through provision of credit; since they charge higher interest rate which they think as compensation for different costs related to the credit and since they need to strengthen their financial position, it could be said that their objective is also gaining profit, so that it cannot be said that MFIs are not generating profit which exceeds their costs. Being in harmony with the concept of profitability, to make MFIs a sustainable source of finance for the larger poor, this study focused on identifying determinants of micro finance profitability which contribute for the sustainability of the MFIs and make them a reliable source of finance for the poor, taking into account MFIs operating in Addis Ababa, Ethiopia.

1.2 Statement of the Problem

The Microfinance industry, along with all the players in it, is quickly ever-changing. The microfinance industry has become both more overcrowded and multidimensional. The concept of microfinance no longer just covers microcredit, but also includes the possibilities of saving, insurance and money transfer (Sufian and Shah, 2009). Nonetheless, there are a great variety of MFI's in terms of authenticity, product portfolio, profit status, degree of sustainability and funding sources. Tregenna (2009) exhibited that MFIs are undergoing an actual transformation from the traditional donor-driven framework towards a greater degree of capital market involvement. Phillips and Donggyu (2007) noted as MFIs become profitable after seven to ten years of start-up support by mainly donor community.

But the question is whether the MFIs attain the stated objective of profitability given their different diversity from poverty reduction to profitability every time as they are engaged in financial transaction. This is also exaggerated as MFIs are in infant industry stage like Ethiopian

MFIs. As Muriu (2011) noted argument is often used as a parallel to why institutions should be subsidized in the beginning. Start-up costs are significant and microfinance institutions often need help from non-profit organizations to get started, but the long-term success of any microfinance institution lies in its ability to attain profitability, since no one knows when subsidies or donations stop.

On other hand, profitability leads to greater access to capital and MFIs needs financially sustainable adopting commercially motivated for-profit strategies and thereby be able to achieve the goal of reducing poverty among large numbers. It is complicated as most of their shares (90%) are preserved by the borrowers, and the remaining 10% is maintained by others like government. But then again MFIs dreams self-reliant and they prefer profitable by minimizing the probability of financial crisis, impressive profits are vital in reassuring MFI's stakeholders, including investors, borrowers, suppliers and regulators (Sima, 2013). At the macro level, a profitable microfinance industry is better placed to overcome negative shocks and contribute meaningfully to the stability of the overall financial system (Phillips and Donggyu, 2007).This is a lesson that their profitability should be measured, monitored and evaluated by financial and non-financial like managerial factors with the consideration of specific and macro dimensions. Due to this fact, several research on financial institutions profitability have been undertaken in the conventional banking industry (like Muriu, 2011; Balkenhol (2007) and Athanasoglou et al 2008), but inconsistent results were found by their empirical evidence on microfinance profitability studies.

Inconsistent results, mixing sampling of long served and new MFIs, rigid with historical data and varying analysis problem were found in Ethiopia such as Birhanu (2007), Alemayehu (2008) and Letenah (2009). Besides, they found contradicting results with each other regarding profitability performance of MFIs. The above mentioned indicators show the possible gaps in related empirical literature and found discrepant results on the profitability of MFIs. It was supposed that MFIs must be profitable for their healthy operation and attainment of the long term goal which is alleviation of poverty. Thus, this study was intended to investigate the internal and external factors affecting profitability of MFIs and fill the gap in the context of Ethiopian MFIs. For that reason, the study on the determinants of profitability of MFIs since studies on the area is rare.

1.3 Research Questions

- What is the financial performance trends of MFIs in Addis Ababa,
- How the specific factors affect the profitability of MFIs
- How the macro factors affect the profitability of MFIs

1.4 Objectives of the Study

1.4.1 General Objective

The main objective of this study is s to examine the determinants of MFIs profitability in Addis Ababa.

1.4.2 Specific Objectives

This study on the determinants of MFIs profitability assumed the following specific objectives:

- To assess the financial performance trends of MFIs in Addis Ababa
- To examine the effects of specific factors on the profitability of MFIs
- To investigate the effects of macro factors on the profitability of MFIs

1.5 Significance of the Study

This study presents great significance to MFI executives, policy makers, researchers, academicians as well as shareholders of MFIs. First, it will response the questions on why some MFIs in Ethiopia are more successful than others and to what extent are discrepancies in these MFIs' profitability due to variations in factors under the control of their management. The finding of the study is spirited to the development of effective strategies aimed at eradicating distress and enhancing profitability of MFIs operating in Ethiopia.

Second, the study will have imperative policy implications and thus will benefit MFIs regulatory authorities in Addis Ababa and Ethiopia determine future policies and regulations to be formulated and implemented towards improving and sustaining MFI sub-sector profitability and stability as it engaged on researching on the factors determining the profitability of MFIs.

Third, the study will add on the theoretical and empirical related literature on the determinants of the MFIs and their profitability and financial management. For that reason, it will fill an

important gap in the existing literature and improve the understanding of researchers' and scholars' knowledge on MFIs profitability.

Last but not least, the outcome of this study will be of tremendous importance to the shareholders and managements of MFIs to make effective decisions that will help to boost the profitability of their respective microfinance institutions. The findings of the study will also be of benefits to stakeholders like donors, managers and government in that it helps them to identify what factors contribute to profitability of MFIs and what measures should be taken for future for the attainment of the long term objective of MFIs, which is poverty reduction. Overall, it is believed that the study will be a stepping stone for further studies in the area of profitability of MFIs.

1.6 Scope of the Study

The scope of the study was restricted to the assessment of the factors affecting profitability of MFIs in Ethiopia particularly in Addis Ababa which are registered by the NBE and that had operated at least for fourteen years.

1.6.1 Methodological Scope

The secondary data used 14 years data for the period of 2005 to 2018 GC; it basically covered a panel data of these MFI's over the indicated period. It is also delimited to MFI's in Addis Ababa and member of AEMFI. This is due to the fact that the association is responsible for publishing performance analysis report of MFIs in Ethiopia which is mainly used for this study. They were picked sample because these banks play a major role in determination of interest rate margin in the entire research period. The sample included the top preformed four MFIs in Addis Ababa.

1.6.2 Geographical Scope

This study focused on MFIs in Addis Ababa as they actively participated on an association promoting exchange of transparent financial and other MF related information in Ethiopia.

1.6.3 Theoretical Scope

This study more focused on one dimension of breadth of outreach that was number of active borrowers; assumed that the larger the number of borrowers the better the outreach. In addition, it included financing structure as capital to asset ratio measured as adjusted total equity divided by adjusted total asset, portfolio quality using portfolio at risk past due 30 days (PAR>30),

operating efficiency as operating expense ratio which is adjusted operating expense divided by adjusted average gross loan portfolio (AEMFI), natural logarithm of total asset of MFls, the number of years MFI has been in operation in order to capture learning effect in MFI performance (AEMFI). Moreover, it contained real gross domestic product (GDP) Economic growth (GDP) measured as change in the real domestic product/GDP growth of Ethiopia on the year T. The proxy will be change in growth rate of real GDP. And inflation measured as percentage change in consumer price index in Ethiopia.

1.7 Definition of Terms

1.7.1 Conceptual Definition

- **MFI** defined as microfinance institution is an organization that provides the microfinance services to low-income clients (Jorgensen, 2012).

1.7.2 Operational Definition

- **Return on Assets** reflects the ability of a MFI management to generate profit from a MFI asset, although it may be biased due to off balance-sheet activities (Muriu, 2011).

- **Breadth of outreach -** The breadth of outreach refers to the number of poor served by a micro finance institution (Sima, 2013).

- **Financing structure -** measure how much of the MFIs assets are funded with owners fund (inverse to leverage ratio) (Jorgensen, 2012).

- **Portfolio quality –**refer to the asset quality increases profitability increases since they are directly related; that is poor credit quality has negative effect on profitability and vice versa (Sima, 2013).

- **Operating efficiency -** is typically measured using operating efficiency ratio (OER) where lower OER is favored over higher OER as lower OER indicates that operating expenses are lower than operating revenues (Sima, 2013).

- **Size –**It is measured by Natural logarithm of total asset of MFls as a proxy of size (Jorgensen, 2012).

- **Age -** MFI has been in operation in order to capture learning effect in MFI performance; thus, it is denoted by the number of years (Jorgensen, 2012).

- **GDP -** assumes the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products (Jorgensen, 2012).
- **Inflation -** Inflation is a galloping rise in price (Athanasoglou, *et al.*, 2008).

1.8 Limitation of the Study

This study has various shortcomings. Out of which, the main shortcomings was involved in the top of data was collected only for four MFI's of 14 years data. Others including regional MFIs were not included in this study. This is due to the fact that most of the MFIs were aged below 14 years and lack of appropriate willingness to participant in the study. These made difficulties during data collections & lack of up-to-dated information from MFIs. Accordingly, the result this study can't necessarily represent for all Ethiopian MFIs and similar to these businesses in the country, because the sample are not presentation of the entire MFIs in the country.

1.9 Structure of the Study

As a final point, the rest of the study's sections is prepared and organized into four main chapters. Accordingly, chapter two presents MFIS profitability and their determinants and foundation theories that related literature review part of the study which includes empirical and theoretical related literature. On other hand, chapter three presents the research design and methods of the study which includes description of the study, research methods and approach, sampling and data analysis methods and ethical consideration among others. Chapter four filled with data presentation including the analysis of results and interpretation. Some of them are response rate, respondents' background, description and inferential analysis. As a final point, conclusions and recommendations of the study were contained within in chapter five.

CHAPTER TWO
2. RELATED LITERATURE REVIEW

This chapter presents related literature on profitability of financial institutions, the empirical findings from global and Ethiopian perspective and conceptual frame work of the study.

2.1 Theoretical Literature Review

2.1.1 Micro Finance Related Models

This study presents important theories by borrowing from the conventional banking theories that attempt to explain profitability of financial institutions. It is familiarized as there are a lot of theories which could be applicable to the functioning of MFIs.

2.1.1.1 The Structure Conduct Performance Model

SCP model is one of the most primitive frameworks used to inspect the factors that determine the profitability of Banks (Rosaly, et al., 2013). The structure of an industry refers to the factors such as technology, concentration, and market conditions. Conduct is defined as how individual firms behave in the market. It involves pricing decisions (such as interest rate, commission and fees), advertising decisions, and decisions to invest in research and development, among other factors (Baye, 2010).

On other hand, performance is also defined as the resulting profits and social welfare that arise in the market. In this regard, the SCP paradigm views these three (pricing, advertising and research and development) decisions aspects of the industry as being integrally related and asserts that the market structure causes firms to behave in a certain way. Consequently, this behavior causes resources to be allocated in certain ways leading to either an efficient or inefficient market. This model only fails to recognize that performance can impact on structure and conduct while structure can impact on both performance and conducts. For that reason, the SCP model asserts that factors external to the organizations such as market conditions are primarily indirect determinants of profitability (Sima, 2013).

Rosaly et al., (2013) cited Mason (1939) and Bain (1951) who were the earliest and prominent to propose that profit of firms are determined by concentration level of the market. They demonstrated that profits of firms operating in highly concentrated industries are significantly

higher than that of firms operating in industries with lower concentration. The Structure Conduct Performance (SCP) paradigm presupposes that a higher banking industry concentration permits the collusion of banks to set higher prices and consequently gain substantial profits (Samad, 2008).

2.2 Sustainability Versus Profitability theories of MFIs

Sima (2013) defines sustainability as the ability of an MFI to stand on its own feet financially after a period of operations. It shows the ability of a MFI to cover its operating and other costs from generated revenue and provide for profit. It is an indicator which shows how the MFI can run independent (free) of subsidies. Financial sustainability directs the ability of an MFI to survive in the long- run by means of its own income generating activities. It refers that the ability of a microfinance provider to cover all of its costs on an unsubsidized basis or without accepting donation (Rosaly et al., 2013).Whereas profitability means ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It shows how efficiently the management can make profit by using all the resources available in the market (Athanasoglou, *et al*., 2008).

On other hand, profit can be defined simply as a financial benefit that is realized when the amount of revenue gained from a business activity exceeds the expenses, costs and taxes needed to sustain the activity. Obviously, it is the surplus remaining after total costs are deducted from total revenue, and the basis on which tax is computed and dividend is paid and known as measure of success in an enterprise. It is reflected in reduction in liabilities, increase in assets, and/or increase in owners' equity and furnishes resources for investing in future operations, and its absence may result in the extinction of a company. As an indicator of comparative performance, however, it is less valuable than return on investment (ROI). It also called earnings, gain, or income (Baye, 2010).

2.2.1. Profitability theories

This part discusses about the existing profitability theories that include market power, efficiency, balanced portfolio and risk return trade off theory. Although there is no such recognized theory of profitability for MFIs, this study virtuously applied reviewing commercial banking related theories, ever since MFIs provide banking service to the poor.

2.2.1.1 The Market Power Theories

The market power theory states that the bank performance is influenced by the market structure of the industry. Structure-conduct-performance (SCP) and the relative market power (RMP) theory are the two distinct approaches within this theory (Samad, 2008). SCP approach is that the level of concentration in the banking market tends to raise profit through raising market power. Whereas, as the RMP approach says bank profitability is influenced by market share; which is large banks with differential product can influence prices and increase profit which has no or less competition (Tregena 2009).

2.2.1.2 The Efficiency Theory

The efficiency theory says the more efficient banks earn high profits. X-efficiency and scale-efficiency are the two approaches under efficiency theory. Where X-efficiency says firms which are more efficient tend to earn high profit because they can lower their operating cost, the scale efficiency says larger firms can obtain high profit because of lowering their unit costs and through economies of scale. Under X-efficiency approach, firms with lower costs tend to gain larger market share which implies high concentration but, this concentration do not have any causal relation with their profitability. However, in the scale- efficiency approach, economies of scale enable the large firms to acquire higher market share which helps them to get high concentration then high profit (Athanasoglou et al. 2006).

2.2.1.3 The Balanced Portfolio Theory

According to the balanced portfolio theory, the optimum asset balance is a function of rates of return on all assets held in the portfolio, risks associated with the ownership of each financial assets and the size of the portfolio; which requires the decision of the management. The best portfolio composition determined for each and every asset considering risk and return, by the banks management; enables the bank to minimize risk and maximize profit (Sufianand Shah, 2009).

2.2.1.4 Risk-return Trade off Theory

The risk return trade off theory states that as firms increase risk through increased leverage (debt over equity), they tend to earn higher profit. In contrast, signaling and bankruptcy cost hypotheses are opposite to the above two theories. Signaling hypothesis says that high equity

ratio (equity over debt) leads to high profit and bankruptcy cost hypothesis says that where bank expects the bankruptcy costs will be high, they accumulate higher equity capital to avoid financial distress (Mondal, 2009).

2.2.2. Sustainability Theories

In order to analyze the sustainability of MFI, this study provided the two recognized and widely accepted theories have been used here. Actually, they enable a comparison among MFIs all over the world. These two most significant ratios are Financial Self -Sufficiency and Operational Self Sufficiency.

2.2.2.1 Financial Self Sustainability

It corrects for soft loans by making adjustments that price capital at its market cost. It takes into account additional adjustments to operating revenues and expenses that are good for the MFI could cover its costs if its operations were unsubsidized and if it were funding its spreading out with liabilities at market prices. It basically describes the ability to cover all costs on adjusted basis and point toward the institution's ability to activate without ongoing subsidy (i.e. including soft loans and grants) or losses (Tregena 2009).

2.2.2.2 Operational sustainability

It measures the extent to which the operating revenues of MFI cover its operating cost. It is basically expresses revenues mainly come from interest and fees paid by borrowers, on the other hand typical institution also generates income from investment and other services. The financial expense in the denominator of this refers that to the cost of raising capital. Actually, it takes account of the interest and fee that the institution pays to commercial banks, shareholders and other investors (Baye, 2010).

2.2.3 Expense-Preference Behavior

In this theory, it is proposed that the main goal which managers pursue is to maximize not profit but own utility or utility of the firm, which is usually achieved via increasing salaries or other staff expenses (Sufian and Shah, 2009). In as much as MFIs are not profit oriented it is necessary to prioritize certain expenses which will not increase the cost of running the operation and hence to ensure sustainability of MFIs.

2.2.4 Other Theories

2.2.4.1 Institutional Theory

The Institutionalism school supposed that financial developing is setting up of a separate system of sustainable financial intermediation for the poor who are either neglected or are underserved by the formal financial system as main aim of microfinance. They also give emphasis to more on the achievement of financial self-sufficiency, breadth of outreach (numbers of clients), depth of outreach (levels of poverty reached) and positive client impact (Jordan, 2008). It is based on effectively fighting the problem of poverty as to build microfinance industry as a system in which able to reach a large number of people. Thus, the lump sum of money should be provided from MFIs them-self instead of donors. Moreover, they believe and focus that if the approach of building sustainable MFIs is used the poorest was also benefit from it, while the other way around of targeting the poorest with highly subsidized programs have a low overall impact due to the limited and unstable donor funding. The institution position has clearly obtained success within the microfinance community (Mondal, 2009).

2.2.4.2 The Welfares School

The focus of this school of thought is on the unexpected improvement in the well-being of participants. According to Jordan (2008), though there are significant lines of differences between the two schools of thought, they have some similarities as well. In as much as the two approaches seek to solve the problem of financial needs of the poor, microfinance activities should aim at achieving the objectives of the two approaches. The welfare approach focuses on depth (number of clients reached) rather than breadth of outreach (poverty level of clients) and accept subsidies on an ongoing basis. Welfares accept subsidies as they believe and focus that if sustainability is considered as a necessary requirement, the accomplishment of the social mission of microfinance is at risk (Mondal, 2009). .

In summary, this study aimed to include breadth of outreach and attempted to accept subsidies on an ongoing basis rather than depth (number of clients reached). This study was also intended to include financial developing setting up that maintain financial intermediation for the poor who are either neglected or are underserved by the formal financial system. Attainment of financial

self-sufficiency and breadth of outreach (numbers of clients) was also included and involved in more efficient banks that earn high profits.

The profitability was largely presumed in the study as it is an important criteria to measure the performance of financial institutions in addition to productivity, financial and operational efficiency, has come under pressure because of changing environmental requirement of safe custody of money. It included efficient management of MFIs' operations that ensured growth in profits and efficiency requires up-to-date knowledge of all those factors on which the bank's profit depends. This is because micro finance can be changed by the resource productivity, increasing level of deposits, credits and profitability and decrease in non-performing assets. It is important to note that the profitability is an important criterion to measure the performance of financial institutions in addition to productivity, financial and operational efficiency. Consequently, an efficient management of MFIs' operations aimed at ensuring growth in profits and efficiency requires up-to-date knowledge of all those factors on which the bank's profit depends (Arby, 2003).

2.3. Overview of Microfinance

There is a lot of definition about microfinance as it is given by different authors and institutions. Mondal (2009) well-defined microfinance as commonly associated with small, working capital loans that are invested in microenterprises or income-generating activities. Robinson (2001) also defined microfinance as small scale financial services primarily credit and saving provided to people who farm or fish or herd; who operate small enterprises or micro-enterprises where goods are produced, recycled, repaired or sold; who provide services; who work for wage and commission; who gain income from renting out small amount of land, vehicles, draft animals, or machinery tools; and other individual and groups at the local level of developing countries both rural and urban area. Jorgensen (2012) defined MFI as microfinance institution is an organization that provides the microfinance services to low-income clients.

UNCDF (2002) clarified that the Microfinance information exchange (MIX) defined the microfinance institutions as a variety of financial services that target low-income clients, particularly women. Since the clients of microfinance institutions have lower incomes and often have limited access to other financial services, microfinance products tend to be for smaller monetary amounts than traditional financial services. These services include loans, savings,

insurance, and remittances. Micro-loans are given for a variety of purposes, frequently for micro-enterprise development. Different institutions also described MFI in their own way. Microfinance is referred to more generally as the provision of financial services to those excluded from the formal financial system (Mondal, 2009).

The typical users of microfinance services are traders, street vendors, small farmers, service providers (hairdressers and rickshaw drivers), artisans and small producers, such as blacksmiths and seamstresses and belong to the economically active poor population that are living close to the poverty line and are therefore self-employed, low-income entrepreneurs in both urban and rural areas (UNCDF, 2002).

Alemayehu (2008) also stated that Microfinance services may be seen in terms of four main mechanisms. Loans that allow a lump sum to be enjoyed now in exchange for a series of savings and that to be made in the future in the form of repayment installments. In addition, it is vital to understand that savings; allow a lump sum to be enjoyed in future in exchange for a series of savings made now. Besides, insurance can be seen as to allow a lump sum to be received at some unspecified future time if needed in exchange for a series of savings made both now and in the future. Insurance likewise includes income pooling in order to spread risk between individuals on the assumption that not all those who contribute will necessarily receive the equivalent of their contribution.

2.3.1. History of Microfinance

The prominent founding father of Grameen Bank, Professor Muhammad Yunus, with his own lending policy started its operations in Bangladesh where in the 1970s. He is known and in our time a synonym for microfinance. For example, Alemayehu (2008) detailed informal finance and self-help have been at the origin of microfinance in Europe. More formal credit and savings institutions for poor people were already established in Ireland by the Irish Loan fund system as early as 1720, using peer monitoring to enforce the repayment in weekly installments of initially interest free loans from donated resources. In the early 1800s a financial organization based on cooperative principles was founded by Friedrich Wilhelm Raiffeisen in Germany and expanded rapidly within Germany and later also to the rest of Europe, North America and developing countries beyond.

Raiffeisen formed credit associations, mainly for farmers in rural areas that were later known as "Raiffeisenkassen" and now "Raiffeisenbanken" (Mondal, 2009). He styled the focus of these cooperative financial institutions as savings mobilization in rural areas that attempt to teach poor farmers how to save money, In the early 1900s the concept of Raiffeisen began to appear with adaptations in parts of rural Latin America(Degefe 2009).Besides the financial services offered, the Raiffeisen-cooperatives created a tailor-made sales and trading platform for their rural members to cover their needs in agricultural products such as seeds and fertilizers for production on the one hand and giving them access to subordinate markets for their products on the other, however all based on a minimum of cost and maximum for their direct profit. In case of any surpluses achieved in the cooperative its members could even additionally increase their assets (Alemayehu, 2008).

Another best example can be from Indonesia that was the opening of the Indonesian Peoples Credit Bank in 1895. It is basically a milestone in the history of micro finance that became the largest microfinance system in Indonesia. Regarding Bangladesh, Muhammad Yunus(Professor) was known who spent first loans from his own pocket to a group of rural women in Jobra in 1976 and efficaciously developed the concept of microfinance with his Grameen Bank throughout the country and later the whole world (Yunus, 1999).

Additional examples of early pioneers can be cited as ACCION International in Latin America. It is a self-employed Women's Association Bank in India and many more (Mondal, 2009). In the early 1990s the term "microcredit" was substituted by "microfinance" which encompassed not only credits but also other financial services for poor people. In the present day, there is a sturdy trend towards commercialization and transformation of providers of microfinance into formal financial institutions (Degefe 2009).This shoots from the incentive of profitability and sustainability of microfinance institutions. Gradually, more institutions became independent from donor funds and raise their capital from the capital markets while increasing their outreach. "Year of microfinance" was given for the year 2005 that was declared as the end attracted even more private investors to invest their funds into microfinance activities (Ezra, 2013).

After the end of the Derg (military) regime following the policy of economic liberalization were introduced in Ethiopia microfinance services. Unquestionably, Microfinance is taken as a shift from government and NGO-subsidized credit programs to financial services run by specialized

financial institutions. With this shift some NGO and government microcredit programs were transformed to MFIs (Degefe, 2009).

2.3.2. The Role of Microfinance in the Economy

The main benefit of microfinance is the way of its potential to fight poverty and helps the poor who earn less than $2.50 per day (Melkamu, 2012).Degefe (2009)citedGlobal Microfinance Investment Congress which suggested an increase economic, develop the country and alleviate the poverty through microfinance program. This is because microfinance provides loans to support the low income earners to be self-employed. In the same way, it highly benefits the country. Although microfinance fights poverty, it does combat world crisis like the recent world economic meltdown. Melkamu (2012) further states that Microfinance lending saving and other financial services to poor people is an effective way to help poor people help themselves build income and assets, manage risk, and work their way out of poverty. Interest rate collected by the institutions may vary from different institutions. The nature of microfinance is small loans in such that interest rate needs to be high to return the cast of the loan.

Even if the intuitions in Ethiopia set their own interest rate still difficult to cover operation cost because of low interest rate however microfinance in Ethiopia believe that increasing interest rate could hurt the poor and would not be able to profitable to cover higher interest rate (Wolday, 2005).In Ethiopia, based on DirectiveNo.MFI/12/98, Microfinance institutions has the right to fix their lending interest rates. They pay little taxes as compared to conventional banks. In addition, Degefe (2009) claimed that in Ethiopia interest rate can be said to be suitable and this is mainly because of the highly controlled nature of the Ethiopian economy and the inflation rate. Interest rate varies among MFIs ranging from 12.5% to 15%.

2.3.3. Measurement of Profitability in MFIs

Melkamu (2012) noted that profitability of an institution shall be measured not only from the objectives of the organization angle, but also from the industry average. Microfinance's goal is to eradicate poverty. MFI they were financed by donor funds that have a poverty eradication goal in the early days. As the concept of microfinance came into focus, the question of whether donor support is necessary in the long term and the issue of sustainability of such institutions came up

as well. This would imply that sustainability of the micro enterprises is more important than the long term existence of the financial institution that stood behind the startup (Degefe 2009).

As MFIs seek to reach as many poor people as possible in the long run to fulfill their goal to fight against the worldwide poverty, it became clear that this outreach is only possible on a sustainable and efficient basis. One might assume that sustainable MFIs are typically for-profit commercial companies, but this is not true. Actually, almost two-thirds of the sustainable MFIs are NGOs, cooperatives, public banks, or other not-for-profit organizations (Rosenberg et al. 2009). Sustainability in general means the ability of a program to continuously carry out activities and services in pursuit of the statutory objectives. Sustainability can be of two types (Ezra, 2013):

Operational self-sufficiency (OSS) ratio measures the extent to which the operating revenues of MFI cover its operating cost. Revenues mainly come from interest and fees paid by borrowers, but a typical institution also generates income from investment and other services. OSS is considered as follows;

$$OSS = \quad Operating\ revenue$$

$$Financial\ expense + loan\text{-}loss\ provision\ expense + operating\ expense$$

The financial expense in the denominator of OSS ratio pertains to the cost of raising capital. It includes the interest and fee that the institution pays to commercial banks, shareholders and other investors. CGAP (2003) recommended that expenses for loan- loss provisions also be included in the denominator.

The loan-loss provision expense is the amount set aside to cover the cost of loans that the MFIs do not expect to recover. The third item in the denominator captures basic operating expenses including rent, staff wages and transportation cost among others. The operating revenue is calculated net of subsidy. OSS ratio is most often presented as a percent. A value of 100 percent for OSS ratio indicates full operational self-sufficiency, while a value under 100 percent indicates that the institution must rely on continued outside funding to maintain its current level of operation. Operational sustainability actually refers to the future maintainability of the MFIs

OSS. For MFIs it is one of the major goals to achieve OSS in order to maintain viable and further grow in their operations.

It is necessary to take into account subsidies from soft loans and investments to capture the broader notion of sustainability,. The financial self-sufficiency (FSS) ratio corrects for soft loans by making adjustments that price capital at its market cost. FSS is calculated as follows;

$$FSS = \text{ Adjusted operating revenue}$$

Financial expense + loan-loss provision expense + operating expense + expense adjustments.

As Ezra (2013)stated, FSS takes into account additional adjustments to operating revenues and expenses that model well the MFI could cover its costs if its operations were unsubsidized and if it were funding its expansion with liabilities at market prices. Subsidy adjustments serve two purposes. First, since institutions vary considerably in the amount of subsidy they receive, adjustments that account for subsidies allow for useful comparison across institutions. Second, to the extent that operating on a commercial basis, free from subsidy, is an objective, subsidy adjustments represent how close an institution is to reaching this goal. The question answered by FSS is roughly, whether an institution can expand without subsidy.

In this regard, there are two types of subsidy adjustments. First, subsidized cost-of-funds adjustment is also so-called an adjustment for concessionary borrowing. It holds the difference between what an institution pays in borrowing expenses, and what it would pay if all of its borrowing liabilities were priced at market rates and the difference is added to financial expense. A second type of subsidy adjustment takes into account in-kind donations, or goods and services provided to the institution at no cost or at below-market cost. If FSS is below 100 percent, that is if adjusted income is below adjusted cost, the institution is considered subsidy dependent.

Over-all, financial sustainability describes the ability to cover all costs on adjusted basis and indicates the institution's ability to operate without ongoing subsidy (i.e. including soft loans and grants) or losses. Besides, UNCDF (2009) differentiates financial self-sufficiency (FSS) from OSS only by the fact of an adjusted basis. As well, Ezra (2013) states that the FSS indicator should show whether enough revenue has been earned to cover direct costs, (including financing costs, provision for loan losses and operating expenses) and indirect costs (including adjusted

cost of capital). Support by donors is not unlimited in reality, financial viability of microfinance services is crucial for expanding outreach to large numbers of the world's poor. Furthermore, the retention of profits of microfinance operations is important to capitalize growth (Rosenberg et al. 2009).

It is obvious that MFIs need to cover both their operational as well as their financial costs in order to maintain their position in the market in the long run. Especially by covering the financial costs they get access to the capital markets and to commercial capital which then allow MFIs to increase and grow their loan portfolio and clientele outreach. In addition, MFIs can as a rule serve their poor customers best by operating sustainably, rather than by generating losses that require constant infusions of undependable subsidies (Alemayehu, 2008).

2.4. Related Empirical Literature

Under this section the empirical review in relation to MFIs performance and profitability is presented. The section is divided into three sub sections. It includes empirical studies on determinants of MFIs profitability and performance measures and studies on performance of MFIs in case of Ethiopia.

2.4.1. Determinants of MFIs Profitability

The determinant factors of profitability of a given institution are reliant upon internal (firm specific) and external factors. Nonetheless, empirical literatures in relations to determinants of MFIs profitability are varied in terms of country, type of MFIs and their time of business life. The preceding studies done in the same area extremely depended up on theory of commercial banking profitability. It was assumed that MFIs also provide banking service to the poor. From this time, governments consider providing enabling environment that would foster GDP growth in order to increase funding from donors and MFIs employ efficient labor to deliver their services and hence increase profitability.

It is true that to reduce poverty by expanding their outreach, MFIs should be profitable. Existing literature defines profitability of a financial intermediary as the return on assets (ROA) or the return on equity (ROE). This is measured and/or expressed as a function of internal and external factors (Degefe 2009).

Internal factors are those influenced by management decisions or within the control of firm management. Such factors include firm size, capital adequacy, credit risk provisioning and efficiency in the management of operating expenses (Alemayehu, 2008). He also stated about the external that determinants include macroeconomic and industry-specific factors which reflect the economic, legal and business orientation within the context where the financial institution operates.

In consequence of limited literature on microfinance performance, this sub-section borrows profoundly from the banking literature. Existing literature delineates profitability of a financial intermediary as the return on assets (ROA) or the return on equity (ROE). This is measured and/or expressed as a function of internal and external factors. Internal factors are those influenced by management decisions or within the control of firm management (Melkamu, 2012).

Such factors include firm size, capital adequacy, credit risk provisioning, and efficiency in the management of operating expenses. The external determinants include macroeconomic and industry-specific factors which reflect the economic, legal and business orientation within the context where the financial institution operates. A number of explanatory variables have been proposed for both categories depending on the nature and purpose of each study. There is no convergence on the empirical evidence on firm size. Significant predictions of theories are not supported and interesting regularities in the data are not predicted, thus anecdotal explanations abound (Melkamu, 2012).

Sufian and Shah (2009) examined the determinants of the profitability of the Chinese banking sector during the post-reform period of 2000 -2005 and conclude that the impacts on bank profitability depend on the bank types. During the period under study, they find size to lower city commercial banks profitability. Along the same vein Wu, Chen and Shiu (2007), investigate the main determinants of the bank profitability in China. They find that the more assets a bank has, the worse will be its return on assets (ROA). Both studies render support for the diseconomies of scale.

2.4.1.1. Size

Augustine (2015) attempted to estimate the determinants of profitability of MFIs in Africa by examining the trends in profitability of African MFIs. The result shows that labor inefficiency and credit risk relate to profitability of MFIs in African countries negatively. Other variables found to influence MFIs profitability include economic growth, inflation, size of MFIs and age of MFIs. Sufian and Shah (2009) found that debt to equity ratio and operating expense ratios have negative statistical significance relation with ROE. Write-off ratio and cost per borrower ratios have a positive and statistically significant relationship with ROE. The personnel productivity ratio is not statistically significant determinant of ROE. It was found as the determinants of profitability proxied by ROE for eleven MFIs for the period covering 2005-2011.

This variable is included to capture the economies or diseconomies of scale. There is consensus in academic literature that economies of scale and synergies arise up to a certain level of size. Beyond that level, financial organizations become too complex to manage and diseconomies of scale arise. The effect or size could therefore be nonlinear (Amdemikael, 2012). Natural logarithm of total asset of MFls was used as a proxy of size. The study observed that since the dependent variable in the model (ROA) can be deflated by total assets it would be appropriate to log total assets before including it in the model. Dasgupta (2005) stated that extremely large organizations may exhibit negative relationship between size and profitability as a result of bureaucracy and agency cost. This is due to the fact that little cost saving can be achieved by increasing the size of a banking firm which suggests that eventually very large banks could face scale inefficiencies. Since the expected sign of the effect of size on profitability is indeterminate as per the literatures available the formulated hypothesis is:

> ➢ H_1. Size is positively and significantly affects profitability

2.4.1.2. Capital Adequacy

Michael and Gerard (2004) focused mainly in measuring efficiency, profitability and leverage of both the institutions and finally in comparing financial performance of MFIs with commercial banks. They used 57 self-sufficient MFIs and banks from Africa, Asia, Europe and Latin America and found that self-sufficient MFIs are strong performers on ROA and ROE compared

to their commercial peers and majority of MFIs are however very weak and in need of continued subsidies. Furthermore, capital structure was also studied as performance measure.

In Ghana, Coleman (2007) examined capital structure impact on performance of MFIs. Using fixed and random effect regression analysis for 52 MFIs in ten years data (1995-2004), the study relived that the majority of the MFIs employ high leverage and finance their operations with long-term as against short-term debt. Correspondingly, highly leveraged MFIs perform better by reaching out to more clientele, enjoy scale economies, and therefore are better able to deal with moral hazard and adverse selection, enhancing their ability to deal with risk.

The study used this variable to measure how much of the MFIs assets are funded with owners fund (inverse to leverage ratio). The ratio selected to measure the capital structure of MFIs is capital to asset ratio measured as adjusted total equity divided by adjusted total assets (Staikouras and Wood, 2003). The risk return trade off assumes high leverage (more debt financing) do have higher return whereas signaling and bankruptcy hypothesis says high equity ratio leads to high profitability due to signaling effect and lower financial distress. Considering the above literatures simultaneously leaves the expected sign of capital adequacy indeterminate for this study (Hishigsurern, 2004).Therefore, the formulated hypothesis accordingly is:

➢ H_2. Capital adequacy has a positively and significantly effects on profitability

2.4.1.3.   Breadth of Outreach

Regarding trade-offs between outreach to the poor and profitability, the simple relationship between profitability and average loan size is insignificant in the base regressions. Controlling for other relevant factors, institutions that make smaller loans are not necessarily less profitable. But they found that larger loan sizes are associated with lower average costs for both individual-based lenders and solidarity group lenders. Financially self-sustaining individual-based lenders tend to have smaller average loan size and lend more to women, suggesting that pursuit of profit and outreach to the poor can go hand in hand. There are however countervailing influences: larger individual-based and group-based lenders tend to extend larger loans and lend less frequently to women. Older individual-based lenders also do worse on outreach measures than younger ones. While this is not evidence of mission drift in the strict sense the results for larger and older micro banks are consistent with the idea that as institutions mature and grow, they focus increasingly on clients that can absorb larger loans. In general, the outcome suggested that

institutional design and orientation matters importantly in considering trade-offs in microfinance (Augustine, 2015).

The breadth of outreach refers to the number of poor served by a micro finance institution (Hishigsurern, 2004). Welfarists tend to emphasize poverty alleviation, place relatively greater weight on depth of outreach relative to the breadth of outreach and gauge institutional success according to social metrics. This is not to say that neither breadth of outreach nor financial metrics matter. Welfarists feel these issues are important, but they are less willing than institutionist to sacrifice depth of outreach to achieve them. It is generally assumed that the larger the number of borrowers the better the outreach (Dasgupta, 2005). On the contrary, institutionst's argue that unless we build sustainable MFI that are capable of running independent of subsidies the promise of MFI of eradicating world poverty will not be met. They argue that sustainable MFI helps to expand outreach and reach more poor people (Meyer, 2002). As MFI increase its breadth of outreach (number of active borrowers) its profitability increases too, but up to a certain threshold limit, after that point the management of the MFI fails to implement sound credit management (it would be above the capacity of management to serve the increasing number of borrowers properly), therefore the expected sign of breadth of outreach is indeterminate (Muriu, 2011). As a result, this study measured breadth of outreach using market share of number of active borrowers similar to the aforementioned studies. Accordingly the formulated hypothesis is:

➢ H_3: Breadth of outreach has a positively and significantly effects on profitability

2.4.1.4. Portfolio Quality

Ayayi (2009) shows that equity contract generate more social welfare and profit than debt contraction his study of whether debt or equity has good implication on profitability and social welfare for MFIs. The MFI is in a more tightly coupled relationship, providing knowledge and guidance necessary for ensuring success of the venture by becoming a stakeholder in the micro-venture rather than a lender. Besides, MFI providing micro-equity receives equity in the micro-business in return for his investment, the return on which is entirely dependent the success of the micro venture, where as a MFI providing a loan gets paid first whether there is any profit or not. Similarly, results showed that microcredit financing places a heavy cash drain on micro-

enterprises because the coupon is a precious resource needed to nurture and sustain the growth of micro-enterprises to propel them to the next stage of their development.

It is vivid that as the asset quality increases profitability increases since they are directly related; that is poor credit quality has negative effect on profitability and vice versa (Ayayi and Sene, 2010). This relationship exists because an increase in the doubtful assets, which do not accrue income, requires the financial institutions to allocate a significant portion of their gross margin to provisions to cover expected credit losses; thus, profitability will be lower. This was in line with the theory that increased exposure to credit risk is normally associated with decreased firm profitability. To capture the quality of portfolio for MFls the study used portfolio at risk past due 30 days (PAR>30). As it was used in Muriu (2011); hence the expected sign of portfolio quality is determinate and accordingly the formulated hypothesis is:

> ➢ H_4. Quality of portfolio is positively and significantly affects profitability

2.4.1.5.   Operating Efficiency

Factors such as credit risk and efficiency have significant negative relation with profitability. Gearing ratio, inflation, GNI per capita and age were insignificant factors and find the factors contributing to profitability of MFIs using Generalized Method of Moments (GMM) system of an unbalanced. The proxies for profitability were both ROA and ROE. The factors having positive and significant impact on ROA includes gross loan portfolio, capital to asset ratio, gross loan portfolio to asset, operating expense to gross loan portfolio and age of new MFI. There is no general trend between increase in interest rate and increase in profitability; in conclusion some factors did not show a significant explanatory variable for profitability.

Efficiency in expense management should ensure a more effective use of MFls loan able resources, which may enhance profitability. Higher ratios of operating expenses to gross loan portfolio imply a less efficient management. Empirical evidence points to the fact that providing microfinance is a costly business perhaps due to high transaction and information costs (Staunton and Balashan, 2002). This is due to the fact that administrative costs per dollar lent are much higher for small loans than for large ones; to maintain the same level of profitability, the interest rates necessary to cover all costs including costs of funds and loan losses are much higher for MFI loans than for conventional bank loans. A well-managed MFI that applies best practices can

effectively control its operating expenses. X-efficiency theory also states that the more efficient firms will generate higher profit (Dissanayake, 2012). Operating efficiency is used as an indicator of management's ability to control costs and is expected to have a negative relation with profits, since improved management of these expenses will increase efficiency and therefore raise profits. It is also one of the key drivers of profitability that is examined (Pasiouras and Kosmidou, 2007). Operating efficiency is proxied by operating expense ratio which is adjusted operating expense divided by adjusted average gross loan portfolio (Dasgupta, 2005). Therefore, the expected sign of operating efficiency is determinate so that the formulated hypothesis as per the literatures available is:

> ➢ H5. Operational efficiency is positively and significantly affects profitability

2.4.1.6. Age

Muriu (2011) found that MFIs specific including capital, credit risk, size, age efficiency and gearing ratio; secondly, Macro economic factors including Gross national Income (GNI) per capita and inflation; thirdly, institutional developments proxied by freedom from corruption. The data were gathered from MIX database, world development indicator and Heritage foundation for the three categories of determinants.

Age is another variable that influences profitability as per the theoretical literatures available. There has been an enormous progress in the existence of MFls and client outreach. As more and more MFls start up, it is also interesting to investigate whether only the mature MFls have found their way to profitability, or whether the new MFIs entering the industry has different set of goals and operational set of skills leading to profitability(Jorgensen 2012). Age is denoted by the number of years MFI has been in operation in order to capture learning effect in MFI performance (AEMFI). As per the literatures available the expected sign of age is indeterminate. Therefore, the stated hypothesis is:

> ➢ H6. Age is positively and significantly affects profitability

2.4.1.7. GDP

The impact of macroeconomic environment on sustainability of Latin American MFIs by selecting 85 MFI from MIX database for the period from 1999-2005 was studied by (Jordan, 2008). The study included four macro-economic factors namely; unemployment rate, per capita GDP, interest rates and inflation. The sustainability of the MFIs is measured by ROE and

repayment rates; for which regression analysis is done using random effect model. The result shows that none of the macro economic factors have significant impact on repayment rate. In contrast, ROE is highly influenced by per capita GDP.

It is the most informative single indicator of progress in economic development. Poor economic conditions can worsen the quality of the loan portfolio, thereby reducing profitability. In contrast, an improvement in economic conditions has positive effect on the profitability of MFls, (Muriu, 2011). GDP growth and GDP/capita reacts which state the economy was in during the observed period and where they started out from, i.e. recession or economic boom and how poor they were. A booming economy will allow job opportunities to arise for the poor working in e.g. construction as well as those which are self-employed and run small business (Jorgensen 2012). The demand for credit is likely to develop in accordance with the current economic development, as the startup of new businesses as well as the undertaking of larger projects tends to require an initial increase in capital. It is noted that cyclical output does not significantly affect MFI profits in our study and only sparse evidence is presented supporting economic development being a viable estimator of profitability Pasiourasa and kosmidou (2007). The expected sign of GDP is determinate so that the formulated hypothesis is:

> ➢ H_7. GDP is positively and significantly affects profitability

2.4.1.8.   Inflation

The largest study was conducted by Jorgensen (2012) who taken sample of 879 MFIs all over the world. The objective was to find factors that determine profitability and to find weather high interest rates go hand in hand with high profits for MFIs. The outcome of the study revealed that number of active borrowers, cost per borrower, deposit and legal status have negative significant relation with ROA. The study focused on factors such as outreach, financing structure, expense, revenue, efficiency, quality of portfolio and different peer group comparisons like age, deposit taking, legal status and profit status. The data source was MIX for the 879 MFIs for the study year i.e. 2009 and ROA and profit margin where used as the proxies for profitability and gross yield portfolio respectively. On other hand, Cull et al. (2007) studied on the financial performance and outreach of MFIs using 124 MFIs from 49 countries. They found that individual-based lenders that charge higher interest rates are more profitable than others but only

up to a point. Beyond threshold interest rates, profitability tends to be lower. In contrast, for solidarity group lenders, financial performance tends not to improve as yields increase throughout most of their sample range.

It is a galloping rise in price. Inflation has a significant negative impact, Athanasoglou, et al. (2008). Find inflation and cyclical output to affect the performance of the banking sector negatively. Pasiourasa and kosmidou (2007) find inflation to be positively related to domestic banks, implying that during the period of their study the levels of inflation were anticipated by domestic banks. This gave the banks the opportunity to adjust the interest rates accordingly and consequently earn higher profits. With regard to foreign banks, inflation triggered a higher increase in costs than revenues as the negative relationship between inflation and foreign banks profits shows. Staikouras and Wood (2003) also suggest that as the effects of inflation on bank performance depend on whether the inflation is anticipated or unanticipated.

In the anticipated case, the interest rates are adjusted accordingly, resulting in revenues to increase faster than costs and subsequently, having positive impact on bank profitability. On the other hand, in the unanticipated case, banks may be slow in adjusting their interest rates resulting in a faster increase of bank costs than bank revenues and consequently, having negative effects on bank profitability.

Demirguc and Laven (2004) stated that inflation also exerts a robust, positive impact on bank margins and overhead costs. While concentration is positively associated with net interest margins, this relationship breaks down when controlling for regulatory impediments to competition and inflation. Staunton and Balashan (2002) revealed that efficient expenses management was one of the most significant in explaining high bank profitability. Among the macro indicators, high interest ratio was associated with low bank profitability and inflation was found to have a positive effect on bank performance. As per the above literatures, expected sign of the effect of inflation on profitability is indeterminate, accordingly the formulated hypothesis is:

> ➢ H_8. Inflation is negatively and significantly affects profitability

2.4.2. Evidences from Ethiopia

The Microfinance Institution in Ethiopia is growing with an incredible speed changing the lives of the poor. Besides the good things, below are some challenges faced by MFIs (Wolday, 2000). These included limited outreach particularly for women (Befekadu, 2007), lack of adequate whole sale funding possibilities (guarantee facility), operating and financing expenses are high, illegal government and NGO operations which spoiled the market. (Woldemicheal, 2010), high turnover of MFI staff consequently deteriorating the skills based in the industry, lack of knowledge about microfinance services, weak governance and management capacities for further developments, limited financial products unable to address the various needs of clients, lack of standardized reporting and performance monitoring system, less attention and emphasis on the financial sustainability of MFI, inadequate donor funding, drought and local market failures, poor infrastructure affects the outreach and sustainability of MFIs. This increases the transaction cost and affects the profitability of the institution and low interest rates in the microfinance industry affecting the financial health

Melkamu (2012) studied the determinants of operational and financial self-sufficiency, he used 6 years data of 12 MFIs from MIX data base where he used two multiple regression analysis for OSS and FSS independently. The finding of the study displayed that average loan per borrower, size of MFIs, cost per borrower and yield on gross loan portfolio affects the operational self sufficiency of the institutions significantly. In addition cost per borrower, number of active borrowers and yield on GLP are found to be significant determinants of financial self-sufficiency. In general the following conclusions are drawn from the study: Ethiopian MFIs are operationally self-sufficient but, they are not financial self-sufficient; MFIs in Ethiopia are young in terms of duration of time (but benchmark used is not indicated), the loan size of MFIs in the country is small compared to other MFIs in Africa. In the study the tests of classical linear regression model are performed and all the variables met the assumptions of CLRM; but in the comparisons made with African countries, the benchmarks used for comparison were not mentioned.

Similarly study was conducted by Yonas (2012) on his study regarding determinants of financial sustainability of Ethiopian MFIs, using 6 years data for 12 MFIs from AEMFI. The study found that a high quality credit portfolio, coupled with the application of sufficiently high interest rates

that allow a reasonable profit and sound management are instrumental to the financial sustainability of MFIs, the percentage of women among the clientele has a weak statistically non-significant negative effect on financial sustainability of MFIs and client outreach of microfinance programs and the age of MFIs have a positive but lesser impact on attainment of financial sustainability. Letenah (2009) assessed MIF's performance and compared against micro banking bulletins benchmark using 16 MFIs from MIX data base. The result reviled that Ethiopian MFIs are poor performers on depth of outreach; hence, they are not reaching the poorest of the poor. But, they are good at breadth of outreach. The study also concluded that the MFIs are poor in terms of gross loan portfolio (GLP) to asset, allocating a lower proportion of their total asset into loan. Large and small MFIs allocate more loan loss provision expense than industry average and also portfolio at risk is high for these MFIs. MFIs in Ethiopia are good in cost management, efficiency and productivity. The institutions charge lower interest rate compared to the benchmark. The results showed that, profitability is dependent on size of institutions, there is a tradeoff between serving the poor and operational self-sufficiency. Age of the institutions is positively correlated with efficiency, productivity, debt financing and operational self-sufficiency.

Birhanu (2007) on his study of outreach and financial profitability analysis of MFIs found that outreach of Ethiopian MFIs is increasing from 2003 up to 2007 on average by 22.9%. He also indicated that there is no tradeoff between outreach and financial sustainability in Ethiopia. The study used a representative sample of seven MFI and used a reliable data source. Nonetheless, the parameters used in the study are not enough. Alemayehu (2008) studied the performance of six MFI in Ethiopia representing two institutions from the three categories, (large, medium and small MFIs). The study aimed at looking the performance of the institutions from profitability and sustainability, asset and liability management and from efficiency and profitability angles using five years data (2002-2006).

In general, the above Ethiopian studies indicated that MFI in Ethiopia are profitable. MFIs in Ethiopia have achieved positive ROA and ROE and based breakeven point in operational and financial self-sufficiency. In addition, more of the institutions assets (75%) are allocated in making loans, the average cost of financing is 4.5% which is less than commercial interest rate (7%) and their liquidity position is almost 50%. Ethiopian MFIs are on promising stage even though their portfolio quality is not considered. Ethiopian MFIs are poor performers on depth of

outreach; hence, they are not reaching the poorest of the poor. But, they are good at breadth of outreach. Ethiopian MFIs are efficient in cost management in terms of asset size Ethiopian MFIs are big enough relative to African peer countries.

2.5.   Research Gap and Summary of Related Literature Review

Microfinance is commonly linked with small, working capital loans that are invested in microenterprises or income-generating activities. It is also an organization that provides the microfinance services to low-income clients. The review of the literature reveals the existence of many gaps of knowledge in respect of the factors affecting profitability of MFIs, particularly in the context of Ethiopia. Studies such as Muriu (2011), Jorgensen (2012) and Dissanayake (2012) have been conducted with the aim of measuring the performance of MFIs by using only internal factors. External factors are not integrated much into their models so that macroeconomic and industry related factors which possibly can affect profitability of the institutions are ignored.

On other hand, Letenah (2009) concluded that Ethiopian MFIs are poor performers. Melkamu (2012) found that Ethiopian MFIs are performing good compared with their African peers but he failed to mention the bench mark used. Similarly, performance of Ethiopian MFIs used few internal factors and didn't demonstrate determinants of profitability (Birhanu, 2007) and Alemayehu (2008) considered profitability and sustainability, asset and liability management and efficiency and productivity but ignored portfolio quality of the institutions and external factors also; which are of more importance. These studies did not consider external factors like macroeconomic and industry factors, used limited number of years than they should have considered and independent variable were either operational self-sufficiency or financial self-sufficiency as a proxy for performance. Most of the studies did not focus on   profitability and used ROA or ROE as a dependent variable. Thus, this study tried to fill the gap by considering internal and external factors affecting profitability of Ethiopian MFIs as it is the first of its kind to the knowledge of the researcher.

2.6. Conceptual Framework

In this study, profitability is affected by both MFls specific and macroeconomic factors; accordingly the following conceptual model is framed to summarize the main focus and scope of this study in terms of variables included.
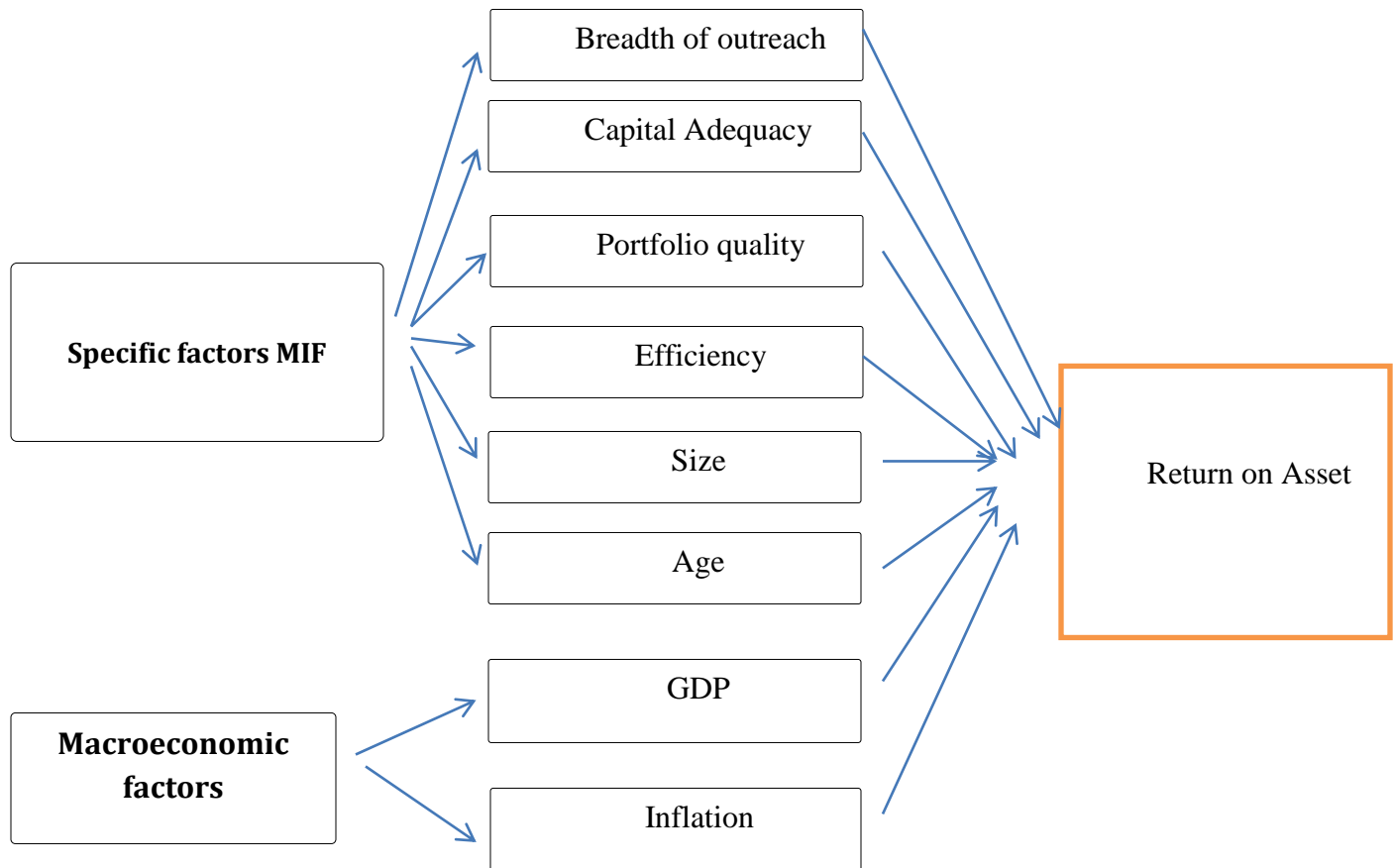
Figure 2.1: Conceptual frame work of the study adapted from Muriu (2011)

CHAPTER THREE
METHODS OF THE STUDY

This study examined the determinants of MFIs profitability. In view of that, this chapter presented the research procedure that was used to carry out the study. It included research design and approach, nature of data and instruments of data collection, sampling design, data analysis and presentation, determinant selection and hypotheses, conceptual frame work of the study and finally model specification.

3.1   Description of Research Area

Addis Ababa is positioned on a well-watered plateau surrounded by hills and mountains, in the geographic centre of the country. It is also the educational and political administrative centre of Ethiopia. Addis Ababa's manufactures include textiles, shoes, food, beverages, wood products, plastics, and chemical products. Most of Ethiopia's service industries are also placed in the city. Banking and insurance services are concerted in Addis Ababa, and the nation's major newspapers are published here. The export and import trade of Ethiopia is channeled through Addis Ababa on its way to or from the ports of Djibouti. The city is the collection and distribution centre for much of the country's internal trade. The Merkato one of the largest open-air markets in Africa which is located in the western part of the city. Addis Ababa is the hub of the nation's transportation network. Several roads connect it to other major cities; the only railway runs to Djibouti. The city is also functioned by an international airport.

Figure 3:1 Map of the study area, Addis Ababa

3.2   Research Design

Research design is the procedures and plan of research that span the decisions from broad assumptions to detailed methods of data collection and analysis (Creswell, 2009). It is also the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The choice of research design depends on objectives that the researchers want to achieve (John, 2007). There are different dimensions based on which research design was selected such as exploration, description, explanation, prediction, evaluation and history (Creswell, 2009).

Since this study was designed to examine the determinants of MFIs profitability, a logical reasoning either deductive or inductive is required. Deductive reasoning starts from laws or principles and generalizes to particular instance whereas inductive reasoning starts from observed data and develops a generalization from facts to theory. Besides, deductive reasoning is applicable for quantitative research whereas inductive reasoning is for qualitative research. Thus, due to quantitative nature of data, the researcher was used deductive reasoning to examine the cause and effect relationships between profitability and its potential determinants.

Moreover, the study used explanatory research design to examine the cause and effect relationships between profitability and its potential determinants, it is an explanatory research. The objective to be achieved in the study is a base for determining the research approach for the study. Hence, the researcher employed both descriptive and explanatory research approach to analysis the performance and profitability of MFIs with respective empirical literatures on the determinants of MFIs profitability.

3.3   Research Approach

The three methods that are commonly implemented in a research are quantitative, qualitative and mixed, where one of them is not better than the others, all of this depends on how the researcher want to do a research of study (Creswell, 2005). Quantitative research method is a kind of research involves the use of organized questions where the response options are predictable and a large number of respondents are involved. Creswell (2005) also stated that quantitative research is a type of educational research in which the researcher decides what to study, asks specific, narrow questions, collects numeric (numbered) data from participants, analyzes these numbers

using statistics, and conducts the inquiry in an unbiased, objective manner. Quantitative method is a study involving analysis of data and information that are descriptive in nature and qualified. Quantitative approach is one in which the investigator primarily uses postpositive claims for developing knowledge (Creswell, 2009).

Since quantitative research is done based on procedures, methodologies and statistics, this study relied on statistical techniques aided by panel data analysis for analysis the problem under study.

Accordingly, this study examined the determinants of profitability that enables the researcher to manipulate an independent variable in order to see the effect on the dependent variable (profitability) with the random assignment of subjects to treatment conditions. To enhance the generalization of findings, this study used quantitative research methods that followed standardized procedures in sample selection, instrument design, implementation and analysis. Therefore, in terms of methods, this research employed quantitative method while conducting the study.

3.4 Data Type and Source

The researcher employed secondary sources of data that is panel in nature. Secondary data may either be published or unpublished data and a secondary source of data prefer since it is less expensive in terms of time and money while collecting. As well as, it gave an opportunity to collect high quality data (Saunders et al. 2007). Thus, secondary data were obtained from AEMFls, MOFED and NBE bulletins for each corresponding year, for the MFI specific variables and from annual report held by NBE for the macroeconomic variables.

3.5 Population and Sampling

3.5.1 Target Population

The study targeted four MFIs working in Addis Ababa as they have occurred in this business for long time (more than twelve years).

3.5.2 Sample Size

Since there is lack of more data that is required for the analysis purpose in most of the newly established MFIs, most of MFIs found in Addis Ababa were exclude from the study. So, the number of sample MFIs was reduced to four. The researcher do not believes that the sample size is sufficient to make sound conclusion about the population. However, the study used long time data (14 years data) which takes the lions share in the country's MFIs activity that makes the sample fairly representative and reasonable. Thus, this study used fourteen years (2005 to 2018) panel data from four MFIs to answer the research questions. The MFls were AdCSI, SFPI, PEACE and Meklit. Among the four MFls targeted the first one was government owned organization.

3.5.3 Sampling Techniques

Data that related to profitability and other variables were also collected from MFIs financial reports and NBE that were related to the study. Sampling is the process of obtaining information about an entire population by examining part of it. The non-probability sampling method was chosen because it is the most commonly associated survey based research method that helps to make inferences from the sample about a population so as to answer the research questions and to meet the research objectives.

3.6 Instruments of Data Collection

This method refers to the review of existing information, and in the quantitative context may involve the manipulation of statistical data. In order to collect secondary data, the researcher was used different documents that related to the study. Using structured document review has been used for this research to collect the required information, which would be relevant for addressing the objectives of the study from secondary historical data. In order to avoid the risk of distortion in the quality of data, data were collected from audited financial statements particularly balance sheet and income statement of each MFIs included in the sample and various journals and publications of NBE from 2010 to 2018.

3.7 Data Analysis

Research data should be analyzed in line with the purpose of the research plan after data collection (Kothari, 2004). In consequence, this study utilized both descriptive and econometric analysis based on a panel data to examine the determinants of profitability.

First, the data collected from different sources were coded, checked and entered in to MS- Excel program to make the data ready for analysis. Then the collected data were properly processed and analyzed through STATA software packages. As well, various diagnostic tests such as normality, Heteroskedasticity, autocorrelation, and multicolinearity were conducted to decide whether the model used in the study is appropriate and fulfill the assumption of classical linear regression model.

Succeeding, results of the descriptive statistics such as mean, standard deviation, minimum and maximum values were reported to describe the characteristics of variables under investigation. Thus, in order to examine the possible degree of Multicolinearity among variables, a correlation matrix was used. Finally, the researcher used multivariate regression model analysis to examine the effect of each explanatory variable on the profitability of MFls which were found in Addis Ababa. Multivariate regression analysis was used to model relationships between variables as well as to determine the magnitude of relationships and to make predictions based on the models. As a consequence, regression results presented in a tabular form with the appropriate test statistics and then an explanation of each parameter was given in line with the evidence in the literature.

3.8 Model Specification

Multiple regression is a flexible method of data analysis that may be appropriate whenever a quantitative variable (the dependent or criterion variable) is to be examined in relationship to any other factors (expressed as independent or predictor variables). Relationships may be nonlinear, independent variables may be quantitative or qualitative, and one can examine the effects of a single variable or multiple variables with or without the effects of other variables taken into account (Cohen, Cohen, West, & Aiken, 2003). The model of the regression analysis was presented as follows.

$$Y=a+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+b_7X_7+b_8X_8+e$$

In the above equation,

- Y = Return on Assets
- X_1 = Breadth of outreach
- X_2 = Capital
- X_3 = Portfolio quality
- X_4 = Operating efficiency
- X_5 = Size
- X_6 = Age
- X_7 = Real
- X_8 = Inflation
- e : the error term

3.9 Expected output

Table 3.2 Expected output

Variables	Proxy	Expected Outcome
ROA	The return on average total asset of the MIF in year t	NA
Breadth of outreach	the number of served clients	+ve
Financing structure	inverse to leverage ratio	+ve
Portfolio quality	Portfolio at risk past due 30 days (PAR>30).	+ve
Operating efficiency	Cost/income ratio	+ve
Size	Natural logarithm of total asset	+ve
Age	the number of years MFI	+ve
GDP	Real GDP growth (in %)	+ve
Inflation -	a galloping rise in price	-ve

Source: survey, 2020

3.10 Ethical Considerations

In this study, research ethical considerations were taken properly regarding informants and similar issues. Accordingly, respondents were participated on voluntary basis. They were well informed about the purpose of the study and their consent was asked verbally. Measures were also taken to ensure the respect, dignity and freedom of each individual participating in the study. Moreover, participants were assured that the information they provided would be kept confidential and would not be disclosed to anyone including the company under the study. The following points were general summary of some ethical principles that were engaged. First, regarding, data, results, methods and procedures, and publication status were honestly reported. No attempted used to fabricate, falsify, or misrepresent data this study, it was tried to avoid careless errors and negligence; the research work was carefully and critically examined. It also attempted to honor patents, copyrights, and other forms of intellectual property. Not used unpublished data, methods, or results without permission and given proper acknowledgement or credit for all contributions to research. Never plagiarize.

CHAPTER FOUR
4. RESULTS AND DISCUTIONS RESULTS

This chapter dealt with analysis of the finding and discussion of the result in order to achieve research objectives and set a base for conclusion.

4.1 Diagnostic Tests

The researcher conducted diagnostic tests to guard against the possibility of obtaining and interpreting spurious regression results. The results of the tests are presented in the following sections. Diagnostic tests were performed to check for the validity of the parameters. The researcher is to test for normality, multicollinearity, heteroscedasticity and autocorrelation and also is going to perform maximum likelihood tests.

4.1.1. Normality Test

Gujarati (2004) distinguished that one assumption of classical linear regression model (CLRM) was the normal distribution of the residual part of the model. OLS estimators were BLUE regardless of whether the error terms are normally distributed or not.

Table 4.1 Skewness/Kurtosis Tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Breadth of outreach	56	0.1787	0.5768	2.21	0.3312
Financing structure	56	0.7068	0.6332	0.37	0.8293
Portfolio quality	56	0.0194	0.3145	6.07	0.0481
Operating efficiency	56	0.0000	0.0129	18.12	0.0001
Size	56	0.9329	0.8157	0.06	0.9698
Age	56	0.0036	0.3221	8.27	0.0160
GDP	56	0.0396	0.0013	11.94	0.0026
Inflation	56	0.1719	0.0014	10.12	0.0063

Source: Own survey, 2020

On the other hand, as per the central limit theorem, if the disturbances are not normally distributed, the OLS estimators are still normally distributed approximately if there are large-sample data. As a consequence, since the sample size for this study was large enough, it was approximately considered as normally distributed. This implies that residuals are asymptotically normal in this study. The Bera-Jarque probability statistics/P-value is also expected not to be significant even at 10% significant level (Brooks, 2008). Skewness and kurtosis approaches to zero (i.e. 0.161128) and Three (i.e. 3.300659) and the Jarque-Bera statistics (i.e. 0.882220) was not significant even at 10% level of significance as per the P-values was 0.599449). Therefore, the null hypothesis that the error term was normally distributed should not be rejected and it is possible to conclude that error terms follow normal distribution.

4.1.2. Multicollinearity Test

Gujarati (2004) indicated that multicollinearity refers to the existence of a "perfect," or exact, linear relationship among some or all explanatory variables of a regression model ifit exist the remedy is to drop a variable with a high R-square or do nothing. A correlation coefficient is high if it is in excess of 0.7. The correlation matrix is used to detect the presence of severe multicollinearity.

Table 4.2 Correlation Matrix by only independent variables

	1	2	3	4	5	6	7	8
Breadth of outreach	1.0000							
Financing structure	0.1418	1.0000						
Portfolio quality	0.0512	0.2296	1.0000					
Operating efficiency	0.0017	0.4104	0.1739	1.0000				
Size	0.2228	-0.1227	0.1249	-0.1763	1.0000			
Age	-0.0640	-0.2680	-0.0555	-0.2103	-0.0429	1.0000		
GDP	-0.0141	0.0236	0.0119	0.0850	-0.0183	-0.0421	1.0000	
Inflation	-0.0268	-0.0261	-0.0328	-0.1428	0.0086	0.0096	-0.0980	1.0000

Source: Own survey, 2020

The existence multicollinearity between independent variable was tested by the correlation analysis using only independent variables. A serious problem for multicollinearity is occurred if the correlation is about 0.7 or larger. I.e. if pair-wise or zero-order correlation coefficient between two regressors is out of the recommended range of multicollinearity which is - 0.7 or 0.7.In the above correlation matrix there is no pair-wise relation that exceeds 0.7 which suggests for not rejecting the null hypothesis (H0) which states that there is no perfect pair-wise relation among regressors (Gujarati, 2004).

As a result, it can be concluded that the results showed that the problem of multicollinearity did not exist between variables in the model in this study; all the variables were retained for use in the estimations.

4.1.3. Heteroscedasticity

Heteroscedasticity is a violation of one important assumption of the classical linear regression assumptions. This is a circumstance that the error variances are not constant (Gujarati, 2004). Whites test for Heteroscedasticity was employed to test Heteroscedasticity in this study. The problem of continuing to use data that suffers Heteroscedasticity is that whatever conclusion or inferences, they will be misleading.

Table 4.3Heteroscedasticity Test

Version of Test	Value	Probability
F-statistic	0.91797	0.389
Obs*R-squared	10.5218	0.374
Scaled explained SS	8.31145	0.527

Source: Own survey, 2020

The above table showed that both F-statistic and chi-square version of test give the same inference that there is no evidence for the presence of Heteroscedasticity since the p-values in all of the cases were above 0.05. The Scaled explained SS, test is based on a normalized version of the explained sum of squares from the auxiliary regression also give the same conclusion. In

general, in the regression models employed in this study it was proved that the test statistics is not significant and the variance of the error term is constant or homoscedastic and we had sufficient evidence to accept the null hypothesis of Homoscedasticity; the linear model is said to be correctly specified.

4.1.4. Autocorrelation

It is Durbin-Watson method that test for autocorrelation and its statistic around two is normally accepted though there are zones of indifference and zones of both positive and negative correlation. In time series data the successive residuals tend to be highly correlated. The violation of the basic assumption that residuals are mutually independent results in serial autocorrelation. This study used Breusch-Godfrey Serial Correlation LM Test and it is another test for Autocorrelation in residuals. The Breush-Godfrey test is used because the Durbin Watson test is not reliable when lagged values are used in the model. The Breusch-Godfrey test is much more general in that it allows for both AR and MA error structures as well as the presence of lagged regress and as an explanatory variable (Gujarati, 2004). The null hypothesis is that there is no serial correlation.

Table 4.4Breusch-Godfrey Serial Correlation LM Test

Version of Test	Value	Probability
F-statistic	1.68879	0.0711
Obs*R-squared	23.654	0.0336

Source: survey, 2020

The above table shows that the Breush-Godfrey Serial Correlation LM Test gives an F-statistic of 1.7 with a probability of 0.07 and chi-square version gives statics of 23.6 with probability of 0.03. For that reason, from both versions of the test we fail to reject the hypothesis of no autocorrelation in the residuals at 1% significant level. It was found that there is no autocorrelations between an immediately previous lag value and the 12th lag value respectively.

4.2 Pearson Correlation Matrix Results

The relationship between dependent variables, and dependent and independent variables are discussed here. If it is stated that *y* and *x* are correlated; it means that *y* and *x* are being treated in a completely symmetrical way. In consequence, it is not implied that changes in *x* cause changes in *y*, or indeed that changes in *y* cause changes in *x* rather, it is simply stated that there is evidence for a linear relationship between the two variables, and that movements in the two are on average related to an extent given by the correlation coefficient (Brooks, 2008).

Table 4.5 Correlation Analysis

ROA	1.0000								
Breadth of outreach	0.4386	1.0000							
Financing structure	0.4134	0.7303	1.0000						
Portfolio quality	0.5905	0.0772	-0.0861	1.0000					
Operating efficiency	0.590	0.4263	0.2950	-0.0584	1.0000				
Size	0.4198	0.1109	0.2614	-0.1860	0.0375	1.0000			
Age	0.6331	0.2293	-0.0213	0.5064	0.3880	-0.0750	1.0000		
GDP	0.6785	-0.1241	0.0345	-0.1241	-0.0312	-0.0754	-0.0206	1.0000	
Inflation	-0.1131	0.1569	0.2564	0.0401	0.1842	0.0962	0.1925	-0.0553	1.0000

Source: survey, 2020

As could be seen in the above table, the real GDP growth rate and age are the most positively correlated variable with ROA. This correlation clearly shows that, as the real GDP growth rate increases, profitability also moves to the same direction. There is a relationship between breadth of outreach (0.4386), financing structure (0.4134), portfolio quality (0.5905), operating efficiency (0.590), size (0.4198), age (0.6331), GDP (0.6785) and inflation (-0.1131) and ROA.

4.3 Regression Results

Table 4.6 Regression result

Explanatory Variables	Coefficient	Std. Error	t-Statisti	Prob
Breadth of outreach*	.5865907	.2027742	2.89	0.004
Financing structure *	.0452856	.0104709	-4.32	0.000
Portfolio quality **	.0121834	.0061944	-1.97	0.049
Operating efficiency*	0.238537	.2123311	2.01	0.0001
Size **	.0160532	.0122991	-1.31	0.019
Age**	.033315	.0176041	1.89	0.008
GDP*	.0754808	.1359359	-0.56	0.007
Inflation *	-.008501	.0138748	0.61	0.000
cons	.0826174	.0181966	4.54	0.000
R-squared	0.784798 Adjusted R-squared	0.734718		
Prob(F-statistic)	0.000312 Durbin-Watson stat	1.64112		

*Significant@1%**Significant@5%

Sources: Survey, 2020

This section presents the regression result of fixed effect model that examines the determinant of profitability of MFIS in Addis Ababa. The below presents the result of fixed effect regression model that examines the impact of explanatory variables on return of assess. The above table portraits the regression result of multivariate regression model that was made to examine the determinants of profitability of MFIs in Addis Ababa. Consequently, the regression result was made and coefficients of the variables were estimated. Thus, the model used to examine the determinants of profitability of MFIs in Addis Ababa in this study was: Based on the regression result, the relationship between the variables included in the model can, therefore, be represented as follows.

An adjusted R-squared value which takes into account the loss of degrees of freedom associated with adding extra variables were inferred to see the explanatory powers of the models. Therefore, an adjusted R-square having value of 0.734718 shows that 73 percent of dependent variable is explained by the independent variables (Capital to Asset ratio, Size, Age, GDP, Inflation, Gearing ratio, Operational efficiency, Portfolio at Risk>30 days and Market concentration)

included in the model. The remaining 27% of change is explained by other factors which are not included in the model. Additionally, F-statistics tests for the joint impact of all explanatory variables on the dependent variables. A corresponding p-value (0.000312) shows that the null hypothesis that all of the slope parameters are jointly zero should be rejected even at 1 percent level of significance. This implies that all explanatory variables can affect the profitability of MFIs jointly or theProb (F-statistic) indicates strong statistical significance, which enhanced the reliability and validity of the model. Each variable is described in detail under the following sections.

4.3.1 Breadth of outreach

In this study, the first analysis involved in number of active borrower indicates the level of the breadth of outreach; meaning that the number of customers by a microfinance institution. Breadth of outreach is represented by number of active borrowers as it relies on the assumption that increasing the client basis reaches more customers. The number of borrowers which measures the breadth of outreach improves profitability the of microfinance institutions.

The econometric result for this variable indicates positive effect of the number borrowers on profitability of MFIs with statistically significant at 1% significant level. This is due to the fact that increasing number of borrowers will increase the volume of services; and increasing volume of services, one means to maximize profitability. In addition, an increase in number of active borrower could also urge to product diversification for divers" client groups and this enables an MFI to cushion itself against risk. Thus, the hypothesis is accepted which was stated as the number of active borrowers have a significant and positive effect on profitability of MFIs.

Melkamu (2012) found that cost per borrower, number of active borrowers and yield on GLP are found to be significant determinants of financial self-sufficiency. However, Jorgensen (2012) found dissimilar results that number of active borrowers; cost per borrower, deposit and legal status has negative significant relation with ROA. Within the factor of breadth of outreach, this study is consistent with other studies like Cull et al (2007) Zerai and Rani (2012), they reported the same as the effect of number of active borrowers on MFIs profitability and financial sustainability measures. This is clearly suggested that an increasing number of borrowers meant MFIs enjoy economies of scale and hence reduce costs which help them to become financial profit.

4.3.2 Financing Structure or Capital to Asset ratio (CAP)

Basically, financing structure is meant to capital to asset ratio measured as adjusted total equity divided by adjusted total asset. This study found a positive coefficient of the capital to asset ratio (CAP) and it is statistically significant variable at 1% significance level (P-value 0.0001). It is plausible that capital strength of the MFIs have a positive effect on profitability increasing CAP by one unit causes to increase the ROA. Thus, the hypothesis stated as capital adequacy significantly and positively affects profitability of MFIs is supported.

Accordingly, it is learnt that high equity ratio (equity over debt) leads to high profit and bankruptcy cost hypothesis (Samad, 2008).Coleman (2007) relived that most of the MFIs employ high leverage and finance their operations. For financing structure, the result of this study is similar to the findings of Muriu (2011) and Ayayi (2009) but contradictory to Sima (2013). In relation to portfolio quality, the study result is consistent with Dissanayake, (2012) and (Fikremariam, 2015).

4.3.3 Portfolio quality

It is portfolio quality that meant to portfolio at risk past due 30 days (PAR>30). It states that loan outstanding greater than 30 days to gross loan portfolio was used to measure the quality of portfolio of the MFIs statistically significant level (P-value <0.05). Studies like Ayayi and Sene (2010) brought that as the asset quality increases profitability increases since they are directly related; that is poor credit quality has negative effect on profitability and Muriu (2011) stated that the effect of portfolio quality on profitability.

4.3.4 Operating Efficiency

Operational Efficiency is performance measure that displays how well MFIs is streamlining or reforms its operations and takes in to account the cost of the input and/or the price of output. The study indicates as having positive coefficient with statistically significant at 1% significance level (Pvalue<0.01) this result shows that holding constant all other variables, increasing operational expense in one unit on gross loan portfolio cause to increase ROA nearly; it is an indication that MFIs should give great attention in cost minimization technique. The result indicated that there was a positive effect of efficiency on profitability.

Similar evidences were found from Muriu (2011) and Cull *et al*. (2007) that ensured a more effective use of MFls loan able resources, which may enhance profitability. Empirical evidence

points to the fact that providing microfinance is a costly business perhaps due to high transaction and information costs. As efficiency of the MFIs management measured in terms of adjusted operating expense to adjusted average gross loan portfolio, the result was consistent with findings many research like, Muriu, (2011) and Sima, (2013) but inconsistent with Jorgensen, (2011).

4.3.5 Size

The natural logarithm of total assets of the MFIs was used to measure size. And the study found that a positive coefficient with statically significant level (P-value <0.05). For that reason, the hypothesis which says, there is a significant positive effect between size and profitability of MFIs is accepted. The real practice in Ethiopia shows that the large MFIs constitute the largest portion of the market share from the industry; this study found that size was not a key determinant of profitability of MFIs (Amdemikael, 2012). He assured that financial organizations become too complex to manage and diseconomies of scale arise. The effect or size could therefore be nonlinear. The function of rates of return on all assets held in the portfolio, risks associated with the ownership of each financial assets and the size of the portfolio; which requires the decision of the management (Nzongang and Atemnkeng 2006).   As using Size by the natural logarithm of total assets, the result is matching with Sima (2013) and dissimilar to Melkamu (2012), Muriu (2011) and Cull et al. (2007).

4.3.6 Age

It was eager to check whether there is a learning effect in the operations of the selected MFIs in this study. The coefficient was positive (0.010716) with statistically significant at 1% significance level (P-value< 0.05). This specifies the fact that age was a key determinant of profitability of the MFIs having a direct relationship with ROA. The age of MFIs could have a positive or negative effect on financial performance. One possible explanation for the positive effect of age on financial performance is that firms learn over time. On the other hand, older firms may face liability obsolescence and tend to be inflexible to the changing business environment (Sima, 2013). Melkamu (2012) also stated that age, asset holding, and the yield on gross portfolio were found to have positive and significant impacts on the financial performance of MFIs. It is confirmed that there is a significant positive effect between age and profitability of MFIs. Staikouras and Wood (2003) stated that among other factors, the age of the MFIs was

found to have a positive and significant impact on the financial performance. Accordingly, Augustine (2015) found that age of MFIs influence MFIs profitability on his study on investing the trends in profitability MFIs and estimate the determinants of profitability. Michael and Gerard (2004) stated the same on their measurement of efficiency, profitability and leverage of both the institutions and finally to compare the two. Age was included in this study and the data shows as similar with Yonas (2012).

4.3.7 GDP

GDP is a measure of total economic activity within an economy and the study used real GDP growth as a proxy of the macroeconomic environment. The study realized that a positive coefficient with statistically significant (P-value 0.01) result found which indicates that improvement in economic conditions significantly affects profitability of MFIs. Therefore, the current study found that real GDP growth is positively affect the profitability of MFIs in Addis Ababa. Consequently, the study failed to reject the hypothesis namely real GDP has positive effect with profitability of MFIs because the data supported the result. Therefore, the current study found that real GDP growth is positively affect the profitability of FIs in Addis Ababa. Consequently, the study failed to reject the hypothesis namely real GDP has positive effect with profitability of MFIs because the data supported the result. For commonly used macroeconomic indicators, GDP was a measure of total economic activity within an economy and the study used real GDP growth and it was found that it is consistent with Muriu, (2011), Jordan (2008) and Sima (2013).

4.3.8 Inflation

Inflation as measured with consumer price index was the other macroeconomic factor included in the study. The study found a positive coefficient with statistically significant at 1% significance level (P-value, 0.01). Inflation depicting that during the study period inflation was the determinant of profitability of MFIs. For that reason, the hypothesis saying, there is a significant negative effect between inflation and profitability of Ethiopian MFIs as per the findings of the study. Regarding inflation, the study is opposite with the findings of Muriu (20 11) and. Jordan (2008).

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

This chapter presents the summary of findings of the study with the concussion and recommendation remarks.

5.1 Summary of findings

The main objective of this study was to assess the perceived and actual determinants of MFIs profitability in Ethiopia. Using econometric analysis this study assessed the actual performance of MFI's in Addis Ababa and the researcher conducted successfully diagnostic tests to guard against the possibility of obtaining and interpreting spurious regression results. The study also found that there is a positive and significant effect between the number of borrowers (0.004) at 1% significant level, the capital to asset ratio (CAP) (.001) at 1% significance level, quality of portfolio (.049) at 5% significance level, operational efficiency (0.001) 1% significance level, size (.019) at 5% significant level, age (0.05) at 5% significance level and GDP (.007) at 1% significance level and profitability.

5.2 Conclusion

Existing profit margins hardly allow for major investments in MFIs' systems. This is compounded by the fact that their social drive urges MFIs to put nearly all their resources into their loan portfolios. Customers (borrowers) in terms of breath of outreach are spirited as a main cause of increasing for MFI's profits in Addis Ababa. Their strategic approach and financial footing ought to be managed properly in determining profitability of MFIs in the Ethiopian context. This is because micro finances are profit-making financial ventures that intend to serve the customers particularly poor people. The capital required for establishing financial ventures is equity capital supplied by the main owners of these ventures and share capital collected from the members of the public. Because of this MFIs need assistance from private and public donor agencies for capital as well as for running the micro-lending operations especially in the initial stages.

In general, the findings on financial performance indicated that the NFIs in Addis Ababa are financially sound and are strong and are profitable. This is due to the fact that profitability is the

chief objective of all business ventures. So measuring current and past profitability and projecting future profitability is very important. Without profitability the business will not survive in the long run; and strong performer firms are those that can stay in business for a good number of years. Thus, it can be concluded that measuring the performance of MFIs is vital in order to make reforms, when necessary, to meet organizational goals. In the same way, identifying the factors that drive their performance is also necessary to determine the path forward.

5.3 Recommendations

5.3.1 General Recommendation

− MFIs may discover large unexplored market for credit with potential returns reaching manifold of what is observed in their existing business. The related question to this matter is what actually marks a successful MFI package and strategy and how do we determine what they are? Identical to any investment decision, the MFIS should acquire wide-ranging and accurate information about the potential investment as possible.

− MFIs may enhance their ability to continue in financially feasible way without getting domestic or foreign subsidies and expand the scope of their operations; diversify their portfolio of financial products by offering green financial products, remittances, and micro-insurance products.

− They may enhance financial reporting framework to improve on the liquidity position, improve assets value, market share, financial sustainability as well as portfolio quality.

5.3.2 Specific Recommendation

− MFIs ought to enhance their capital size, size of deposit liabilities, size of credit portfolio and the composition of credit portfolio of the MFIs. Accordingly, they will be excellent on operational margins and profitability; work to be outreach is impressive and growth rates

− They may monitor their loan outstanding periodically by checking quality of portfolio and profitability timely.

− MFIs may work on the marketability of the concept of an investment opportunity via outreach along with poverty-reducing aspects of the country; thus they may need collect relevant information for their decisions timely.

- MFIs may reform their business operations by cultivating more clients and addressing poor and takes in to account the cost of the input and/or the price of output.

- Appropriate strategic and operational measures should also be put in place to help reduce the waste in the system in terms of low efficiency among employees of the MFIs. In this case, employees' motivation is necessary as it ensures that one member staff could serve as many clients as possible.

5.3.3 Limitation of the Study

The study though conceded of the possible endogeneity in the measures of efficiency and profitability, this study does not control for endogeneity due to the difficulty in getting appropriate instruments. This study did not exhaustively include all MFIs revenues and costs. However, it is worth something that all assets generate revenue. Thus, the assets of MFIs should have been included as their asset can basically be classified as income or revenue generating and non-income generating. More importantly, this study did not attempt to include MFIs market share as an increase in the market price of an asset also called appreciation.

5.3.4 Recommendations for Future Studies

Studies may include growth capital also called expansion capital and growth equity as it is a type of private equity investment. Most often a minority investment, in relatively mature companies that are looking for capital to expand or restructure operations, enter new markets or finance a significant acquisition without a change of control of the business. Institutions that seek growth capital will often do so in order to finance a transformational event in their lifecycle. Researchers may assess operational self-sustainability that is when the operating income is sufficient enough to cover operational costs like salaries, supplies, loan losses, and other administrative costs.

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ANNEX - Profile of Selected MFIs

1. AdCSI – versioned to become a sustainable financial institution, active contributor towards poverty reduction effort and would like to see improvements in the life of low-income people. As to the revised proclamation No. 626/2009, AdCSI has an objective to collect deposits and extend credit to rural and urban farmers, and people engaged in other similar activities as well as micro and small scale rural and urban entrepreneurs, the maximum amount of which may be determined by the national bank.

2. SFPI - is one of the earliest Micro financing Institutions in Ethiopia. It was established in 1997 and started its program in the second half of 1998 upon the completion of registration by the National bank of Ethiopia (Central bank of the country). SFPI is licensed to operate national wise. The founder shareholders were Ethiopian National Association for the Blind, National Women Association for Development, Agri-service Ethiopia, Ethiopian Women Entrepreneurs Association and an individual Mr.HailuWondafrash. The ownership then diversified its structure through a capital injection by CBE (current major shareholder), Dashen Bank S.co and Mr.Toweldeberhan G/Tsadik while the National Women Association for Development and the Ethiopian Women Entrepreneurs Association were replaced by Progynist and Addis Ababa Women Entrepreneurs Association respectively.

3. PEACE - Poverty Eradication and Community Empowerment Mcro-finance Institution S. Co. (PEACE MFI) was founded in November 1999 to takeover the micro-credit activities previously run by its mother organization, Agri-Service Ethiopia (ASE), a local NGO that has been undertaking integrated rural development activities for more than 40 years in Ethiopia. PEACE MFI is formed as a Share Company under the Ethiopian law. It is licensed by the National Bank of Ethiopia (NBE) to provide micro-finance services. PEACE MFI is owned by Agri- service Ethiopia and fifteen other individuals. The total paid up capital of the institution is Birr 25,000,000. PEACE MFI started operations in 2000 by opening seven branches in three regional states: Amhara, Oromia and South nations, nationalities and peoples, where Agri Service Ethiopia was running its micro-credit projects. PEACE MFI currently offers group loans through a network of 26 branches located in the above-

mentioned regions and Addis Ababa city Administration. As of June 2018, it has 21,065 active clients with loan outstanding with total loan portfolio of Birr 158,892,971.96 million with a repayment rate of 99.3%. It has also mobilized a sum of Birr 70,453,731.37 as an outstanding saving balance in the same period. The number of savers are 70,027 of these 56.4% are female clients.

4. Meklit - Meklit Microfinance Institution S.C is an institution established according to proclamation No. 40/96 to provide financial and non-financial services to the low income people, particularly women, at both urban and rural areas of Ethiopia. It was licensed on February 16, 2000 with the subscribed and paid-up capital of birr 200,000. Meklit MFI is currently owned by one organization and seventy individual shareholders. Out of the total shares75% is owned by local NGO called Progynist. "Meklit Micro Finance Institution strives to see disadvantaged groups of society, especially women, having access to sustainable financial services that eventually contribute towards the restoration of their dignity, respect and power of decision-making at different levels."