

**EXPLORING THE FACTORS IMPACTING THE  
PROFITABILITY OF MICROFINANCE  
INSTITUTIONS: A CASE STUDY OF SOUTH  
ASIAN COUNTRIES.**



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*Dedicate*

*To*

*My Beloved Family*

*To my loving Parents, siblings, and my friend Adeela Maqbool, who bestowed pearls of wisdom upon me and lead me down the path of spiritual and personal enlightenment in this world and the next.*

*&*

*My Honorable Teachers*

*Who educate me and made me believe that I can do everything.*

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All praise and blessings upon me by Almighty Allah, the compassionate and merciful, and all blessings go to the Holy Prophet Muhammad (PBUH), who is forever a torch of guidance and wisdom for mankind as a whole, and the Holy Prophet (PBUH) is the city of knowledge, with Hazrat Ali (A.s) as its Gate.

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## **Abstract**

The object of this study is to explore the factors impacting the profitability of MFIs (case study of south Asian countries) 45 listed banks of six countries (Pakistan, India, Nepal, Sri Lanka, Bangladesh and Afghanistan) during time periods of 2013 to 2019. The study employed ARDL model for estimation. This study uses internal and external factors to determine the relationship and impact on Profitability of MFIs. ROA is dependent variable whereas financial assets, age, Size, operating efficiency are internal factors and Gross domestic products (GDP), population and Inflation are external factors. The study has concluded that operating efficiency, age of banks, population, inflation and GDP have no significant effect of profitability. Financial asset and size (natural log of total assets) have significant effect on profitability of MFIs. As size of bank increase, they are supposed to take more possibility of increase in profitability same the case with financial assets. As recommendation, Increasing the capacity and competence of employees and management through continual trainings, experience sharing from successful MFIs, and provision of guidance and consultation are critical to making MFIs competitive and profitable.

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# Chapter 1

## Introduction

Microfinance institutions (MFIs) are nonprofit financial institutions that extend financial services to the non-bankable and poor. MFIs are prospering commercially, but only a few are profitable. MFI profits have always been in the black. Microcredit is a sort of finance that provides small loans to low-income individuals and enterprises. It is the most efficient method of poverty alleviation.

The importance of microfinance institutions (MFIs) has been acknowledged since they became a part of the financial system in underdeveloped countries. Poverty rates are lower in countries with significant MFIs. Microfinance institutions have grown in popularity as a means of assisting low-income people with their finances. The goal of this organization is to provide underprivileged people with loans and other financial services like as insurance. Microfinance prefers to provide these services without these limits because the poor are unable to access them from conventional banks due to collateral requirements. Poor people are willing to pay for these financial services because they receive the added benefit of not having to put up any collateral (Christen, Rosenberg, & Jayadeva, 2004). Taken from research paper, financial institutions with a 'Double Bottom Line'

Microfinance is required to enhance a country's human development index, as almost on billion people worldwide live on a per capita income of one dollar.(Morduch, 2000)

In microfinance, one of the most significant consequences of profitability is sustainability. Lower profitability is seen to be a contributing reason to failing corporate operations, insolvency, and negative shock absorbency. Furthermore, the lack of profitability in the microfinance industry would inevitably result in the failure of financing operations. As a result, the effectiveness of microfinance is largely determined by the environment in which they operate, and whether or not it affirms of these. (Greuning & Bratanovic, 2009). An author of Analyzing Banking Risk a Framework for Assessing Corporate Governance and Financial Risk).

In study, I opt South Asian region and selected countries due to some reasons. The study revolved around the Microfinance institutions and their profitability areas, that's why we select only those countries which were experienced and dealing with microfinance institutions. They have scope of study that exactly this research needs. Some challenges faced by study because most of countries does not display their banks data and specially an annually financial reports that is essential or main component of study. Same reason behind in selecting limited banks of every country. Our aim is to cover fine data which is available in limited year.

## **1.2 Problem statement**

In general, the MFI industry has a feather in that it usually operates in a dynamic competitive environment that requires it to constantly reinvent itself in order to survive. It must come up with concepts that provide it a competitive advantage over its competitors in order to survive. Commercial banks are at the top of this list of competitors. Loss of loan revenue owing to processing errors, insufficient information, non-compliance with lending policies, and excessive concentration of credit risk, counterfeit collateral, and employee fraud are the main risks connected with MFI.

Moreover, the most significant control concern is that this loan system operates independently of the accounting system. Each MFI loan has a credit risk and a client that is unable to repay the loan. This risk increases if employees have insufficient information about clients or if load decisions do not adhere to the specified policy. Transposed data, erroneous interest calculations for loan payments, inadequate business analysis by loan officers, and overestimation of growth to loan results were all prevalent errors

Zeller and Mayer (2002) the concept of the essential microfinance triangle has been recognized as a requirement for evaluating microfinance institutions. The poor outreach, financial sustainability, and welfare impact are the three corners of this triangle.(Morris & Barnes, 2005)

The purpose of this research is to bridge the gap by looking into risk, profitability in microfinance institutions, strategic lending methods and debt collection. The study's main purpose is to see if MFI's lending methods are good enough to avoid bad debts and track loans efficiently enough to increase profitability. MFI's profitability is strongly dependent on the efficiency of their credit management systems because the majority of their income or revenue comes from interest earned on loans given to small or medium businesses.

### **1.3 Objectives of the study**

#### **1.3.1 General Objective**

The primary goal of this research is to determine the characteristics that influence profitability of microfinance institution in south Asian countries, which include Pakistan, India, Bangladesh, Nepal, Afghanistan and Sri Lanka.

#### **1.3.2 Specific objectives**

- i. To determine the impact of financial structure on microfinance institution profitability.
- ii. To assess the impact of operating efficiency on microfinance institution profitability.
- iii. To investigate how the age and size of a microfinance institution affects its profitability.
- iv. To investigate the link between macroeconomic factors and microfinance institution profitability.

#### **1.4 Research Question**

1. What are the main factors that affecting probability in microfinance institutions of south Asian countries?
2. How to determine the impact of financial structure on microfinance institution profitability?
3. How to assess the impact of operating efficiency on microfinance institution profitability
4. How age and size can be effective for MFI on profitability of microfinance institutions?
5. What is relationship between macroeconomic variable (GDP, inflation and population) and profitability of Microfinance institution?

#### **1.5 Significance of the study**

This study has various benefits from general to specific for the concerned institution and people fall in the vicinity. The findings will enable microfinance Institutions should identify the major determinants of profitability and try to focus on those variables without excluding other variables in order to be profitable, grow and be sustainable in order to achieve their desired goal of alleviating poverty by providing microfinance to borrowers for productive purposes such as starting a business.

Microfinance consistent with many researchers and policymakers, encourages entrepreneurship, will increase profits generation and for that reason reduces poverty. It additionally empowers the bad (especially girls in growing countries) improves get admission to fitness and education and builds social capital amongst bad and prone communities. Studies of market-primarily based totally poverty remedy also are gaining reputation with inside the control literature, with ideas such as "base-of-pyramid" and "developing shared value" being set up to cope with what agencies can do to relieve poverty and enhance social welfare.

The study also enable customer to examine the MFI's ongoing operations in order to determine its long-term viability. So that they wouldn't be affected during stress time, through this

customer and borrower should know each and every single policies, rules and regulation on micro level that would build trust on sustainability of MFI. Another important point in this study is, it enables central banks to identify the primary drivers of MFI profitability, allowing them to better oversee the financial industry as a whole. So, that every participant treated fairly. Main focus in this study is about determining the factor affecting MFI's profitability that must be known by Central bank to, (maximize profitability and lending borrowing ratio, rate per capital flow), minimize risk and fair treatment for each and every one.

A survey of the literature suggests that there are significant gaps in our understanding of the factors that influence MFI profitability, particularly in the setting of south Asian countries. Firstly, researcher work on individual countries and their respective banks that deal typically with microfinance institutions. This study based on South Asian countries, which includes Pakistan, India, Afghanistan, Bangladesh, Nepal and Sri Lanka. Secondly, according to a survey of the literature, the majority of empirical investigations have been carried out with the goal of measuring MFI performance using solely internal criteria. External factors are not integrated much into their models so that macroeconomics factors that possibly can affect profitability of the institutions are ignored in previous studies. (Yirsaw, 2008) on his part tried to see the performance of the institutions in case of six MFIs where he considered profit and long-term viability, assets and Management of liabilities and efficiency and productivity but ignored portfolio quality of the institution's external factors also, which are of more important. Studies are limited in that; for one thing they haven't considered external factors like macroeconomic variable (population, gross domestic product GDP and inflation) which have much notified impact on performance and profitability of MFIs of any country. Thirdly, studies used observation for limited number of years than they should have considered; this study tried to take maximum available data of south Asian countries; that's why there are I find different contradicting results and facts. Finally, in all the studies the independent variables were either, as a proxy for performance, operational self-sufficiency or financial self-sufficiency. None of the studies focused on profitability and used ROA as a dependent variable.

It is for this reason that the current study tries to fill the gap by considering internal and external factors, maximum available data, use ROA as a dependent variable and data based on south Asian countries, affecting the profitability of MFIs.

## **1.7 Organization of the study**

This study is based on 6 chapters. First being the introduction of the topic i.e. exploring the factors affecting the profitability of MFI in south Asian countries. Second chapter contain the material of MFI's in South Asia. Next joint of this chain have literature review. Fourth chapter covering the data and methodology in which collection of required data and most appropriate methodology applied in order to get the efficient and accurate results is discussed. In last two chapters of this study, comprises of empirical results, conclusion and policy recommendations, will be shared.

## Chapter 2

### Microfinance Institutions in South Asia

#### 2.1 South Asia

South Asia is the world's largest home of microfinance organizations in terms of outreach, poverty focus, and loan portfolio sizes. It is largely recognized as the birthplace of contemporary microfinance. Regardless, M-CRIL, Asia's According to a reputable microfinance rating agency (Sinha, 2002) that the region's rated MFIs are doing poorly.

Microfinance is defined as a "program that offers lower level loan to poor population for the self-employed initiatives to provide them with a source of earning, helping them to provide for themselves and their family" (Summit, 1997). Rahman (Rahman, 1999) collected thoughts from book Microcredit and Poverty alleviation. This funding's primary purpose is to alleviate poverty, which is at the root of social crimes and uneven labor practices. Because capital is not provided, people are unable to enhance their living standards.

Receive funding from international donors or financial authorities in the early stages of their development (Germidis, Kessler, & Meghir, 1991), from Financial services for the Poor: assessing microfinance institutions). The Grameen Bank founded in the early 1970s and operates similarly to commercial banks, providing loans to a cluster of underprivileged people. At a 20% interest rate, Grameen Bank upholds its self-sufficiency. South Asian MFIs, for the most part, follow the same structure as Bangladesh's Grameen Bank, (Islam, 2016) wrote book on Microcredit and poverty alleviation by (M. S. Hossain & Khan, 2016). According to the Microcredit Summit campaign report, 67.4 million families throughout the world used microfinance in 2002. According to the survey, Bangladesh accounted for 13 million of the 59.4 million Asian subscribers. MFIs significantly contributed in the growth of Bangladesh, where a large group of society lives in poverty, according to (Ahmed, 2009) written in his paper named, Microfinance institution in Bangladesh: achievements and challenges, who had been the serving governor of Bank of Bangladesh at the time. As a result, the Bangladeshi government announced the Microcredit Regulatory framework in 2006, which all Bangladeshi MFIs conducting

microcredit operations must follow (MRA, 2009a). (McGuire & Conroy, 2000) in his research paper *The Microfinance Phenomena*.

A brief study on MFI accomplishments in South Asia was provided by the World Bank in 2006. Afghanistan and Nepal, according to their study, suffer numerous obstacles as a result of poor political situations. They also emphasize the role of South Asian MFIs in assisting the 17% of households. In 2005, the total demand for microcredit was \$15 billion, but only \$2.3 billion was given to the needy. India and Bangladesh have superior MFI coverage, while Afghanistan and Sri Lanka have the lowest. MFI loan amounts are higher in Afghanistan, Pakistan and Sri Lanka than many other countries in the South Asia region.

### **2.1.1 India**

In India, Micro-financing was launched in the 1980s to alleviate poverty and start to empower women. Although it's enormous potential, the microfinance sector in rural India suffers accessibility issues.

In Gujarat the Self-Employed Women's Association (SEWA) was the first to pioneer microfinance in India, establishing (SEWA Bank) in 1974. Since then, bank has been facilitating financial services to those in rural areas who want to start their own enterprises. Kudumbashree, (Kerala's Poverty Eradication Mission, which began in 1998, study picked by Microfinance and micro-enterprises research paper,) is an example of a successful initiative. Neighborhood Groups (NHGs) is a female-led community organization brings women together from rural and urban communities to fight for their rights and empowering and strengthen them (Raghavan, 2009). Women work on several subjects through these NHGs, involve health, nutrition, and agriculture. They will be earning money and apply for microcredit during working under this program. Small-scale efforts like these help people in impoverished places gain financial independence.

To meet the needs of India's huge rural population, microfinance facilities are required. Microfinance's key goals in India it should be to promote socioeconomic development on the basic level through a community-based strategy, empower ladies, and increase household



income. Running a micro-finance program in rural India has its own set of problems, as does conducting any revolutionary endeavor.

Microfinance is a kind of banking service that helps those who have been facing trouble getting access to traditional financial services. It aimed at people who have low-income and who are unemployed. Microfinance institutions provide services such as loans, opening bank accounts, and providing micro-insurance products. Through formal channels financial services cannot meet the needs of the rural poor in developing nations like India, therefore microfinance program can help small enterprises thrive by providing higher financial stability.

Lack of proof recognized employment or collateral that the poor can supply when requesting for loans is the major factor of conventional banking institutions in India failing to lend to the rural poor. Banks are further hampered by the transaction costs and high risk of modest loan, savings accounts. The poor have no choice but to borrow credit from local moneylenders at exorbitant interest rates.

### **2.1.2 Bangladesh**

The Grameen Bank became a global leader to reaching out the poorest people on a wide scale, but it has been trapped in a rut since 1995 because of the extreme antagonism that its primary role has created, as well as the friction that its credit-based approach has caused (see segment on Grameen below). While Grameen grew at the fastest rate between 1997 and 2002, three other significant firms grew even faster. Bangladesh is considered as the cradle of microfinance, and competition has risen dramatically in recent years. The microfinance business, on the other hand, is only now beginning to put in place procedures that will promote innovation and commercialization

Because MFI's sector top wholesaler was instrumental in the sector's rapid growth in the 1990s, it will be required to remove those low-cost, subsidized funds.

The 2006 "Microcredit Regulatory Act" published in article named Regulated microfinance in Bangladesh: prosper and challenges, may help large and middle-size MFIs transition to formal financial institutes and to combine into the formal financial sectors, although still in its infancy,

and freshly constituted Microcredit Before the statute can be extended, the Regulatory Authority will need to create its own capabilities (Chowdhury, 2014). In order to obtain general acceptability, the MRA must also promote the interest of both major and small microfinance institutions, which have been completely uncontrolled over the past three decades.

Bangladesh is one of the most thickly populated countries on the planet, with a population of approximately 160 million people. In 2006, about half of the population was poor, less than \$1 per day earning. In 2008, the GNI per capita in the United States was \$520, compared to \$986 in South Asia (using the Atlas method) (Bangladesh at a glance, 2009) paper name (Microfinance and Micro-enterprises (Alam, 2009)). Bangladeshi adults had a literacy rate of 47% in 2007, compared to 58 percent in South Asia, with a life expectancy of 64 years at birth. Poverty in the country has many manifestations, including income inequality, gradually cost of standard of life increases, malnutrition among the large number of the population, jobless people, and intra mobilization. Bangladesh ranked 139th out of 177 countries in the United Nations Human Development Program (UNDP) in 2005, according to the UNDP's Human Development Index (HDI), (Bangladesh Microfinance Country Profile, 2006) (B. Hossain & Wadood, 2018).

By the end of the 1990s, the microfinance sector had become engulfed in a refund crisis, with Grameen Bank's estimated payback rates plummeting from above 98 percent to around 90 percent (research paper, Microfinance and micro-enterprises by Armendariz / Murdoch, 2005) (Gervais, 2008). This problem arose as a result of the Big Four's fast development, Overlapping and numerous memberships (overlapping) of their clients were the result of various MFIs and was exacerbated by the countrywide floods of 1998 and the dwindling of donor grants. According to Rutherford (Interview, 2009), this caused Grameen to reconsider its attitude and marked a turning point in Bangladeshi development product. Not only Grameen got rid of some inflexibility, but other MFI began offering a vast array of goods and services.

From the beginning of their birth until recently, NGO-MFIs in Bangladesh were rarely controlled. When competition in the microfinance business heated up in the late 1990s, and donor money grew scarcer, several MFIs began providing their consumers voluntary and open access to savings accounts. This caused worry among most policymakers and business stakeholders, and it became evident that the sector would have to be controlled in some form in these conditions The MRA will be in charge of enforcing the act and will have the authority to

draught detailed rules governing MFI operations. The MRA Act's potential impact on the microfinance sector is examined later in this article.

### **2.1.3 Pakistan**

Finance (primarily credit) as a growing instrument in past, especially in rural regions, in the shape of government (directed/subsidized) credit program. While SBFC and YIPS are direct institutional interventions involving public monies and mechanisms, SES and Yellow Cab schemes, are indirect government pressures on public and private monetary foundation to indulge in politically motivated directed loans. Loan defaults related with these schemes have been widely highlighted in the popular news, hurting the profitability of financial institutions.

The National Rural Support Program, (NRSP) ([www.nrsp.org.pk](http://www.nrsp.org.pk)) was launched in 1992 and is of significant relevance. NRSP was supposed to be Pakistan's wide-ranging nationwide RSP with growing projects as well as a massive microfinance initiative, while SRSP and BRSP concentrated on provinces.

NRSP's rural focused microfinance performance have migrated into village sites in terms of its "Urban Poverty Alleviation Program" (UPAP).

Due to overhead situation, in early 1990s microfinance scheme had some common elements; instead of microfinance, the term "microcredit" was used, symbolizing the providing of just loans (and mandatory savings), as a aiming to promote relevant to other growing needs like basic necessities education-health-sanitation, and so on. Even at the international level, microfinance best practices were in their infancy and hadn't yet emerge into a coherent set of concepts and structure.

Microfinance zone in Pakistan sprang out of donor-funded rural development projects. It began in Pakistan in the early 1980s, with the formation of the AKRSP and the OPP the following year. These businesses provided a comprehensive guidance to a wide range of social services, including economic services. These pecuniary gifts were primarily social in nature, and no effort was made to amass outstanding obligations (Ahmad 2011), book *An Anthropology account*.

In Pakistan, microfinance institutions (MFIs) are losing money, making it difficult for them to stay in business. The goal of investigation is to identify the factors that affect the economic overall performance of microfinance institutions in South Asian countries, including profitability and sustainability, and to determine whether achieving profitability and sustainability is a conflicting goal when serving the poor. Following a review of the relevant literature and the findings of the paper, it was discovered that MFI length, age, overall assets, liabilities, internet income, return of assets, fee efficiency, economic assets, common mortgage length, and yield on mortgage portfolio are the primary elements infusing Khandker (2003) in his investigation. (Khandker & Samad, 2014) discover in his study name, microfinance and poverty reduction in Asia and Latin America, discovered that admission to microfinance reduces destitution. In Bangladesh, microfinance applications have also been reported to grow in popularity among manipulative households (Morduch, 1998, microfinance and poverty alleviation). Microfinance institutions (MFIs) specialize in the negative by employing novel approaches such as collecting loans, reformist loans, standard compensation schedules, and coverage substitutes(Thapa, 2007) . MFIs were required to be fiscally reasonable while participating in this lower goal of impoverishment. Researchers discovered that a capable MFI board was supplied to advance those aims weathering economic independence as soon as they emerge out of each authorized fee, credit score mishaps, and financing costs from operating pay and purposeful independence in the association (Thapa, 2007).Researchers also examined at the fee productiveness of 39 microfinance foundations spanning Africa, Asia, and Latin America using non-parametric records envelopment analysis. The study found non-administrative microfinance institutions, particularly those that use the introduction technique, are usually skillful, which is understandable given their pride in achieving dual goals like poverty alleviation and economic sustainability in research paper by (Haq, Skully, & Pathan, 2010)

#### **2.1.4 Nepal**

The microfinance field was presented by cooperatives (1950 to1960s), and conventional banks until 1980s, when several main projects and activities were launched to introduce financial and banking services to fight poverty and strengthen ladies' program, (1970-1980s). However, while a select category of poor individuals benefited, the services were ultimately deemed to be useless.

“The government took initiatives in the 1990s and early 2000s to boost Microfinance Institutions, including the creation of five Regional Development Banks, to provide finance to the poor and women, (RDBs) based on the Grameen model in each Development region with the sole purpose of providing women's and poor people's microcredit services. Financial Intermediary NGOs (FINGOs) were founded when NGOs engaging community-based financial activities were authorize and regulated by Nepal Rastra Bank, (NRB) to activate microfinance services in the early 2000s. During the early 2000s, wholesale funding institutions were also established. Rural Self-Reliance Fund (RSRF) was established by Nepal Rastra Bank in 1991 to give financial assistance to NGOs, and cooperatives. The Rural Microfinance Development Center, (RMDC) is one such wholesale institute that was established in 1998 under the Public Private Partnership, (PPP) Program, with Nepal Rastra Bank holding a 26% stake and 13 commercial banks holding the remaining stakes.

### **2.1.5 Sri Lanka**

Sri Lanka's microfinance sector is likewise quite diverse, with a vibrant a consolidated movement, “several government and central bank capacities and commercial bank and MFI programs. SEEDS is the country's leading MFI and one of the few sustainable NGOs, having sprung from the Sarvodaya people movement. SEEDs are a credit-plus organization that grew to 260,000 members by the end of 2001, with about 60% growth from 1999 to 200. Through 1,500 cooperative rural banks and 8,000 prudence and finance cooperative societies, the cooperative movement accounts for roughly half of all microfinance loans (TCCS). In 1997, Sanasa, the TCCS federation, formed the Sanasa Development Bank.”.

Truly, there are numerous huge explanations behind presenting microfinance in any case. There are Robinson around 90% individuals in agricultural nations have no admittance to institutional monetary administrations (Robinson, 2001)As a result, the poor grow increasingly defenseless, but they are ready to work hard for a betterment of life (Hubbard, 2008).Due to a lack of access to institutions sources of funds, most poor and low-wages families rely on sporadic microfinance sources to keep afloat (Bello, 2000). In any case, these resources limit their ability to engage effectively in the progression cycle and to encourage them to take advantage of it. Therefore, microfinance offers monetary administrations to the individuals who aren't served by the customary monetary area. at this within the agricultural nations,

microfinance is perhaps the foremost devices to help and lookout of this issue of poor people ((Guntz, 2011), sustainability and profitability of microfinance institutions). Over the previous a couple of years, microfinance has quickly developed and extended from the widely thin field of miniature undertaking credit to the more far reaching idea of microfinance which incorporates a scope of monetary administrations, reserve funds, cash moves and protection for the poor to the massive test of building comprehensive monetary frameworks (Dokulilova, Janda, & Zetek, 2009). In, Sustainability of microfinance institutions and financial crises, research paper.

MFIs' most valuable assets are their high-quality connections with the world's impoverished, not their loan portfolios. – Commercial banks, according to Alex Counts, President and CEO of the Grameen Foundation, have failed to meet the credit needs of the poor.

Sri Lanka is an island nation off the coast of India's south-eastern coast. It is a small country in comparison to its Asian neighbors, with a surface area of just over 65 000 square kilometers. Sri Lanka's population is projected to be around 19.8 million people in 2006, with 85 percent of the population living in rural areas. The “population density is at 300 people per square kilometer, and annual population increase is around 0.8 percent. Sri Lanka is a multicultural and multi-religious country. The majority of Sri Lankans are Sinhalese and Buddhists, with significant Tamil (usually Hindu), Muslim, and Christian groups”. For the past 25 years, Sri Lanka has been torn apart by a civil conflict between Tamil separatists known as the Liberation Tigers of Tamil Eelam (LTTE) and the Sri Lankan government.

The geography of the land is irregular and dissected. To the foothills of the central highlands, a coastal belt (less than 100 m elevation) is followed by rolling plains (100-500 m elevation) of varied lengths. The climate is tropical and equatorial. Rainfall is irregular, dividing the country into two climatic zones: a rainy zone in the south-west and a dry zone in the rest of the country. In the wet zone, annual precipitation averages 2500 mm, whereas in the dry zone, it averages 1 2001 900 mm.

## **Chapter 3**

### **Literature Review**

This chapter contains theories and associated prior studies on factors affecting the profitability of MFIs in south Asian nations. Internal MFL determinants, as well as external determinants, such as specific macroeconomic circumstances, have an impact on profitability. As a result, the first part of this chapter discusses ideas for investigating the elements that influence the profitability of South Asian MFLs, while the second half discusses the impact of internal and external determinants on MFL profitability.

#### **3.1 Structural Review**

The primary focal point of this survey is MFIs monetary execution. We start by a review of studies addressing monetary maintainability which is an unmistakable boundary that can be estimated and checked constantly. In area three, we survey and examine different parts of microfinance benefit. The last segment of this section gives a rundown and end dependent on the whole writing overview.

#### **3.2 Theoretical Foundation**

In spite of the fact that there is a huge literature on assessing MFI achievement and benefits but there is very limited research on profit-based analysis of the microfinance institutions particularly for South Asia region. Likewise, there are some relevant study also whose central premise revolves around organizational degree factors of the hobby, such as management procedures, authoritative production, and settlement strategy. (Kyereboah - Coleman & Osei, 2008)analyzed in their paper named, outreach and profitability of microfinance institutes: specially discussed role of government, It is shown that governance plays a critical role in the performance of MFIs. In the context of multi-dimensional and sometimes conflicting objectives facing MFIs, a clear balancing act of social objectives and institutional sustainability to ensure effective performance of MFIs is recommended. The management impact on the MFI's and their productivity while the same were also studied by many others such as(Mersland, 2009), (Pal &

Mitra, 2018) define in their paper title “The efficiency of microfinance institution with problem loan. The stated that MFIs whose numbers of at-risk portfolios are comparatively high have exhibited lower efficiency scores and vice versa. It is therefore critical that MFIs also include problem loans in their efficiency assessment. This would help MFIs get a more accurate picture of their performance as compared to their peers. They studied the MFI execution and an attempt on their productivity and loan problem. (Pascal Ndaki1, Atle Beisland, & Mersland, 2018)also looked into the management execution.

The impact of outside management on MFI execution was analyzed by the Hartarska in 2009, titled impact of outside control in microfinance in which he analyzing that the purpose of his paper is to study the effects of external governance mechanisms on MFIs' performance, whereby external governance is defined as the control exercised by stakeholders and markets, and accountability mechanisms that operate to enforce internal governance, further the relationship between supervisors' enjoyment and remuneration plans on MFI performance and execution.

(Cull, Demirgüç-Kunt, & Morduch, 2011), (Mersland & Strøm, 2010), (Nurmakhanova, Kretschmar, & Fedhila, 2015) separately studied the impact and miniature institutional determinants of MFI outreach-manageability compromise. (Ford, 2010) at the exhibition, guiding principle contest and financing compromise, and (D’espallier, Guérin, & Mersland, 2011) on intercourse predisposition There are also some studies that focus on factors that influence MFI fulfillment that are not related to the MFI board's manager. For example, (Ahlin, Lin, & Maio, 2011) who is journal of development economics, his study title was Where does microfinance flourish? Microfinance institution performance in macroeconomics context, Evidence arises for complementarity between MFI performance and the broader economy. For example, MFIs are more likely to cover costs when growth is stronger; and MFIs in financially deeper economies have lower default and operating costs and charge lower interest rates. There is also evidence suggestive of substitutability or rivalry. For example, more manufacturing and higher workforce participation is associated with slower growth in MFI outreach. Overall, the country context appears to be an important determinant of MFI performance; MFI performance should be handicapped for the environment in which it was achieved. (Vanroose, 2008), (Gonzalez, 2007) and (Honohan, 2004) conducted comparative studies in this area, testing the



association between MFI presentation and changes in the large-scale climate. Mersland, Randy, and Strm (2011) look into the impact of internationalization on the presentation of microfinance foundations. (Hartarska & Nadolnyak, 2008) studied the role of FICO scores. The study was also directed to find the role of the FICO score in increasing the reserves for the microfinance institutions. The studies and research articles mentioned above were also intended to have direct source information on the dependent and independent variables. The dependent variable whether FSS or OSS, the studies helps us to find the clear economic manageability in such situation. What is conspicuously missing from this slew of studies is a focus on MFI productivity that is what we owe to find and dig out.

### **3.2.1 Theory of Profitability Affecting Factors**

#### **3.2.1.1 Profitability and Microfinance Mechanisms**

Micro finance institutions use a range of strategies. Such strategies involve the group loaning and individual non-collateralized credits, with continual advance size increase based on reimbursement (dynamic impetuses).

Notwithstanding, now no longer all equal have an effect on MFI beneficial. MFIs using bunch loaning philosophies, the ones using trendy increase agreements hold an eye fixed on (a) serve accurate clients as meditated via way of means of the regular increase size; (b) be all of the greater monetarily consistent as peroxide via way of means of the extent in their economic charges covered;(c) serve a touch degree of lady clients and (d) rate decrease financing expenses and fees as displayed with inside the authentic portfolio yield. MFIs using bunch loaning and city financial institution fashions have impressively better running expenses comparative with credit score size.

Thusly bunch loan specialists and town banks will in general serve less fortunate customers and face higher working costs comparative with credit size. Naturally subsequently one would anticipate that individual type of lenders should be more productive. Along these lines one inquiry that warrants experimental investigation is whether the sort of credit contract impacts benefit of microfinance establishments.

The extra part of these paintings has zeroed in on co-operations amongst banks and debtors, or many of the mortgage experts themselves. Rivalry debilitates lengthy haul connection among the financial mediator and the customer (Rajan & Petersen 1995). Furthermore, Manors Boas, and(Villas-Boas & Schmidt-Mohr, 1999), (Petersen & Rajan, 1995), paper title, Microcredit and the Poorest of the Poor: Theory and Evidence from Bolivia) predicts that in the face of heavy competition, maximal MFIs will zero in on the most useful clients(Navajas, Schreiner, Meyer, Gonzalez-Vega, & Rodriguez-Meza, 2000). Rivalry intensifies unbalanced facts troubles over borrower obligation (McIntosh & Wydick, 2005). With lopsided facts among contending MFIs, every credit score settlement therefore yields a decrease internet sale to the borrower than below the whole facts benchmark. This has recommendations on MFIs gain too. As to repayment quotes, It is the competition which brings down the screening ability of the officeholder foundation, as a result, increasing the part of awful high-satisfactory debtors amongst customers. An ascent in default quotes activates decrease repayment and the consequent gain (Marquez, 2002).

Exact writing on the connection between microfinance contest and benefit is insufficient. Utilizing monetary information for socially-inspired MFIs somewhere in the range of 2003 and 2006 in creating nations, Hisako (2009) (Hisako & Shigeyuki, 2009) looks at the experimental connection among rivalry and monetary independence (FSS). He reasons that opposition no affects monetary independence. Mersland and Strm (2009), he analyzes in his research titled the cost of ownership in microfinance organization, he concludes that what best serves the customers is the coexistence of ownership types and call for empirical research to test this theory. on the other hand, find that there is more competition among MFIs to give lower portfolio yield, resulting in lower gain. Separate et al. (2009b) investigate if the presence of traditional banks has an impact on MFI productivity and attempts. Their impact on profit is besides unimportant. One of Winnow et al (2009 flaws)'s is that they utilize a degree recommendation of competition instead of measurements that might replicate company degree rivalry in many MFIs. As a result, these discoveries are in a state of flux. Various studies have been undertaken to shed light on various elements of MFIs, such as barriers to microfinance outreach, the formation of MFIs, and their performance, effectiveness, and regulatory framework indicators. However, the focus of this research is on the factors that influence the profitability of microfinance institutions in South Asian countries.

The microfinance business has been characterized by a significant number of non-governmental organizations (NOGs) for the past 30 years. There are an increasing number of microfinance institutions in the country. In East Africa the study of Microfinance financial sustainability, Tehulu (2013), write paper titled, Determinants of financial sustainability of microfinance institutions in East Africa. European Journal of Business and Management used a quantile model and data from 23 financial institutions, including g 12 to empirically inquire the effect of seven factors on the financial sustainability of microfinance institutions, namely deposit mobilization, portfolio at risk, management inefficiency, loan intensity, and size. Two determinants (loan intensity and size) have a positive impact on MFI sustainability, while two determinants (management inefficiency and portfolio at risk) have a negative effect. Two determinants (breadth of outreach and deposit mobilization) have no impact.

Microfinance's long-term viability can be divided into four categories: economic viability, financial viability, institutional viability, and borrower viability by author Khandker, S. R., Khalily, M. B., & Khan, Z. H. (1995). Grameen Bank: performance and sustainability (Vol. 306). The crust of their paper is, in long-run sustainability of the Grameen bank in Bangladesh ultimate depend on its ability to expand its lending for more growth -oriented activities and achieve cost efficiency on a sustained basis. Successful reapplications would depend not only on subsidized resources initially, but also on committed and dynamic leadership that is able to carve out marked niches.

World Bank Publications whereas, according to Meyer (2002), the poor require long-term access to financial services rather than one-time financial assistance. Poor people's welfare is harmed by short-term loans (Navajas et al., 2000,) research titled Microcredit and the Poorest of the Poor.

According to Ayayi (2012) in his paper title Micro-credit and Micro-equity, micro credit is only available to poor individuals with rudimentary entrepreneurial abilities, and that the funds that must be repaid and the loan should only be available to those who can engage in income-generating activities. Giving loans to persons who are economically engaged leads to higher repayment rates and, as a result, better MFI efficiency.

WOLLER, G., & Schreiner, M. (2002) describe in his research named, Poverty lending, financial self-sufficiency and the six aspects of outreach, the poverty lending working group of small

enterprise and education promotion network, investigated financial sustainability determinants and discovered that productivity was the most important indicator of profitability. Furthermore, there is a number of borrowers per employee has a negative and statistically significant association with financial sustainability. in Tanzanian rural microfinance (Nyamsogoro, G. D. (2010). Financial sustainability of rural microfinance institutions (MFIs) in Tanzania (Doctoral dissertation, University of Greenwich).

Microfinance seen to be one of the tools that enhance poverty alleviation and community development, numerous challenges faced by microfinance sector Having a negative influence on the MFI's financial viability. According to Cull and Morduch (2017), those microfinance programmers who are devoted to financial sustainability are able to cover 70% of their costs, despite the fact that practically all programmers still receive significant subsidies.

In the instance of the Kenyan economy Mairura, V., & Okatch, B. (2015). Factors affecting profitability in microfinance institutions: A case study of selected microfinance institutions in Nairobi. *International Journal of Innovative Social Sciences & Humanities Research*. Investigated the drivers of microfinance institution profitability. They employed descriptive statistics to discover that the debt collection process in microfinance institutions has an impact on credit risk management, and that legislative laws have an impact on profitability. They also recommended that MFIs develop new lease regulations that consider mobile banking and simple loan and collection processes.

Mbedule (2013), a study on the factors determining profitability of micro finance institutions (MFI's) in east Africa, investigated the factors that influence MFI profitability in East African countries. He used a case study approach with ordinary least square and an unbalanced panel data set.

Nduba, M. P. (2018). *Factors Affecting Financial Sustainability of Microfinance Institutions in Democratic Republic of Congo*, found the impact of key factors that affect the viability of MFIs in case of Congo. He used descriptive design study and select sample through simple random sampling and proportional sampling. He found that 66% of population take loan for more than 1 year's period. Also, around 35% take loan to pay their loans. The most important point is that only 21% people use their loan for consumption.

Muriu, P. W. (2011). Microfinance profitability (Doctoral dissertation, University of Birmingham) examined the profitability of MFIs in case of selected African countries. He used data of 32 countries for 32 countries. The data set is unbalanced panel data from 1997 to 2008. He employed system GMM model with two steps. He found that the institutional environment of an economy significantly impacts the MFIs performance. Also, the MFIs with more capitalization and efficient performance earn more profitability.

Börjesson and Hultén (2016), Determinants of profitability in microfinance institutions in Sub-Saharan Africa, investigated that factor influencing the profitability of MFIs in case of Sub-Saharan African countries. They used panel data from 2005 to 2014 and found that macroeconomic indicators of an economy significantly affect the profitability of MFIs. Also, the size of firm, management costs and credit risk are the significant indicators of profitability of MFIs.

Akhter (2018), A Study on the Factors Affecting the Performance of Microfinance Institutions in Bangladesh, explored the determinants that significantly influence the act of micro-finance institutions in case of Bangladesh. He used data of five top MFIs of Bangladesh economy; TMSS, BRAC, Grameen Bank, BURO Bangladesh, and ASA of Dhaka city and collect the sample of 170 employees. He employed analysis of variances and multivariate regression model. He found that employee's motivation, system of loan lending, effective management, efficient management of risk and institutional environment play important role in the determination of profitability of microfinance institutions.

Dissanayake (2014), The Determinants of Microfinance Profitability: Evidences from Sri Lankan Microfinance Institutions, investigated the potential factors of microfinance institution profitability in Sri Lanka's Kelaniya city. He used information from microfinance institutions that had been in operation for at least five years. He calculated profitability by looking at productivity, risk management efficiency, portfolio quality ratios, and financing structure. In addition, it was discovered that the equity and debt variables have causal relationships with returns.

The microfinance term was begat by the German Fredrich Willelin Raifferssein in 1870 alongside his allies to loan backing to the more unfortunate with the goal that the provincial populace

might have the option to break their reliance on target moneylenders. The equivalent all together would build their government assistance as the less fortunate would have considerably more freedom as far as the monetary capacity to cook for their necessities through such foundations (CCAP, 2006). The term has advanced to the way that microfinance foundations are presently equivalently being utilized for the financial turn of events.

Hartarska (2004) characterizes the microfinance as "the arrangement of advances and other monetary administrations to poor people". Such administrations additionally incorporate the advances and reserve funds. There are numerous different foundations which has been discovered contribution numerous different administrations to the helpless like protection and installment administrations. The new and more extensive meaning of the term accordingly incorporates the microcredit as well as other monetary administrations. Throughout the previous twenty years the term microfinance has acquired significantly more interest as an instrument of the destitution easing in the immature and agricultural nations. The term has been additionally a significant supporter of the financial development in the agricultural nations and has acquire significance in the arrangement circles. The instance of Garmin Bank in Bangladesh has amassed the economies worldwide and has seen significant improvement in the rustic populace. The Microfinance Institutions according to many investigations has persuaded the financial analyst that the administrations can help promptly in the destitution decrease and can likewise envelop the maintainability at an at once, (Obara, Reiter and Rhyne, 2001).

In any case, those microfinance foundations have additionally baffled the allies of the term. All around the world the effect has been discovered restricted to two or three hundred where the projects started before has had the option to accomplish the imprint for example maintainability and customer sway (Dokulilova, Janda and Zetek, 2009). It is currently universally recognized that the miniature money organizations are influencer in the country area and can upgrade the business movement on a lower scale. For Pakistan's situation 90% of the organizations are little and medium business visionaries where a significant number of them are working in the casual area according to SMEDA, Pakistan's clout in SME improvement. Pakistan according to IMF Report 2018 as still a lot of falling behind its companions, for example, India, Bangladesh Vietnam and Sri Lanka, yet the actual area has worked on particularly as far as extension of new

units the nation over. The nation presently has more than 40 licensed foundations working in 106 regions. (IMF Report on MFI's 2017). The advance portfolio starting today has developed to an aggregate of 184bn PKR (US\$ 1.6bn) complete of 5.2 million borrowers the nation over.

In addition, the Bangladeshi government has provided a collection of acknowledgement initiatives based on the Comilla model of two-level cooperatives (Faridi, 2004). In 1960, Akhter Hamid Khan of the Bangladesh Institute for Country Advancement (Versifier) in Comilla, Bangladesh, devised and implemented the Comilla model for province improvement. Ranchers are to be organized into agreeable social orders in order to access contemporary sources of information such as high-yielding harvest assortments, manure, insecticides, water systems, and financed loans.

Recently, there has been a lot of focus on efficiency in the model and to study the impact on MFIs. Major studies include those of, (Hermes et al. (2011) in the presentation of MFIs in India (Walk 2011). In any case, only a few artists have dabbled in the use of these foundations, notably Gebremichael and Rani (2012) and Sufian (2007). Along these lines, experimental proof on what components decide the usefulness of MFIs is restricted generally. This examination accordingly expects to research the components that are huge in clarifying the usefulness of MFIs. The study analyses the impact of institutional traits, effort, and proficiency on the efficiency of MFIs employing the Experimental Bayesian technique. The study makes use of an ad hoc dataset containing 292 perceptions from 64 firms operating in India from 2005 to 2011.

We discover that, depending on the intermediary used in the analysis, institutional qualities and effort have both positive and negative effects. The result postures both the good and worse effects on the usefulness of the MFIs. The utility of MFIs is influenced by their effectiveness. The age of the business has a 6.1581 percent positive impact on usefulness, while the count of workplaces and the count of employees have a negative effect of 26.41 percent and 8.77 percent, respectively. Among the effort components, the number of dynamic borrowers has a 0.04 percent impact on usefulness, while average credit dimensions appear to have a backwards relationship with efficiency. The precise conclusions also reveal that the cost of each credit – an intermediate for efficacy – has a negative and extremely large influence of 1. 9604 is concerned with the utility of MFIs. One of the fundamental drives propelling organizations is efficiency. In any case, specialists in the microfinance industry have given little attention to this critical factor.

Essentially, a proportional increase in financial organizations' yield due to increased usefulness results in a long-term true reduction in loan financing costs. We'll go over some of the prior exact assessments of monetary foundation performance in the sections that follow.

Using the Malmquist efficiency list technique, Rani and Gebremichael (2012) investigated all out-factor usefulness of the MFIs in Ethiopia. They discovered that specialized productivity, particularly improvement in administration practices, is the primary source of usefulness development. They also argued that additional research into the factors that influence usefulness, particularly in MFIs, is needed. The need is more focused in terms of organizational and non-organizational aspects like scale, and outreach. Using the Malmquist efficiency record technique, Andries (2011) examined the efficacy and efficiency of Eastern European banks from 2004 to 2008. During the examination, he demonstrated that specialized improvements increased usefulness by 24.27 percent. For the eleven years leading up to 2007, Kent (2009) examined the usefulness development of China's cross-country banks and an example of city business banks. All out-factor usefulness development assessments were generated with appropriate assurance spans and a bootstrap technique for the Malmquist list. The state-claimed business banks (SOCBs) were compared to joint-stock banks (JSCBs) and city business banks in terms of their utility development (CCBs). For some models of estimation, the results suggest that the joint-stock banks' normal all-out factor utility was superior to 4 that of the state-owned banks, but not for others. However, throughout the period, the typical city commercial banks continued to improve their utility in terms of wilderness shift and effectiveness acquisition. Individual state-owned and joint stock banks also improved their efficiency, indicating a growing creation boondocks, according to the study. The majority of other banks stayed behind, widening the gap between the wasteful and proficient banks. While solo banks enhance their efficiency, general utility of chines bank hadn't proved that it improved, during the examination period.

The hypothesis states that any microfinance foundations that are currently operating should be dissected based on key terms such as net revenue, customer outreach, functional independence, portfolio in jeopardy, return on resources, return on value, cost of assets proportion, working cost proportion, and nature of announcing. These kinds of pointers are the most common way to describe the yield.



### **3.2.2 Financial Structure on MFIs**

Microfinance Institutions globally works in order to provide financial services to the low income. MFIs are providing readily help to the poorest household while financing themselves majorly from the subsidies granted by the relevant governments to MFIs, international aids from donor agencies and debt capital. Such programs are heavily funded by a range of institutions, involve the World Bank, the United Nations, national governments, and different NGO's working to financial aids globally to provide financial services to the poorest households. Their goal is to assist the negative change threat and coin in little economic advantage producing opportunities among low-income groups through the usage of profit-making banking activities. The MFIs has well attracted the small-scale investments by removing the financial limits Baidoi and Hislon, (2010) & Hartaska and Nadolnyak (2008). Financing is always bargain within stable returns and higher risks optimizing the 2 is the only way to maximize shareholder wealth in the long run-

As a result, a fair combination of preferred stock, common stock, and bonds is a maximum favorable financing objective. In a healthy economy, for example, a raise in the debt-to-equity portion leads to an increase in the balanced-to-debt ratio. In the midst of a depression, however, a larger debt portion is non-sustainable since it jeopardizes the comparative motion of gross/income. It is because, regardless of the fact that debt is considered a first-step-beneficial aid for microfinance, an raised amount of debt necessitates an increase in terms of interest that must be paid through the business's approach; for which, developing profitability necessitates an increased amount of lending to the consumer, putting the business at risk; and for which, developing profitableness necessitates an expending amount of lending/loan to the consumer, putting the business at risk; This check no longer exclusively analyses debt financing, despite the fact that it is the most important factor key source, but also takes into account different types of debt and their relative features, which vary depending on debt-carriers and maturity levels.

Financial structure has been a long source of fascination, and several theories have been proposed to fill in the gaps and provide solutions; yet, each principle has its own set of advantages and disadvantages. As Abor (2005) points out, the quality believes we've come close to having all of the prescriptions we need to make mid- to short-term capital-structure decisions.

Furthermore, Modigliani and Miller (1958) argue the converse and show that excessive leverage leads to increased profitability. According to Ledger Wood (1999), the "micro" "in microcredit refers to "facilitation" gave to less-profit workers so that they can keep modest amounts of capital and eventually gain significant returns. Furthermore, empirical research concentrating on the notion of business pricing is still mixed and disputable (Mersland & Strom, 2007); since most business-prices-related research estimates an MFI's profitability primarily based on regression version and comparatively fairness, arrears, and finance. Regression-version and relative equity, debt, and capital ratios are used to determine MFI's profitability. Abor (2005) gathered data from Ghana's small and medium-sized firms, concluding that a high short-term in arrears ratio had a positively impact on ROE.

According to the study on profitability and financial structure, both in short and long-term obligation financing results in worse profitability. With contradicting findings from various past studies, it became clear that connected between profitability and comparative financing-choice is worthy of further investigation. Meanwhile, for microfinance organizations that mobilize deposits, the deposits-to-belongings ratio is very applicable. A lower ratio enables microfinance company's collect their assets/benefits without delay from the deposit-base; whereas a relatively large deposit funds (as a percentage of total assets) results in lower investment-prices, all the above while it's assumed that the performance and economic fee-efficiencies are maintained with inside the deposit in process. A better ratio indicates that an increasing percentage of investments should be made outside of the company, which is a very expensive investment source. Deposits are currently used by microfinance firms for more than just financing; they also, possibly inadvertently, appoint deposit-financing since it starts charges at the management, which can be a load for higher management, final finding in profitability improvements (Hollis & Sweetman, 1998). Likewise, assets portfolio ratio is functioning as a measure of financial risk; when debt appears to be more unstable and less liquid, it acts as a measure of credit risk (as while in comparison to the belongings), in the capital-shape of a microfinance enterprise Moreover, the interest fee charged on micro financing firm's loans includes what they call a "chance premium," which is largely a fee amassed by MFI-companies as a result of a disproportionately large quantity of net-defaulters, for which MFIs charge this credit score-chance as delivered fee and in-flip a b As a result, MFIs with a higher Assets portfolio ratio enjoy a less risk to lose at all times.

### **3.3 Factors Influencing MFI Profitability**

#### **3.3.1 Internal Determinants Influence**

#### **3.3.2 External Determinants Influence**

Muriu was the first to do an empirical study on the factors that influence the profitability of African microfinance institutions (2011). In his work "What Explains the Less financial gain of MFI in Africa," Muriu attempted to determine the elements that contribute to MFI profitability in Africa. He employed a Generalized Method of Moments, (GMM) technique with an imbalanced panel data set of 210 MFI from 32 nations from 1997 to 2008.

The return on investment (ROI) is a gauge for profitability. The parameters analyzed include capital, credit risk, size, age efficiency, and gearing ratio; second, macroeconomic issues such as Gross National Income (GNI) per capital and inflation; and third, institutional improvements such as freedom from corruption.

Data was gathered from annual reports and the World Development Indicator for three types of determinants. Muriu came to the conclusion that capital, size (economic scale), and the absence of corruption all had a significant favorable impact on profitability.

#### **3.3.1 Internal Determinants' Influence**

Credit risk, for example, and efficiency have a major negative impact on profitability. In addition, the gearing ratio, inflation, GNI per capital, and age were found to be minor drivers.

Several factors influence the profitability of microfinance institutions.

- Sustainability
- The breadth of the outreach
- Female borrowers as a percentage of total borrowers
- Interest rate on MFIs

- The danger of default
- Per-borrower costs
- Portfolio of gross loans

The variable has a substantial impact on microfinance institution profitability.

Some have a beneficial impact on MFI profitability, while others have a negative impact.

### **3.3.1.1 Sustainability**

Ayayi sene, 2010; Nurmakhanova, Kretzschmar, fedhila, 2015; Nurmakhanova, Kretzschmar, fedhila, 2015] Operational self-sufficiency (oss) is a common metric for determining financial viability. Return on assets (ROA) and operational surplus are used to assess financial performance in the current study (OSS). It rates MFIs on how effectively they use assets to generate profits, as measured by profit after taxes as a percentage of total assets. The study also includes a measure of outreach depth to see if profit-driven MFIs, particularly with poorer borrowers, depart from their outreach goals.

### **3.3.1.2 The Depth of the Outreach**

#### **3.3.1.2.1 Average loan Size (ALS)**

The average loan size (ALS) granted to disadvantaged borrowers is referred to as depth of outreach. Because it allows for the type of economies of scale that must be supplied, small loan sizes indicate poor consumers served by MFIs wealthy households [Navajas et al., 2000]. Average loan size has emerged as the most widely utilized metric for ranking sustainability at the expense of its purpose of maximum of outreach and poverty reduction. In addition, MFIs promote a small average loan amount as a crucial factor influencing outreach in order to emphasize their fundamental objective. The hypothesis is created in this section based on both theoretical and empirical evidence gathered from the literature.

### **3.3.1.3 The Breadth of Outreach**

#### **3.3.1.3.1 Number of Active borrowers (NAB)**

The number of active borrowers indicates the breadth of endeavor. The argument is that reasonable creation expenses are amortized throughout a larger number and worth of returns, and that expansiveness has a negative relationship with costs and a positive link with benefit. In this case, it is assumed that the number of dynamic borrowers is strongly linked to usefulness.

#### **3.3.1.4 Cost Efficiency**

To determine cost efficiency, the operational expenses/loan portfolio ratio is employed (OELP). The fact that the ratio trends are decreasing indicates that MFIs are becoming more efficient. As a result, profitability and long-term viability are projected to suffer as a result of OELP. Armendariz and Szafarz [2011] looked into microfinance organizations that sought to help the poorest people while being financially sustainable. The findings showed that the cost of delegation and endogenous monitoring altered trade-offs between sustainability and outreach in agency relationships based on moral hazards among loan employees, borrowers, equity owners, and outside investors and financial leverage.

As a result, long-term MFOs must charge higher interest rates (yield on loan portfolios), target weaker borrowers must be less leveraged, and staff costs per loan must be high. Increasing operating expenses, according to Daher and Le Saout [2015], reduces sustainability. Operating expenses and relative loan size would have a statistically significant and robust link, according to Hermes, Lensink, and Meesters [2011]. However, as the literature shows, when loan sizes grow greater, this reduces.

#### **2.2.1.4 Average Loan Size (ALS)**

The ALS is the loan amount offered to low-income borrowers. MFIs may reduce the average loan size when the risk associated with each consumer increases [kar, 2012]. Previous research has demonstrated that because administrative costs do not reduce when loan sizes drop, organizations' profitability suffers. However, if a smaller loan size results in a higher repayment rate, we can anticipate a positive association between the two. A negative negligible association

was discovered by Gonzalez [2007] and Mersland and Strom [2010]. Abdullah and Quayes (2006) investigated the impact of commercialization on microfinance institutions' long-term viability and outreach. Commercialization and financial sustainability have a clear relationship, with sustainability increasing as commercialization increases; however, MFI outreach diminishes as commercialization increases. Mission drift has a good influence on MFI profitability, according to It lowers outreach mission, according to Pedrini et al. [2016]. According to Millson [2013], as MFLs show maximum financial interest, such as operational sustainability and return on assets, they lose their goal of serving the poorest strata of the community. The cost of a small, unsecured loan might be met without increasing the loan size, according to Kipesha [2013].

Gross loan portfolio has a favorable significant influence on sustainability for both low and high disclosure, according to Mia and Rana [2018]. The average loan amount remained insignificant for lesser disclosure, while increased disclosure had a detrimental influence on sustainability. Mia and Rana [2018] discovered a favorable significant association between sustainability and MFI yields that are affordable. D'Espallier, Hudon, and Szafarz, (D'Espallier, Hudon, and Szafarz, 2013) discovered a positive relationship between yield and all sustainability and financial parameters.

### **3.3.1.5 Default Risk**

The risk of default credit for outstanding loans that have yet to be received is known as portfolio at risk 30 days, and it is projected to have a negative influence on MFI profitability and sustainability. The microfinance loan portfolio relies on its risk profile, which is mostly based on the degree of risk management approaches [janda, zetek, 2016], to maintain its thriving but difficult development. MFI sustainability and profitability were found to have a negative significant relationship by Daher and le Saout (2015) and Mersland and strom (2010), showing that MFIs needed creditworthy clients in their portfolio to increase profitability and sustainability.

Awaworyi Churchill [2018] discovered a beneficial impact on loan portfolio quality. The microfinance sector's declining portfolio quality raises macroeconomic concerns. [2019, Qi

Knewton]. Portfolio at risk, according to Pimhidzai et al. [2019], has a detrimental impact on financial sustainability. Tehulu [2013] suggested a holistic approach that included both financial sustainability and outreach, as well as the possibility of a link between the two. The findings revealed that MFIs' financial sustainability was not harmed by their breadth and depth of outreach.

### **3.3.1.6 Gross Loan Portfolio**

The total number of outstanding loans determines the size of an MFI's gross loan portfolio (GLP). The literature on GLP's impact in ALS is contradictory. The average loan size is utilized as a dependent variable in the three least square approach to examine mission drift between the OSS and the ALS. Churchill [2019] discovered a positive relationship between ALS and GLP, implying that providing more borrowers promotes sustainability.

### **3.3.1.7 Percentage of Female Borrowers**

The proportion of female borrowers in MFIs is projected to have a favorable influence on their profitability and long-term viability because serving women is connected to higher payback rates [Quayes, 2012], [2015, Ayele]. The proportion of female borrowers in Indian self-help groups (SHG) has a beneficial impact on repayment performance.

A similar pattern was discovered by Abdullah and Quayes [2016], with female clientele performing better in terms of repayment. Increased repayment rates improve the long-term viability and profitability of microfinance institutions. The share of female borrowers should not be neglected as a social indicator [Feroze, 2011], as Mersland and Strom [2010] found no significant correlation. Women borrowing leads to greater financial success, Aterido, Back, and Lacovone [2013] claim that (It's calculated based on the yield on the gross loan portfolio). However, the findings contradicted the use of rural loans to improve financial performance. Abdulai and Tewari [2016] identified female borrowers, average loan size, operational expense/total assets, borrowers per staff, and total assets as key determinants of MFIs.

### **3.3.2 External determinants influence**

#### **3.3.2.1 Gross Domestic Product (GDP)**

The Gross Domestic Product (GDP) is a measure of the economy's overall health. According to literature on the relationship between economic growth measured by GDP and banking performance, GDP is expected to have both a positive and negative impact on bank profitability (Ameer, 2015; Hu & Xie., 2016 and Yao et al., 2018). Because one lesson learned from the Global Financial Crisis of 2008 is that banking performance and resilience are heavily influenced by the macroeconomic environment, the study of the relationship between banking sector performance and macroeconomic variables is important in economic and financial literature. In theory, Real Gross Domestic Product Growth affects banking performance positively through three key channels: improving loan losses, net interest revenue, and operating costs (Combey & Togbenou, 2017). Sakyi et al. (2014) discovered that GDP had a beneficial impact on the performance of Ghana's banking financial institutions from 2006 to 2010. According to the findings of this study, when the economy is prospering, the quality of non-banking organizations' loans improves since their clients have enhanced and positive cash flows, allowing them to efficiently make loan payments. As a result, the provision for loan losses decreases, resulting in improved bank profitability.

Using the Pool Mean Group estimator, Combey & Togbenou (2017) studied the short- and long-run influence of key macroeconomic variables on banking performance measured by ROA and ROE in Togo from 2006 to 2015. In the near run, macroeconomic variables have little impact on ROA, according to the research. These macroeconomic variables are significant in the long run. The growth of the real gross domestic product (GDP) has a negative jolt on the banks' ROA. According to the study, Togo's policymakers and bank management should seek to increase the country's real GDP rate in order to stabilize banking performance and strengthen banks. Yao et al. (2018) employed the Generalized Method of Momentum (GMM) to figure out what factors affect performance in south Asian countries, and they discovered that GDP has a large positive impact on profitability. The positive influence of GDP means that the country's economy is growing, which leads to increased profitability as a result of increased loan demand.



Mohammad et al. (2018) have examined that in case of Malaysian Islamic banks GDP influences the efficiency positively that implies that healthy economic condition leads to good performance of the banks because in healthy economic situation the demand for banking services increases as the economy grows.

### **3.3.2.2 Inflation**

The yearly consumer price index is used to calculate inflation as a measure of macroeconomic stability (CPI). The Revell model was the first to show a link between bank performance and inflation (1979). According to him, inflation has an impact on banking performance through affecting overhead expenses and compensation. When inflation rises, salaries and costs rise as well, resulting in a decline in banking performance. On the other hand, if bank management can accurately predict inflation, banks can change their interest rates to raise revenues quicker than costs, resulting in better results. There have been numerous studies on the impact of inflation on banking performance (Katobu, 2014; Ameer, 2015 and Hadriche, 2015).

Athanasoglou et al. looked at the performance of South Eastern European credit institutions from 1998 to 2002. (2006) discovered that inflation has a beneficial impact on profitability. The conclusion implies that as inflation rises, bank income grows faster than bank costs, and this is due to bank clients' failure to forecast in future.

Hadriche (2015) examined the performance of Islamic and traditional banking in Gulf Cooperation Council GCC countries from 2005 to 2012. According to the analysis, the inflation coefficient is not significant. In the case of Islamic banks, inflation has a positive and significant impact on performance, as higher inflation leads to higher costs and income, increasing the bank's profitability.

Ameer (2015) studied the banking performance of ten Pakistani banks from 2010 to 2014, including five conventional and five Islamic banks. Inflation and banking performance have a negative relationship, according to the findings. The findings suggest that high inflation is not good for banks that act as lenders since they are forced to lend at low interest rates, which is excellent from a borrowing standpoint but increases the bank's credit risk.

Population creates negative impacts on economic growth. Increased population brings with it a slew of issues, like high poverty rates, unemployment, and a lack of education, to name a few.

According to research, poverty is the greatest source of concern in rising countries' economic progress. A microfinance institution is a company that offers financial services to low-income persons. Almost every organization provides loans to its members, and many also offer insurance, savings accounts, and other benefits. Microfinance is becoming more widely recognized as one of the most effective instruments for alleviating poverty by providing microcredit to those who are financially disadvantaged. Microfinance is crucial for bridging the gap between rural poor and regular financial institutions.

The microfinance industry is constantly working to better understand the needs of the poor and discover better ways to meet those needs, as well as to establish the most efficient and effective systems for transferring credit to the needy. As a result of continual efforts to automate processes, their efficiency is steadily increasing. Automated technology has also contributed in the microfinance sector's growth rate acceleration.

The current study attempts to answer this question by assessing whether microfinance organizations in six countries have attained their goals of serving the poorest, reaching women, and being financially viable. The major goal of this component is to determine what factors influence microfinance outreach. MFI outreach is influenced by cost, profitability, MFI age, MFI size, lending practices, regulation, and risk. A person's financial condition is influenced by a number of factors. According to these studies, bank-specific criteria such as size and financial assets have a major impact on South Asian countries' profitability. The current study is meant to observe the factors affecting the profitability of south Asian nations (Pakistan, Bangladesh, Nepal, Sri Lanka, Afghanistan and India) MFI performance, keeping in mind the literature on individual country or less factors covered were distinct in character.

At the end the conclusion of research titled, exploring the factors impacting the profitability of microfinance institutions: in case study of south Asian countries, in spite of the fact that there is a huge literature on assessing MFI achievement and benefits but there is very limited research on profit-based analysis of the microfinance institutions particularly for South Asia region. Some studies that focus on factors that influence MFI fulfillment that are not related to the MFI board's manager. For example, Ahlin et al. (2011) Ahlin et al. (2011) who is journal of development economics, his study title was where does microfinance flourish? Microfinance institution performance in macroeconomics context, Evidence arises for complementarity between MFI performance and the broader economy. For example, MFIs are more likely to cover costs when growth is stronger; and MFIs in financially deeper economies have lower default and operating costs and charge lower interest rates. This show that not only internal factors impact on profitability of microfinance institutions, also external impact in same way. The relationship between banking sector performance and macroeconomic variables is important in economic and financial literature. In theory, Real Gross Domestic Product Growth affects banking performance positively through three key channels: improving loan losses, net interest revenue, and operating costs. The Revell model was the first to show a link between bank performance and inflation (1979). According to him, inflation has an impact on banking performance through affecting overhead expenses and compensation. When inflation rises, salaries and costs rise as well, resulting in a decline in banking performance. On the other hand, if bank management can accurately predict inflation, banks can change their interest rates to raise revenues quicker than costs, resulting in better results.

Overall literature shows that Microfinance seen to be one of the tools that enhance poverty alleviation and community development and both external as well as internal factors have impacts on profitability of microfinance institutions in all south Asian countries.

## **Chapter 4**

### **Data and Methodology**

This research is based on a quantitative approach. Quantitative research is defined as study in which the researcher primarily relies on post-positivist claims to generate knowledge (Creswell, 2009). Post positivism is a deterministic ideology based on quantitative study methodology in which causes most likely dictate effects or outcomes. As a result, the post positivist challenge reflects the necessity to recognize and access the factors that influence outcomes. As a result, quantitative research is a method for investigating the relationship between variables in order to test objective theories. The key rationale for using quantitative methods is that the goal of the study is to examine the relationship between MFI profitability and the factors that influence it, and then generalize about the entire population. The study employed secondary papers, financial statements, State banks annual reports and World development index from the entire population to acquire the necessary data.

The targeted population of the study consists of South Asia countries which include Pakistan, India, Bangladesh, Sri Lanka, Nepal and Afghanistan, 45 MFIs registered by the Government of these countries. The study based on all the population of 45 MFI which are working under Government, at least for the last 7 year from 2013 to 2019.

#### **4.1 Data Source**

The study will use secondary data source of south Asian countries from their respective government institution which registered their MFI, and published documents of annual reports of MFIs to collect data. This will be helping to get pertinent data related to the study at hand. The relevant documents that assist the researcher were the financial report of MFIs, annual report concerning. The data set for the study is unbalance panel data. The data on internal determinants

has been gathered from the annual reports of banks of all mentioned countries. On the other hand, the data on external determinants is taken from World Development indicator (WDI).

#### 4.2 The Regression model:

$$Y_t = \alpha + \delta \sum_{j=1}^p Y_{it-j} + \beta_1 \sum_{j=0}^p X_{1it-j} + \dots + \beta_7 \sum_{j=p}^p X_{7it-j} + u_t$$

Where: Y= Profitability Return on asset, ROA (Dependent variable)

$\alpha$  =Constant

X1=Financing structure

X2=Operating efficiency

X3=Size

X4=Age

X5= Gross domestic product (GDP)

X6=Population

X7= Inflation

$u$ = Error term 1to 7= regression coefficient

ARDL model has been used in study to get results, because all variable is not stationary at level.

### 4.3 Description of Variables

Tables	Proxies	Notations
<b>Dependent Variables</b>		
Profitability	Net income / total assets	ROA
<b>Independent Variables</b>		
Operating efficiency	Operating expense / average gross loan portfolio	OEFF
Financial Assets	Total assets-liability /total assets	FAS
Size	Natural log of total assets	SIZE
Age	the number of years the institution has been established	AGE
Population	Annual population growth	POP
Economic Growth	Real annual GDP rate	GDP
Inflation	Annual Consumer Price index	INF

Formulas to obtain proxies:

ROA: return on assets

ROA or profitability = Net income ÷ total assets

Operating efficiency (OEFF) = operating expense ÷ Average gross loan portfolio.

### **3.4 List of Variables**

#### **4.4.1 Dependent variable and Independent variables**

MFI's profitability is measured by their return on assets (ROA). As a result of off-balance sheet items, ROA may be skewed. However, it can be demonstrated that such actions may be insignificant in MFIs. This ROA has been utilized in many researches as a proxy variable for commercial bank profitability. As a result, the current study will employ ROA as a proxy variable for profitability. The formula for ROA has been proposed by AEMFI, and it can be computed as NOI after tax divided by average adjusted assets.

ROA calculated through mention formula:

$$\text{ROA or profitability} = \text{Net income} \div \text{total assets}$$

Consumers, shareholders, and investors need to know everything there is to know about banking performance. Because performance cannot be measured directly, it is measured indirectly. In the literature, a number of financial ratios have been presented as indications of banking success. The most important ratios are the Return on Equity (ROE) and Return on Asset (ROA) (Kusa & Ongore, 2013). The Return on Equity and Return on Asset are used as performance measures in this study.

Efficiency, risk, and liquidity quantity, as well as age and macroeconomic variables (GDP, population, and inflation), all have an impact on profitability).

#### **4.4.2 Financial structure:**

The quantity of MFI assets financed by the owner's fund was calculated using this variable in the study (inverse to the leverage ratio). MFIs' financial structure was measured using the capital and asset ratio, which is computed as total adjusted net assets divided by total adjusted assets (AEMF). According to the reporting and bankruptcy assumption, a higher fair ratio equates to higher profitability due to less reporting and financial concerns.

#### **4.4.3 Operating efficiency**

The effectiveness of expense management should allow MFIs to make better use of resources borrowed, resulting in increased profitability. Higher operational expense to Average gross loan portfolio ratios indicate the effective or ineffective management.

OEFF calculated through mention formula:

Operating efficiency (OEFF) = Operating expense ÷ Average gross loan portfolio.

#### **4.4.4 Size**

This variable is introduced to account for scale economies and conflicts. Economies of scale and synergy are said to reach a specific size level in academic literature. Beyond that point, financial institutions become overly complex in terms of management, and scale conflicts emerge. As a result, the impact of dimensions may be nonlinear (Amdemikael 2012). As a size proxy, the natural logarithm of the total MFI asset is used. Because the model dependent variable (ROA) can be reduced to the sum of the activities, the study recommends that the total activities be recorded before adding them in the model.

In most studies, the natural logarithm of the total assets is utilized to calculate the bank size. In this study, the natural logarithm of total assets is utilized as a proxy for bank size. Bank size research can be divided into three categories. There are studies that demonstrate bank size has a beneficial impact on performance, studies that show it has a detrimental impact on performance, and research that show it is an inconsequential variable.

#### **4.4.5 Age:**

Another factor that influences profitability is age. The existence of MFIs and client awareness has made significant progress. As additional MFIs open their doors, it's intriguing to see if only established MFIs have led the route to success, or if new MFIs entering the MFIs have distinct goals and skill sets. a sector that generates profits (Jorgensen 2012). In the models, the AGE variable reflects how long the bank has been in operation. The variable age is calculated using



the number of years since the bank was created (Sakyi et al., 2014 and Odonkor et al., 2011). The impact of age on banking performance is likely to be both positive and bad.

The positive correlation between age and performance is expected because older institutions have more experience and thus perform better, whereas the negative correlation is expected because older organizations learn by trial and error, whereas newly formed units benefit from previous knowledge and thus perform well (sakyi et al., 2014).

As a result, it is possible to forecast the expected age sign. To illustrate the learning influence on the MFI's performance, age is expressed as the number of years it has been in operation.

#### **4.5 Macroeconomic variable:**

##### **4.5.1 Gross domestic Product**

Macroeconomic variables are not regulated and are not controlled by MFI managers. GDP growth will be used as a proxy for the macroeconomic environment in this study. This may be argued to be the most telling indicator of economic progress. The real GDP growth rate is used as an indication of economic growth in the models above. Economic growth is described as a gradual increase in the market value of a country's goods and services.

Economic growth can be either positive or negative. When growth rates are positive, nations' living standards rise, but when growth rates are negative, they worsen.

Unfavorable economic conditions might degrade the loan portfolio's quality, lowering profitability. An improvement in economic conditions, on the other hand, has a beneficial impact on MFI profitability. As a result, the variable should have a positive correlation with MFI profitability.

According to Garoui et al. (2013), high growth leads to more investment and consumption, which in turn leads to increased lending, which leads to improved bank performance.

### **4.5.2 Inflation**

In the above model, INF represents the inflation rate. Inflation is the gradual rise in the cost of goods and services over time in a given economy. As a result of inflation, people's purchasing power decreases. Inflation causes money to lose its true value. A basic statistic of inflation is the inflation rate, which is the annualized percentage change in a general price index, usually the consumer price index over time.

Inflation indicators include the GDP deflator, Consumer Price Index (CPI), and Personal Consumption Expenditure Price Index (PCEPI). The CPI, which compares the general price of commonly used products and services in the current year to the base year, was used to calculate the inflation rate in this study. Inflation has both a good and negative impact on banking performance, according to the literature. If inflation is anticipated, it can be passed on to prices ex-ante, improving the bank's profitability.

### **4.5.3 Population**

Population is third and last external variable used in this study. It presented by POP in above model. Overall population has negative effect on economic growth and every developing country try to overcome poverty level and reduce issues generate by increase in population, with the help of MFIs. MFIs basic object is to alleviate poverty by giving small loan, low interest rate for female borrowers and small enterprises.

The expected sign of population is either positive or negative because every country have its own MFIs polices and rules for low earner.

## Chapter 5

### Empirical Results

#### 5.1 Descriptive Statistic

Table 4.1 shows descriptive statistics for variables that can be used to examine the properties of data distribution. Means and standard deviations are presented in summary statistics. The first column contains the observations, the second column has the mean, and the Last column contains the standard deviation.

**Table 5.1 Descriptive Statistic**

<b>Variables</b>	<b>Mean</b>	<b>Median</b>	<b>Maximum Value</b>	<b>Minimum Value</b>	<b>Std. Dev.</b>
<b>ROA</b>	0.123216	0.031167	7.108875	-0.001108	0.45006
<b>AGE</b>	4.003247	4	7	1	1.989383
<b>FS</b>	0.372216	0.316927	0.9996	-3.076822	0.518286
<b>INF</b>	5.394428	5.078057	11.06367	-0.661709	2.216775
<b>LNGDP</b>	7.33026	7.29548	8.313991	6.20203	0.508961
<b>LNPOP</b>	18.94629	18.90954	21.03546	16.84007	1.346054
<b>LNSIZE</b>	9.210667	9.503529	12.82658	4.339312	1.827054
<b>OEFF</b>	11.31037	0.24947	446.0903	-193.6492	48.14758

**Abbreviations are:**

ROA show Return on assets,

ROA or profitability =  $\text{Net income} \div \text{total assets}$

FS: financial structure,

INF: Inflation rate,

GDP: gross domestic products,

LNGDP: natural log of gross domestic product,

POP: Annual growth of population,

LNPOP: natural log of population growth,

LNSIZE: natural log of size,

OEFF: operating efficiency,

Operating efficiency (OEFF) =  $\text{operating expense} \div \text{Average gross loan portfolio}$

The summary statistics of the variables considered in the study are shown in Table 1. Average value and standard deviation of ROA are 0.123216 and 0.45006 respectively. Median of ROA is 0.031167. The average of age is 4.003247 and standard deviation is approximately 1.989383. The average value of financial structure is 0.372216 and deviate from mean value of financial structure is 0.518286. The inflation rate of south Asian countries measured by the system is 5.394428 and the normal deviation is 2.216775. Mean value of financial structure is 5.078057. Minimum value and maximum value of financial structure is 0.0996 and -3.076822 respectively. Mean value of GDP is 7.33026 and standard deviation of GDP is 0.508961. The average of population of the south Asian countries is 18.94629 and standard deviation 1.346054 is recorded. The size of the MFI institution of south Asian countries is 9.210667 and deviation from mean is 1.827054. 11.31037 is measured as an average of operating efficiency and the standard deviation is 48.14758.

**5.2 Estimation Results and Discussion**

This learning describes the Impact of factors affecting on profitability of MFIs of south Asian countries. Operating efficiency, financial structure, age, size, gross domestic products, inflation and population is independent factors of this study whereas return of assets is taking as dependent variable.

The Study considers the model to analyze the impact affecting profitability of the MFIs. Study based on south Asian countries which involve Pakistan, India, Bangladesh, Nepal, Sri Lanka and Afghanistan.

The degree to which two variables move in respect to each other is measured by correlation. The correlation coefficient is calculated, and its result must be between -1.0 and +1.0.

In panel data estimation, it is vital to describe the relationships between variable, used correlation methods. Correlation test check the relationships between variables and check is there any multicollinearity.

**Table 5.2 Estimation Correlation**

<b>Independent variables</b>	<b>ROA</b>	<b>AGE</b>	<b>FS</b>	<b>INF</b>	<b>LNGDP</b>	<b>LNPOP</b>	<b>LNSIZE</b>	<b>OEFF</b>
<b>ROA</b>	1	0.0277	-0.2223	0.0238	-0.0144	0.0213	-0.2249	0.0155
<b>AGE</b>	0.0277	1	-0.0821	-0.1992	0.0476	0.0045	0.1095	0.0011
<b>FS</b>	-0.2223	-0.0821	1	0.0824	0.0109	-0.0231	0.0477	-0.0537
<b>INF</b>	0.0238	-0.1992	0.0824	1	-0.1014	0.1543	0.0266	-0.0125
<b>LNGDP</b>	-0.0144	0.0476	0.0109	-0.1014	1	-0.0415	0.219	-0.275
<b>LNPOP</b>	0.0213	0.0045	-0.0231	0.1543	-0.0415	1	0.1516	-0.1294
<b>LNSIZE</b>	-0.2249	0.1095	0.0477	0.0266	0.219	0.1516	1	-0.0591
<b>OEFF</b>	0.0155	0.0011	-0.0537	-0.0125	-0.275	-0.1294	-0.0591	1

Abbreviation is:

ROA show Return on assets,  
 ROA or profitability = Net income ÷ total assets,

FS: financial structure,

INF: Inflation rate,

GDP: gross domestic products,

LN GDP: natural log of gross domestic product,

POP: Annual growth of population,

LN POP: natural log of population growth,

SIZE: natural log to total assets,

LN SIZE: natural log of size,

OEFF: operating efficiency,

Operating efficiency (OEFF) = operating expense ÷ Average gross loan portfolio.

Table 5.2 shows, there is no value above than 0.9 this means there is no multicollinearity. The purpose of this test is to check the occurrence of intercorrelation between two or more independent variable in the multiple regression models. It can lead to wider confidence interval. So all independent variables are freely acted in results and they are not dependent to other and they have no collinearity.

### **5.3 ARDL Model**

An ARDL model is an ordinary least square (OLS)-based model that may be used to represent both non-stationary and mixed order of integration time series.

When all variables are not stationary at the same level, the ARDL model is utilized. If all the variables become stationary at the same level, the study will employ the Johnson model.

Because some independent variables are not stationary at the level, the ARDL model was used in this study.

### 5.3.1 Unit-Root test

A unit root is a stochastic tendency in a time series that is usually referred to as a "random walk with drift." A time series with a unit root has a systematic pattern that is unpredictable.

**Table 5.3.1 Unit-Root Test at Level**

Variable	ADF		PP	
	t-stat	P-valve	t-stat	P-valve
<b>ROA</b>	-16.56887	0.0000	-16.58318	0.0000
<b>LNGDP</b>	-2.892327	0.0474	-3.573413	0.0068
<b>LNPOP</b>	-1.022274	0.7461	-1.022274	0.7461
<b>INF.</b>	-1.539286	0.5125	-16.82122	0.0000
<b>Size</b>	-4.741498	0.0001	-6.00209	0.0000
<b>OEFF</b>	-5.031945	0.0000	-12.06144	0.0000
<b>FS</b>	-10.57956	0.0000	-9.569429	0.0000
<b>Age</b>	-3.816153	0.0031	-14.83101	0.0000

Abbreviations are:

ROA show Return on assets,

ROA or profitability = Net income ÷ total assets,

FS: financial structure,

INF: Inflation rate,

GDP: gross domestic products,

LNGDP: natural log of gross domestic product,

POP: Annual growth of population,

LNPOP: natural log of population growth,

SIZE: natural log to total assets,

LNSIZE: natural log of size,

OEFF: operating efficiency,

Operating efficiency (OEFF) = operating expense ÷ Average gross loan portfolio.

When determining if a time series variable is non-stationary and has a unit root, a unit root test is used. The null hypothesis is the presence of a unit root, while the alternative hypothesis is either stationarity, trend stationarity, or explosive root, depending on the test. Unit root tests and serial correlation testing are tightly linked. Unit root tests and serial correlation testing are tightly linked. Most popular test is Augmented Dickey-Fuller; it is valid for large sample.

Table 5.3.1 explains the endogenous and exogenous variables. Return on assets is stationary at level with -16.56887 value by applying Augmented Dickey fuller test (ADF) and Phillips Perrone P value is 0.0000 (Stationary). GDP of the south Asian countries is stationary at level -2.892327 and p value is 0.0474. T-test of the financial structure is acceptable, stationary level value is -10.57956. Size and age of South Asian countries are stationary at level respectively -4.741498 and -3.816153. The value of the T-test is acceptable for Operating efficiency of the mention countries and P value is less than 0.5.

**Table 5.3.2 Unit-Root Test at 1st Level**

Variable	ADF		PP	
	t-stat	P-value	t-stat	P-value
<b>ROA</b>	-12.28185	0.0000	-164.2109	0.0001
<b>LNGDP</b>	-5.609211	0.0000	-21.66372	0.0000
<b>LNPOP</b>	-17.77648	0.0000	-17.77674	0.0000
<b>INF.</b>	-37.49114	0.0001	-61.19258	0.0001
<b>Size</b>	-8.999995	0.0000	-18.67377	0.0000
<b>OEFF</b>	-17.81702	0.0000	-51.31535	0.0001
<b>FS</b>	-11.34834	0.0000	-28.38257	0.0000
<b>Age</b>	-6.636652	0.0000	-46.65157	0.0001



Abbreviations are:

ROA show Return on assets,

ROA or profitability = Net income ÷ total assets,

FS: financial structure,

INF: Inflation rate,

GDP: gross domestic products,

LNGDP: natural log of gross domestic product,

POP: Annual growth of population,

LNPOP: natural log of population growth,

SIZE: natural log to total assets,

LNSIZE: natural log of size,

OEFF: operating efficiency,

Operating efficiency (OEFF) = operating expense ÷ Average gross loan portfolio.

Table 5.3.2 explains whose variables which are stationary at first level. Population of the south Asian countries are significant at first difference. The T-stat and P value of Augmented Dicky fuller test is -17.77648 and 0.0000 respectively. Same the case with inflation rate of mentioned countries are -37.49114 stationary at first difference.

#### 5.4 F-Bound Test

**Table 5.4 F-Bound test**

<b>Test Statistic</b>	<b>Value</b>	<b>Significant</b>	<b>I(0)</b>	<b>I(1)</b>
<b>F-statistic</b>	30.86449	10%	1.92	2.89
		5%	2.17	3.21
		1%	2.73	3.9

F-bound test clearly shows in table 5.4, that the value of F-stat is greater than I(1),  $30.86 > 3.21$ , it means that there is Co-integration in current model, Null hypothesis is No integrated equation .

## 5.5 Short Run Estimation

**Table 5.5 Short Run**

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
<b>D(LNGDP)</b>	0.043411	0.113274	0.383234	0.7018
<b>D(LNGDP (-1))</b>	0.019296	0.111175	0.173567	0.8623
<b>D(LNGDP (-2))</b>	-0.411067	0.111138	-3.698714	0.0003
<b>D(LNPOP)</b>	-0.173554	0.125934	-1.378134	0.1693
<b>D(LNSIZE)</b>	-0.075724	0.021675	-3.493664	0.0006
<b>D(LNSIZE (-1))</b>	0.029557	0.021921	1.348374	0.1786
<b>D(LNSIZE (-2))</b>	0.051689	0.021876	2.362782	0.0188
<b>CointEq(-1)*</b>	-0.936198	0.055391	-16.9015	0

Table 5.5 shows independent variable and their lags. This study considered maximum four lags. GPD in short run is significant at second lag (-0.411067) and value of standard Error is 0.111138. T-stat is lower than 5%. Coefficient of size is acceptable at second lag (0.051689). Standard error is 0.021876.

Cointegration Equation is significant at 5%. It means there is a correlation between independent variables which is used to check the effectiveness on profitability of Microfinance Institutions of south Asian countries.

## 5.6 Long Run

A Cointegration test is used to see if two or more time series are related throughout time. Nobel laureates Robert Engle and Clive Granger introduced the fictional regression concept after British economist Paul Newbold and Granger presented it in 1987.

**Table 5.6 Long Run**

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
<b>AGE</b>	0.01317	0.014297	0.921173	0.3577
<b>FS</b>	-0.199775	0.053284	-3.749223	0.0002
<b>INF</b>	0.008518	0.013255	0.642606	0.521
<b>LNGDP</b>	0.093343	0.060785	1.535608	0.1258
<b>LNPOP</b>	0.025331	0.021177	1.196149	0.2326
<b>LNSIZE</b>	-0.072707	0.018473	-3.935871	0.0001
<b>OEFF</b>	0.000105	0.000576	0.181882	0.8558
<b>C</b>	-0.398197	0.617222	-0.645144	0.5194

Abbreviations are:

ROA show Return on assets,

ROA or profitability = Net income ÷ total assets,

FS: financial structure,

INF: Inflation rate,

GDP: gross domestic products,

LNGDP: natural log of gross domestic product,

POP: Annual growth of population,

LNPOP: natural log of population growth,

SIZE: natural log to total assets,

LNSIZE: natural log of size,

OEFF: operating efficiency,

Operating efficiency (OEFF) = operating expense ÷ Average gross loan portfolio,

C: constant.

Table 5.6 shows which endogenous variables have correlation between several time series in long run. Coefficient of correlation of financial assets is significant -0.199775 and standard error is 0.053284. Size in long run is significant as well. Value of coefficient correlation and standard error are -0.072707 and 0.018473 respectively.

## 5.7 Results Discussion and Analysis

Data was gathered Internal and external elements that can affect profitability in the research area were examined. Financing structure, operating efficiency, size, and age are all internal considerations. Economic development (GDP growth), population, and inflation in South Asian countries were chosen as external factors.

This study applies ARDL model for estimation process. To check our estimation through different test covered in ARDL model to identify the results whether it accept null hypothesis or not. Exploring the factors affecting profitability of Microfinance institutions of south Asian countries. Six countries have data on MFI or in other words these six have expended scope of Microfinance institution. Table 5.2 clearly showed that, between independent variables, there is no multicollinearity. If the variables are collinear, I won't be able to figure out which independent variable in a statistical model may be used to better forecast or explain the dependent variable.

According to literature review, most of researches and papers declare that macroeconomic variable has both positive and negative impact on profitability but some extent few factors related to macro-economics are static and have no impact because of some government policies and microfinance institutional managements. As in 5.3.1 table show all independent variable except population and inflation are insignificant. Other endogenous variable like GDP, size, age, financial assets and operating efficiency are significant. Population and rate of inflation are stationary at first difference.

Study run panel data on F-bound test to check the significance and the table 5.4. Shows F-stat is greater than I(1) at 5% level of significant. It means endogenous variable have co-integration in model and the null hypothesis is No integrated.

In short run and long run estimation model get Co-integration equation is significant at 5% level. GDP and size are significant on second lag, this shows that one from external and one from internal variables have significantly impact on performance of microfinance institutions. , MFIs are more likely to cover costs when growth is stronger; and MFIs in financially deeper economies have lower default and operating costs and charge lower interest rates.

The Source of equity and capital strength of MFIs in south Asian nations were examined using the Financing Structure ratio (adjusted total equity to adjusted total asset). Showed up a coefficient of -0.199775, at the 5% level of significance, it shows that it is a statistically significant variable. This means that the capital strength of MFIs in south Asian nations has a substantial association with their profitability over the study period (2013-2019).

As a result, the hypothesis that there is a significant acceptable association between MFI financing structure and profitability is not dismissed, and the data backs it up. The conclusions of this study back up those of Muriu (2011, Microfinance profitability), Jorgenson (2012, factors affecting profitability of microfinance institutions (case study of southern nation nationalities people's regional states), and Ayayi (2013, Credit risk assessment in the microfinance industry). (2009). In general, capital strength has a beneficial impact on profitability; nevertheless, the current investigation found a substantial link between the two.

The ratio of adjusted annual operational cost to adjusted average gross loan portfolio was calculated for MFI management efficiency, and the coefficient was 0.000105, which was statistically insignificant at the 5% significance level. As a result, there was a negative relationship between operating efficiency and profitability of MFIs in South Asian nations over the study period. It must be different from literature because not all literature covers same case study of south Asian as well as not all uses same era same independent elements. The finding is in line with efficiency theory, which holds that profitable enterprises (those with lower expenses) are more efficient. As a result, the study does not refute the notion that efficiency and profitability have a substantial negative/positive connection.

The findings were comparable to those of Dissanayake (2012) research named, The Determinants of Microfinance Profitability: Evidences from Sri Lankan Microfinance Institutions and Muriu (2011) paper titled, Microfinance profitability (Doctoral dissertation, University of Birmingham). However, they were the *opposite* of Jorgenson's (2012) research

named, factors affecting profitability of microfinance institutions (case study of southern nation nationalities people's regional states. In general, the current analysis found that for the study period of 2013-2019, operating efficiency was not a significant factor of profitability for South Asian countries MFIs.

For the study period of 2013-2019, the size of MFIs measured in terms of the natural logarithm of their total asset had a Coefficient of (-0.072707) and was statistically significant at the 5% significance level, indicating a significant relationship between MFI profitability and size.

As a result, the hypothesis that there is a significant positive relationship between MFI size and profitability is not ruled out, and the evidence supports this claim. The recent investigation discovered a strong connection between the two.

The age of MFIs was examined to see if there was a learning effect in MFIs in South Asian countries. At the 5% significance level, the coefficient (0.01317) is statistically insignificant. This means that age was not a significant determinant of profitability of MFIs in South Asian countries with a negative signal with ROA; thus, the study accepted the hypothesis that there is a substantial negative association between age and MFI profitability over the study period. With Yonas, the outcome is same (2012) in his research named, determinants of financial performance: a study of selected microfinance institutions in Ethiopia. Finally, according to the findings of the current study, one of the internal factors that has a negative impact on profitability that is age.

The external factor utilized in this study, POP (growth of population), had a statistically insignificant positive coefficient of 0.025331 even at the 5% significance level, showing that increase in annual population rate had negative impact on the economy. Annual population growth had no impact on MFI profitability over the study period.

According to this study, external factors such as POP (growth of population), were unimportant in determining profitability. However, the hypothesis is rejected because population had no positive impact of Profitability of South Asian countries MFIs.

Inflation is another external factor which allocate in study, had showed up coefficient 0.008518, it is statistically insignificant at 5% significance level from time duration 2013 to 2019. Result

showed, there is no correlation between ROA (return on assets) and annual inflation rate. It might be different in different scenario because current study used large data (45 banks of 6 south Asian countries). Estimation data reject the null hypothesis and study lighted up the external factor (inflation) is not effective on profitability of MFIs of south Asian countries.

The external factor utilized in this study, GDP, having a coefficient that was positive 0.093343 and was insignificant statistically even at the 5% significance level, showing that improvements in the economy as measured by GDP growth had no impact on MFI profitability over the study period. Jordan (2008) and Muriu's findings were incongruent (2011). As a result, the current study discovered that GDP growth is not a primary factor of MFI profitability. As a result, that there is a considerable difference, positive association betwixt profitability and GDP is not rejected, but it is statistically insignificant.

The financing structure and Size, the variable had a positive coefficient, which was consistent with the prior expectation with ROA, and it was statistically significant, showing that MFIs in the mentioned countries hold high-quality assets, even though the source of all of their assets was donation and borrowing and that their profitability will increase as a result of this research. However, the age, operating efficiency, and GDP are not disqualified, whereas population and inflation are disqualified.

## Chapter 6

### Conclusion and Policy Recommendations

#### 6.1 Conclusion

The profitability of the MFIs has been influenced by a number of factors as determined in the study which includes rate of return, operating efficiency, size, age, population. Gross domestic production and inflation. The study is an effort to see the impact of influencing factors in the south Asian countries as earlier studies have been conducted in different parts of the world. A total of 46 banks of the said countries has been considered for the period 2013 to 2019. The said is mainly focused on micro-financing institutions in the listed countries.

The study is a panel estimation of the unbalanced panel where the study takes the micro finance banks as dependent variable to analyze the impact of the influencing factors. The main contributions of this study are to analyze the effect on Profitability of MFIs. Current study categorizes the object into primary and specific. The research revolved around the focus point which is to determine the characteristics that influence profitability of microfinance institution in south Asian countries which include Pakistan, India, Bangladesh, Nepal, Afghanistan and Sri Lanka.

To get the two impartial already discussed in chapter one, the study uses unbalance panel models. The profitability of the bank is dependent variable and study uses single model and the indicator of Profitability is ROA (return on assets). Current model considers ROA (return on assets). As an indicator of profitability and remaining variables such as operating efficiency, size, age, growth rate of population, gross domestic product and inflection are considered as control variables. Study used ARDL model to identify the significance and correlation of variable.



## **6.2 Key Finding**

The results indicate that all independent variable except population and inflation are insignificant. Other endogenous variable like GDP, size, age, financial assets and operating efficiency are significant. Population and rat of inflation are stationary at first difference. Study run panel data on F-bound test to check the significance and the table 5.3.3. Shows F-stat is greater than I(1) at 5% level of significant. It means endogenous variable have co-integration in model and the null hypothesis is No integrated. In short run and long run estimation, model get Co-integration equation is significant at 5% level. GDP and size are significant on second lag.

The financing structure and Size, the variable had a positive coefficient, which was consistent with the prior expectation with ROA, and it was statistically significant, showing that MFIs in the mentioned countries hold high-quality assets, even though the source of all of their assets was donation and borrowing, and that their profitability will increase as a result of this research. However, the age, inflation, Population, operating efficiency, and GDP are not disqualified, whereas size and financial assets are.

## **6.3 Policy Recommendation**

Policy recommendations are related to extended literature and results that are corresponding to each other. As per result age, which is independent variable and internal determinants, is not exactly pay impact on profitability of microfinance institutions so MFIs should make flexible strategies for their customers. It's possible that managers will need to improve their communication skills. lending and borrowing policies and also try to manage challenges from past experience, as we can see from this research the main source of MFIs asset is donation, which means the MFIs do not measure their effectiveness of their operation, so the management may need to develop good lending and borrowing policies and also try to manage challenges from past experience, as we can see from this research the main source of MFIs asset is donation, which means the MFIs do not measure their effectiveness of their operation.

As discussed before in results literature is related but the same study is not conducted because all researches and papers contain less numbers of countries and MFIs as well. The other recommendation is that MFIs operating in the study area lack research-based documented evidence that demonstrates their operational strengths and weaknesses, so management may need to structure a research and development department and by capacitating and strengthening them, create a way to measure annual strengths and weaknesses that allows them to identify other factors.

Inflation is another external factor which allocate in study, had showed up coefficient 0.008518, it is statistically insignificant at 5% significance level from time duration 2013 to 2019. Result showed, there is no correlation between ROA (return on assets) and annual inflation rate. It might be different in different scenario because current study used large data (46 banks of 6 South Asian countries). Estimation data reject the null hypothesis and study lighted up the external factor (inflation) is not effective on profitability of MFIs of south Asian countries. Increasing the capacity and competence of employees and management through continual trainings, experience sharing from successful MFIs and provision of guidance and consultation are critical to making MFIs competitive and profitable. Furthermore, improving the availability of critical infrastructure and creating a conducive climate for company activities is a must. Uninterrupted capital supply for loans and timely conveyance to remote areas are essential for these MFIs to function effectively.

The Source of equity and capital strength of MFIs in south Asian nations were examined using the Financing Structure ratio (adjusted total equity to adjusted total asset). Showed up a coefficient of -0.199775, at the 5% level of significance, it shows that it is a statistically significant variable. This means that the capital strength of MFIs in south Asian nations has a substantial association with their profitability over the study period (2013-2019). In addition to MFIs, the government's involvement in ensuring the development of infrastructure and other facilities such as technology improvements to eliminate poverty is critical. As a result, in order to keep MFIs coherent at a low cost, the government must invest in the expansion of various places where challenges in providing microfinance services exist.

As a result, the current study discovered that GDP growth is not a primary factor of MFI profitability. As a result, that there is a considerable difference, positive association betwixt profitability and GDP is not rejected, but it is statistically insignificant. Finally, using 7-year data, this study looked into only a few internal and external variables. Other factors include lending methodology, loan size, interest rate on loan, type of institution, portfolio quality, loan period, repayment rate, and types of product such as (Agricultural loan, General loan, Micro and Small Business Loan, Handicrafts and Services Loans, Petty Trades and House loan and outreach from internal and inflation, fiscal policy, and industry concentration from external sources.

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