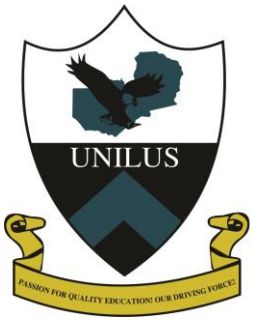


UNIVERSITY OF LUSAKA

## School of Postgraduate Studies

**RESEARCH DISSERTATION**

# A STUDY ON THE DRIVERS OF FINANCIAL PERFORMANCE OF MICROFINANCE INSTITUTIONS: A CASE OF DEPOSIT-TAKING MICROFINANCE INSTITUTIONS IN ZAMBIA

A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, THE UNIVERSITY OF LUSAKA, IN PARTIAL FULFILLMENT OF THE AWARD OF A MASTER'S DEGREE IN BUSINESS ADMINISTRATION- BANKING AND FINANCE

**BY**

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**2023**

## DECLARATION

I, **CHAWANZI SAKALA** do hereby declare that this dissertation is my own and original work achieved through personal research and study. This work has never been submitted in whole or in part to the University of Lusaka (UNILUS) or any other University. All sources of data, literature, principles, or related works previously done by others and are used herein in this dissertation have been duly acknowledged. Should there be found any omission in acknowledgment of some works, it is therefore not by choice or design but by error.

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## DEDICATION

This is dedicated to my beloved parents **Emade** and **Jocelyn Sakala** for their relentless and selfless effort in the form of encouragement, patience, financial and moral support that enabled me to accomplish this assignment. This also goes to my grandparents **Mr. Mushemi Mushemi (late)** and **Dr. Sitali Mooka**, both educationalists whose desire this work fulfills as they always encouraged me to go to the highest level in my choice of study.

**Sincere thanks**

## ACKNOWLEDGMENTS

First and foremost, I would like to thank the **Almighty God** for the blessings showered on me at every step of my life and the mercy given to me to reach this far in my thesis without any obstacles.

I stand indebted in gratitude to my supervisor **Mr. Patrick Zulu** for his patience with me—thousands of thanks for the immeasurable guidance and support through all the stages of this study/research. I further proudly express my esteemed gratitude to all staff in the Department of Postgraduate Studies at UNILUS, various financial institutions, close friends, and family who assisted me in one way or another but are not mentioned here.

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| | |
|---|---|
| **AFI** | - Alliance of Financial Inclusion |
| **BoZ** | - Bank of Zambia |
| **BRI** | - Bank Rakyat Indonesia |
| **CGAP** | - Consultative Group to Assist the Poor |
| **DTMFIs** | - Deposit-Taking Microfinance Institutions |
| **FINCA** | - Foundation for International Community Assistance |
| **FSPs** | - Financial Service Providers |
| **FSS** | - Financial Self-Sufficiency |
| **IDR** | - International Development and Research |
| **IRDP** | - Integrated Rural Development Program |
| **MFIs** | - Microfinance Institutions |
| **MIX** | - Microfinance Information Exchange |
| **NBFIs** | - Non-Bank Financial Institutions |
| **NFIS** | - National Financial Inclusion Strategy |
| **NGO** | - Non-Governmental Organisation |
| **NSCB** | - National Savings and Credit Bank |
| **OSS** | - Operational Self-Sufficiency |
| **PAR** | - Portfolio at Risk |
| **ROA** | - Return on Asset |
| **ROE** | - Return on Equity |

## ABSTRACT

Microfinance institutions (MFIs) play a key role in providing financial services to the poor, low-income groups, and small businesses who in essence, are the unserved segment. Researchers and stakeholders worldwide are focused on uncovering the drivers affecting the financial performance of MFIs. This pursuit aims to ensure MFIs are financially sustainable to fulfill their social mission and enhance financial inclusion while promoting financial system stability.

This research study sought to contribute to the body of existing literature by investigating what drives the financial performance of deposit-taking MFIs (DTMFIs) in Zambia. To accomplish this objective, a quantitative research approach and a longitudinal research design were adopted. Secondary data was based on financial ratios of five DTMFIs licensed by the BoZ, the Herfindahl-Hirschman index, and a macroeconomic variable spanning from 2015 to 2022 with 40 observations in total. Financial performance (proxied by return on assets) was the dependent variable whereas institutional-specified drivers (proxied by capital adequacy and portfolio at risk), macroeconomic variables (proxied by the annual rate of inflation), and market-specified drivers (proxied by market concentration) were independent variables. To analyze the research data, descriptive statistics, correlations, and regression analysis were utilized. Research findings revealed that capital adequacy, portfolio at risk, and inflation are drivers of financial performance in DTMFIs in Zambia. Policymakers and DTMFIs are therefore recommended to ensure that credit personnel are at all times well-trained to assess risks more efficiently and that institutions are engaged in enhancing scenario-based planning to evaluate the probable influence of macroeconomic variables on financial performance.



***Key words**:* Deposit-taking Microfinance Institutions, Drivers, Financial Performance, Microcredit, Microfinance, Zambia.

# CHAPTER ONE

# BACKGROUND TO THE STUDY

## 1.1 Introduction

In any given economy, including that of a global one, exists a system referred to as the financial system which is essential to the economic development and growth of nations, regions, and the world. A typical financial system constitutes financial intermediaries, financial infrastructures, financial instruments, and financial markets (Madura, 2013). Its function is depicted and evidenced by the role of intermediation provided particularly, by Financial Service Providers (FSPs). These financial intermediaries are typically licensed by a regulatory entity and or monetary authority such as a Central Bank, to be the economic agent that channels the flow of funds from surplus units to deficit units by offering a broad range of financial services (Madura, 2013).

It has been well established through economic literature that growth in an economy is propelled by finance (Chileshe, 2019). Thus, the lack of access to finance negates economic active participation. Issues on the lack of access to finance; particularly credit, have presented concerns to the likes of policymakers and governments all over the world, especially in Africa (CGAP, 2012). According to Chileshe (2019), the Sub-Saharan region accounts for the largest portion of the world's impoverished. Taking the latter into account, Chileshe (2019), mentions that one of the resounding causes of the limited access to credit is the lack of adequate collateral.

Microfinance Institutions (MFIs) are financial intermediaries recognized as a feasible means of alleviating poverty and fostering inclusive financial systems that prioritize serving the rural poor and women (Abebaw, 2014). Notwithstanding the rural poor and women, MFIs also play a critical role in accommodating the youths, self-employed and unemployed who too have been excluded by conventional FSPs. When it comes to economic growth, microfinance has progressed in its approach from the provisioning of only microcredit to providing more beneficial services to the unserved segment such as insurance, savings, transfers, and social services like capacity building (Abebaw, 2014).

In Zambia, MFIs make up a significant proportion of the Non-Bank Financial Institutions (NBFIs) sector which the Bank of Zambia (BoZ) as the monetary authority supervises and regulates (Bank of Zambia, 2023). Before the year 1992, the Zambian government opted for state-led institutions such as Village Industry Services, National Savings and Credit Bank (NSCB), Cooperative Federation Financial Services, and Lima Bank to be principal suppliers of financial services to rural communities (Bank of Zambia, 2004). The financial well-being of these institutions was skewed toward government-backed funding either through some form of guarantee or grant. According to the Bank of Zambia (2004), due to the economic restructuring in the late 1990s, coupled with factors such as non-sustainable sources of funding and the inability to recover funds from core operations, most publicly funded rural finance institutions, like Lima Bank faced a collapse. This resulted in a considerable deficiency in providing financial services to the unserved segment in pre-urban and rural zones. In addition, commercial banks remained biased in lending to only clients or traders who met the collateral requirements for credit facilities. The gap fortunately was bridged by the rise in MFIs which in turn increased the accumulation of assets for consumption by the unserved segment (Bank of Zambia, 2004). Subsequently, to date, MFIs contribute and play a fundamental role in the Zambian economy especially where the National Financial Inclusion Strategy's (NFIS) efforts are concerned to progress an inclusive, stable, and competitive financial sector (Bank of Zambia, 2017).

Notwithstanding the substantial efforts made by MFIs to alleviate poverty, one of the most notable concerns of researchers and stakeholders worldwide is the imperative need for MFIs to maintain financial sustainability (Bekalu et al, 2019). Financial sustainability by MFIs is the capacity to offset all expenses with revenue generated from core operations, leaving a surplus of funds to support continuous growth; a concept aligned with long-term profitability (Sima, 2013). Profitability serves as an apt tool for ensuring sustainability. Sima (2013), asserts that the profitability concept applies to MFIs, as those achieving profitability can extend their reach to a broader demographic and maintain sustainability without the aid of social investors (donors). Ultimately, the conceptualization of financial performance in this study was tied to the concept of profitability. The focus of this research therefore was to study the drivers of the financial performance of DTMFIs in Zambia and add to existing literature.

## 1.2 Statement of the Problem

As earlier stated, MFIs serve as levers that enable the unserved segment to be financially included. Financial inclusion helps create employment, increased income, and consumption (Bekalu et al, 2019). The vision of financial inclusion as outlined by the NFIS in Zambia and the Alliance of Financial Inclusion (AFI) at the global level, is to provide universal access to financial services to the unserved segment (Bank of Zambia, 2017). One strategic objective to attain this vision is strengthening the sustainability and outreach of MFIs. This adage of the double bottom line aligns with the Consultative Group to Assist the Poor (CGAP) whose fourth principle of microfinance is to attain financial sustainability to deepen outreach (CGAP, 2004). In addition, being financially sustainable enhances the robustness to economic shocks promoting financial system stability in the economy (Chileshe, 2019).

Globally, according to Sima (2013), the investigation into what drives the financial performance of MFIs has been primarily centered on institutional-specified drivers such as capital structure, operating efficiency, or sound management which are factors tailored to an institution. Not much emphasis has been placed on the macroeconomic environment; operationalized by inflation or market-specific drivers that relate to the market condition where MFIs operate much like market concentration. Moreover, drawing experiences from numerous sizable and well-established MFIs from different countries, the findings on institutional specified drivers have thus far been inconclusive. Whereby certain drivers were found to be significant or insignificant; other drivers across different MFIs or countries were found to be insignificant or significant. For instance, Rai (2012), in India and Bangladesh found that operating expenses to loan portfolio ratio, PAR, and capital adequacy significantly impacted the sustainability of MFIs. On the other hand, Kindie (2012), in Ethiopia found capital adequacy to be insignificant and Quayes (2012), found that the depth of outreach and financial sustainability had a positive relationship and was statistically significant for 83 countries.

In Zambia, as far as the researcher's knowledge and understanding are concerned, there has been limited investigation into the drivers of the financial performance of DTMFIs. Moreover, not much research includes market concentration and inflation as probable drivers. Therefore, this study sought to add valuable insight into the drivers of the financial performance of DTMFIs namely; capital adequacy, PAR, market concentration, and inflation to fill the knowledge gaps in the Zambian context.

## 1.3 Objectives of the Study

### 1.3.1 General Objective

The general objective of this study was to investigate what drives the financial performance of microfinance institutions in the case of deposit-taking microfinance institutions (DTMFIs) in Zambia and add to the body of existing literature.

### 1.3.2 Specific Objectives

The enlisted constituted the specific objectives;

1. To establish whether institutional-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

2. To ascertain whether macroeconomic variables affect the financial performance of deposit-taking microfinance institutions in Zambia.

3. To determine whether market-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

## 1.4 Hypothesis

1. **$H_0$:** Institutional-specified drivers do not affect the financial performance of deposit-taking microfinance institutions in Zambia.
   **$H_1$:** Institutional specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

2. **$H_0$:** Macroeconomic variables do not affect the financial performance of deposit-taking microfinance institutions in Zambia.
   **$H_1$:** Macroeconomic variables affect the financial performance of deposit-taking microfinance institutions in Zambia.

3. **$H_0$:** Market-specified drivers do not affect the financial performance of deposit-taking microfinance institutions in Zambia.
   **$H_1$:** Market-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

## 1.5 Significance of the study

### 1.5.1 To the Bank of Zambia

It is hoped that the study will further improve the BoZ's regulatory and supervisory approach to enhancing Microfinancing and instilling confidence in the sector. The purpose is to stimulate an enabling environment that effectively provides financial services to the majority of Zambians excluded from the financial system.

### 1.5.2 To Microfinance Institutions

The significance of this study lies in the drivers of the financial performance of MFIs. It is hoped that the findings of this research assist MFIs in better understanding the drivers of financial performance. Furthermore, it is hoped that the findings guide the implementation of measures put in place to attain profitability; aligning with the overarching objective of poverty alleviation.

### 1.5.3 To the University of Lusaka

The study seeks to add to any current literature relating to the drivers of the financial performance of microfinance institutions to the University.

### 1.5.4 To the Research Student

This research is hoped to deepen my understanding of the financial performance of MFIs and the drivers affecting it. The research is also being conducted for the attainment of a Master’s degree in Business Administration-Banking and Finance.

## 1.6 Scope

This study was focused on identifying the drivers of the financial performance of DTMFIs licensed by the Bank of Zambia. The research involved analyzing secondary data from 2015 to 2022.

## 1.7 Definition of key terms

**Financial Inclusion:** Having informed availability and accessibility to high-quality and cost-effective financial services provided to the unserved segment who are excluded from the financial system.

**Financial Services:** A diverse range of economic activities and products offered by FSPs to meet the financial needs of households, enterprises, and governments.

**Financial Service Providers:** These are banks, body corporates (exempted from accepting deposits), and any financial institution aside from a bank that provides a financial service(s).

**Microcredit:** A type of financial service that pertains to the offering of small loans, typically to the unserved segment or segments with limited market orientation.

**Microfinance:** The offering of tailored financial services particularly in savings, credit, payments, and insurance to low-income individuals or economically disadvantaged groups, and small enterprises who form part of the unserved segment.

**Microfinance Institutions:** Entities that offer financial services with a dual focus on addressing social or developmental challenges, often by providing microfinance and generating a sustainable financial return.

**Unserved Segment:** These are economically disadvantaged individuals, groups, and small businesses who do not have access to any formal or informal financial service; primarily due to their inability to provide adequate collateral among other factors. “Formal” refers to regulated FSPs while “Informal” denotes unregulated FSPs.

## 1.8 Chapter Summary

This chapter served as the background of the study that laid a foundation for the drivers of the financial performance of microfinance institutions in Zambia. Particularly, this chapter deliberated on an area of interest in the microfinance sector in Zambia.

The above deliberation was inclusive of a brief history of microfinance in Zambia. Lastly, the chapter presented the objectives, scope, hypothesis, significance, and definition of key terms in the study.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

This chapter delineated the review of literature which aligned with the objective of the researcher's study. The literature review entailed the review of non-empirical and empirical reviews and provided the theoretical framework and the conceptual framework.

## 2.1 Non-Empirical Review

### 2.1.1 Defining Microfinance

The practice of microfinance was presented to support the less affluent and those in the low-income category through nontraditional means of offering financial services. The term "Microfinance" is defined differently by various institutions as well as various authors. Nevertheless, the definitions of microfinance typically align in expressing the notion that microfinance involves providing financial services essentially microcredit and savings to low-earning households devoid of access to commercial banking services.

Prakash and Malhotra (2017) outlined that the Asian Development Bank asserts that microfinance in terms of an approach to economic growth has advanced as it is aimed at assisting low-income individuals by providing a variety of financial services even to self-employed individuals. Therefore, microfinance is defined as delivering a variety of financial services to micro-enterprises as well as households with modest incomes. The delivery of financial services encompasses insurance, fund transfers, taking in deposits, and providing credit.

Microfinance is defined by CGAP as financial services tailored by diverse FSPs and accessible by individuals with low income or who are in poverty (CGAP, 2012). It is further clarified that in practical terms, the word microfinance is given a narrower definition to signify loans and additional services provided by entities that are self-classified as MFIs. In a broader context, the definition of microfinance involves a global vision wherein households with limited income can consistently access good quality and inexpensive financial services to support consumption, mitigation of risks, and accumulation of assets.

Microfinance, as per the Basel Committee on Banking Supervision (2010), was construed as offering financial services in finite amounts to informal or narrow-scale enterprises and low-income demographics. Such an offering is progressively becoming prevalent in numerous financial institutions inclusive of NBFIs and banks whether as a principal business or as part of a broader portfolio.

Given the lower incomes and restricted access to traditional means of financial services experienced by supposed MFI borrowers, microfinance products generally connote smaller sums of money. Moreover, the microfinance industry's commitment to serving the poor also entails alternative approaches like group lending as a type of collateral. Consequently, "microfinance" is defined by Microfinance Information Exchange (MIX) as an array of financial services designed to benefit the lower income spectrum with a strong emphasis on women (Jorgensen, 2011).

In addition, the meaning put forth by Robinson (2001), outlined microfinance as the provision of working capital or micro-loans typically invested in small businesses or activities that generate income. As part of financial intermediation, (Alemayehu, 2008) regards microfinance as having a mandate to promote financial inclusion among the economically disadvantaged. It is for this reason that microfinance is defined as providing financial services to individuals and groups considered financially challenged and without any sufficient access to services rendered primarily by banks. Similarly, Abebaw (2014), outlined microfinance as providing financial services particularly savings and micro-credit to groups and individuals at the grassroots level who are engaged in small businesses or are economically active.

To summarize, microfinance is centered around providing an array of financial services much like credit, insurance, deposits, savings, and payment services to an individual(s) with limited income and to small businesses across all sectors of an economy.

### 2.1.2 The Evolution of Microfinance

Microfinance is not a recent development; its concepts and principles have proven to be effective across numerous centuries. Historically, a comparison can be made about microfinance on the advancements attained between the 18$^{th}$ and 19$^{th}$ Centuries to the 20$^{th}$ and 21$^{st}$ Centuries. The most notable expansion and evolution of microfinance from microcredit to an inclusive financial system that encompasses the economically disadvantaged is as follows;

#### 2.1.2.1 Pawn Shops

Throughout the Middle Ages (15th Century), many European nations, particularly Italy, established pawnshops. They were introduced by the Catholic Church as a substitute beyond loan providers who charged extortionate interest rates. Pawn shops functioned as informal, privately owned community-level-based enterprises that provided loans that were said to be collateralized (Helms, 2006). The collateral at the time was valuable objects such as jewelry that would be in the possession of the Pawnbrokers till repayment of the loan was complete. Microfinance in Europe found its origins in self-driven efforts and informal financial practices.

By 1515, Pope Leo X gave consent to have pawnshops levy interest rates, a practice previously outlawed due to religious doctrines (Dzadzua, 2020). The intention of this was for pawnbrokers to meet overhead costs. Subsequently, pawnshops became prevalent in European metropolitan settings, later branching out to more regions and colonies.

#### 2.1.2.2 The Irish Loan Fund System

During the beginning of the 1700s (18th Century), Jonathan Swift, Dean and esteemed writer of the famous novel “Gulliver’s Travel”, pioneered the establishment of a well-structured system for microfinance (Helms, 2006). This system was better known as the “Irish Loan Fund system”. Formal lending and savings-oriented organizations were designed to offer specialized banking services to impoverished households discarded by banks. Sundaresan (2008)**,** mentioned that Swift held the belief that individuals lacking substantial collateral, despite their financial status, deserved credit.

The loan fund relied on peer-based surveillance to assure adherence to weekly repayment schedules on loans disbursed initially free of finance charges. These loans were primarily funded by donations made by philanthropic institutions or the government. Dzadzua (2020), mentioned that when it came to outreach, 20 percent of domiciles in Ireland received micro-credit on an annual basis. Further to this, Ireland’s loan fund system, under the governance of the Loan Fund Board, observed a revolutionary expansion with approximately 300 local funds devoted to micro-lending. The latter was in support of the initiative aimed at extending credit to the underprivileged and farmers who would foster self-sufficiency and form avenues for development.

#### 2.1.2.3 Financial Cooperatives

Before the mid-1800s (19th Century), a remarkable development was observed in Germany. The formalization of lending and saving firms guided by the core values of cooperatives laid the groundwork for the cooperative movement and eventual progress in microfinance. Pioneered by Friedrich Wilhelm Raiffeisen, the establishment of financial cooperatives was aimed at addressing financial challenges experienced by rural communities, chiefly farmers subjected to unfair practices (Armendáriz and Morduch, 2010). Cooperatives operated on the premise of community solidarity which meant that members belonging to a cooperative collectively took ownership and management of the cooperative.

Beyond financial offering, Raiffeisen's concept of cooperatives devised a customized marketplace for sales and commerce to meet the agricultural needs of its members, granting them entry to additional markets. Ledgerwood (1999), motioned that these cooperatives would facilitate collective purchasing of farming inputs such as fertilizers and work towards establishing connections between its members and markets for their agricultural goods. Over time, financial cooperatives broadened beyond their origins, extending their reach to other European countries and nations in development.

#### 2.1.2.4 Rural Latin America

By the turn of the early 1900s (20th Century), Raiffeisen's concept of cooperatives became a global phenomenon undergoing adaptions that were particularly notable in Latin America (Ledgerwood,1999). Many countries in Latin America initiated farmer-modeled cooperatives to support farmers and integrate into the broader rural development initiative to promote economic growth in rural areas. The intention behind the new adaptation was to usher in a modernized agricultural sector. Dzadzua (2020), indicated that in this new adaptation, ownership of these institutions was not vested in the community; instead, it was vested in both private and government ownership.
Regardless of the difference in ownership, the farmer-modeled cooperatives emulated the fundamental principles of the German model while manifesting distinct characteristics influenced by the socioeconomic condition of the region.

#### 2.1.2.5 State-Owned Enterprise

Post World War II, between 1950 and 1970 (20th Century), much importance was placed on ensuring the availability of agricultural credit primarily through state-owned enterprises (Helms, 2006). This was achieved as state-owned financial enterprises and on occasion, financial cooperatives provided subsidized loans at rates lower than the market average. Armendáriz and Morduch (2010), explained that the subsidized scheme was meant to assist vulnerable farmers by enhancing their income and productivity.

The outcome of these subsidized schemes, however, was hardly successful. Ledgerwood (1999), delineated that the inadequacy of interest income generated by concessionary loans led to the inability of state-owned financial enterprises and financial cooperatives to offset their financial obligations. Aside from that, clients lacked the sense of urgency to repay the subsidized loans, as they were casually perceived as grants rather than services rendered. Subsequently, the state-owned enterprises' capital base was diminished in that respect.

#### 2.1.2.6 Microcredit

Amidst state-owned enterprises, the inception of modern microfinance took its first official step in Bangladesh around the 1970s (20th Century) with an introduction of "Microcredit" alongside a model dubbed "Grameen Model" by Dr. Muhammad Yunus. Dr. Yunus, an entrepreneur, and economist, believed that the unserved, who were the less privileged (especially women) were creditworthy (Robinson, 2001). He aimed to use microcredit initiatives as a dynamic means to promote socioeconomic welfare with the Grameen model as its conduit.

The Grameen model, founded on "group solidarity" values, involved community members primarily women, forming groups to jointly assume accountability for individual loan obligations under group guarantees. Armendáriz and Morduch (2010), conveyed that the microcredit initiative that subsequently developed into the Grameen Bank, recorded an average success rate in repayment of loans exceeding 95 percent. In Bangladesh, 81 percent of the females had no repayment challenges compared to 74 percent of men. Moreover, at the same time, the institution had served a customer base beyond 2.4 million, with the majority of these clients being female (Armendáriz and

Morduch, 2010). The worldwide acclaim for Grameen Bank's success in assisting the unserved and achieving high loan repayment has since led to its widespread adoption across different countries, much like Bank Rakyat Indonesia (BRI). Eventually, the Grameen Bank and Dr Yunus were both honored with a Nobel Peace Prize for their collaborative work in promoting amity and addressing issues of social and economic inequalities (Dzadzua, 2020).

#### 2.1.2.7 Cost Recovery Interest Rates and High Repayment

Edging towards the mid-1980s (20th Century), criticism of state-owned enterprises continued to ensue. Helms (2006), added that critiques like Rural Finance Program at Ohio State University launched devasting reviews on Indian state-owned enterprises like the Integrated Rural Development Program (IRDP). Subsidized credit was argued to have accrued huge losses on loans which necessitated recapitalizing to be financially sustainable. Robinson (2001), explicated that the rate of loan repayment for IRDP fell below 31 percent. Institutional performance eventually deteriorated further and failed to provide meaningful financing to the poor. In addition, subsidies were also criticized based on distorting the "rationing mechanism". As it goes without saying, market interest rates serve the function of a rationing mechanism. It reflects the total cost of financial intermediation and balances supplies of funds with the demand for the latter in credit markets (Armendáriz and Morduch, 2010). Most importantly, the rationing mechanism ensures that available funds are allocated to the most economically viable and credit-worthy projects or individuals. Subsidies, however, contrary to the above-mentioned, were allocated based on political and social concerns leading to financial repression.

The need for market-based solutions and financial sustainability prompted the rise of a different approach that regarded microfinancing as a fundamental aspect of the entire financial system that would serve many poor individuals. Robinson (2001), clarified that this approach followed the groundbreaking successes of microcredit initiatives by Bangladesh's Grameen Bank, Bolivia's Banco Solidario (BancoSol) in Latin America, and India's Self-Employed Women's Association Bank. Well-managed small loan initiatives all over the globe defied the connotations that poor people were not financially viable due to inadequate collateral. Robinson (2001), indicated that poor people possessed the capability of saving and repaying loans on interest that were unsubsidized. Simply put, the poor would pay rates of interest high enough to cover an institution's costs. In addition, institutions could cover their costs and reach more

economically disadvantaged individuals minus the limitation of scarcity or uncertainty in the flow of sponsored funds by the government or donors. This was the case for the state-owned rural bank designated BRI. The institution deviated from providing subsidized loans to a more market-responsive approach. Its new model relied on voluntary savings which were mobilized as a source of funds. The model also incentivized its borrowers and staff for timely repayments on loans. BRI's focus on credit collections and managing overheads led to an increase in the village-level branch system which assists not less than 30 million low-income borrowers or savers (Robinson, 2001).

Ultimately, microfinance emerged as the answer to the enduring difficulty of providing loans much like a bank but utilizing effective means of enforcing a contract much like an informal lender. Over time, microfinance has experienced growth, and donors mostly support institutions that commit to attaining considerable financial sustainability and outreach.

#### 2.1.2.8 The Revolution of Microfinance

After the 1980s, institutions unequivocally demonstrated that "microfinance" was capable of efficiently delivering savings and microloans on a significant scale, generating profits without heavy subsidization (Ledgerwood, 1999). As the 1990s (20$^{th}$ Century) loomed, the term microcredit was slowly being replaced by microfinance. The departure from microcredit was simply because the term was initially coined with the view of institutions that focused solely on providing microloans to the poor. Microfinance on the other hand was in recognition that the poor could benefit more from financial and non-financial services supplement to credit provisions. Ledgerwood (1999), made clear that these services included social services (financial literacy), payment services, insurance, and savings. Based on this rationality plus the notion to broaden its outreach, institutions began to pursue a strategy of commercialization to be more sustainable. Ultimately, this sustainability would attract capital and permanency in the financial system. This change in development implied an establishment of microfinance industries nationally as well as internationally and with it, also implied the development of appropriate regulatory and supervisory frameworks. In addition to regulations, rating agencies began to operate, and channels for disseminating information about best practices drawn from renowned practitioners worldwide proliferated.

Ending the late 1990s, microfinance institutions were not limited to small dotted establishments but rather a hatching and growing business. In addition to the aforementioned, the development of BRI's micro-banking system and BancoSol gained center stage due to their leadership role in furthering the industry and the quantum of profit generated from sound operations and maneuvers (Dzadzua, 2020). The two institutions continue to receive frequent visits globally and contribute to spreading the best practices for microfinance sustainability. The success of these two MFIs was despite their vast differences in history, culture, demography, economy, and religion. For instance, one was located in a landlocked country (BancoSol) which was sparsely populated whereas the other (BRI), was known to be one of the most densely populated nations (Dzadzua, 2020). This nonetheless evidenced that whereas prerequisites for sustainability such as regulatory and supervisory conditions are undeniable, the definitive success of microfinance is not limited to specific country environments.

Dzadzua (2020), laid out the 1990s as the "microfinance decade". Furthermore, in 1997 when the Microcredit Summit was launched, much emphasis was placed on the significance of microfinance in the realm of growth. The latter aimed to address global poverty through microfinance as a tool for financial inclusion. At the inaugural microcredit summit, Washington, D.C. hosted a convergence of approximately 2,900 delegates representing 137 countries and approximately 1,500 institutions (Dzadzua, 2020). Since then, MFI's sustainability has taken center stage to ultimately channel an array of financial services to many individuals.

#### 2.1.2.9 Modern Microfinance

After commercialization in the 2000s (21st Century), microfinance became an attractive industry for private financial markets because of its profitability and exceptional growth. In line with that, CGAP took center stage, ensuring microfinance is conducted professionally and in addition altered their focus and name from "poorest" to "poor" in recognition to also benefiting the low-income households (Helms, 2006). One of the most notable causes of CGAP is the development of the "11 key principles of microfinance" in 2004 which was endorsed by the G8 as part of their obligation to increase the availability of microfinance (CGAP, 2004). These principles addressed how sustainable microfinance can be instrumental against poverty.

CGAP reported in its Focus Note June 2007 publication that the very first and most successful Initial Public Offering (IPO) by an MFI was conducted by Banco Compartamos, a Non-Governmental Organisation (NGO) MFI launched in the 1990s in Mexico. The IPO was 13 times oversubscribed as well as considered a huge success by any standard in the financial market (CGAP, 2007). This was due to the accumulated demand which led to the price of the share gushing at 22 percent on the initial trading day. Banco Compartamos was able to raise 467 million U.S. dollars in total. Similarly, on 28 July 2010, CGAP reported that India's largest MFI, Swayam Krishi Sangam (SKS) established as an NGO in late 1997 secured recognition as India's inaugural MFI to introduce shares to the public via an IPO (CGAP, 2010). This offering drew the interest of reputable companies much like Quantum Fund and JP Morgan. The company's valuation peaked at the upper limit of the offer band price, reaching 1.5 billion U.S. dollars and within the fifth week of trading, the price share experienced a 42 percent increase.

Dzadzua (2020), mentioned that not only did MFIs follow the path of transformation into a more commercial orientation, but banks and other FSPs at the same time had begun to downscale and actively participate in the microfinance market. Thus, the borders between MFIs and the larger financial system are blurring. Alongside commercialization, an array of technologies has been developed to support financial services to the poor. A good example of the latter was in 2007, the emergence of a mobile banking system called M-PESA in Kenya which was focused on microfinance clients and rural customers (Dzadzua, 2020). The mobile system was designed to allow borrowers to conveniently receive and repay loans. The system relies on a network of authorized agents, typically existing businesses, where users can deposit or withdraw money.

It should also be emphasized that in parallel with such successful growth and attractive financial performance, the direction of social responsibility has been weakened and the original fundamental values of microfinance have been significantly diminished (Dzadzua, 2020). Despite the challenges posed by the double bottom line, generally, MFIs, financial cooperatives, community banks, state-owned agricultural institutions, and development institutions have been deliberate about serving poor and low-income clients with high-quality, accessible financial services throughout the halls of history.

### 2.1.3 Microfinance Products and Services

The principal role of MFIs is that of financial intermediation particularly to the economically disadvantaged. It involves the transfer of liquidity or capital to individuals who are deficient from individuals who are in excess. Virtually all MFIs provide credit services, and a number of them also offer other financial services, such as savings, insurance, and payment services. The choice of financial service(s) depends on the MFIs' objective. The products and services of MFIs are discussed as follows;

#### 2.1.3.1 Credit

Credit is a financial arrangement established to attain funds for a predetermined term which requires to be repaid normally with interest (Cull et al, 2007). Where accumulated savings cannot finance a prospect and the return on borrowed funds exceeds the interest cost plus principal on a credit facility, borrowing becomes more appropriate. This is true, assuming the capacity to service the debt exists or when compared to holding off a company or industry activity pending adequate funds to build up.

Loans are typically made for productive activities which are to yield returns or income within a business. Some MFIs also provide loans for housing or unforeseen events. Several institutions are in favor of making productive loans however, credit in any capacity that provides liquidity to a household can create returns indirectly for an enterprise (Cull et al, 2007). These returns can then be invested back into the business. Credit delivery can be divided into two broad categories which are;

##### 2.1.3.1.1 Individual Lending

Individual lending refers to loans made to individual borrowers that are solely responsible for their repayment. Individual loans are made to clients who can demonstrate to an MFI assurance of repayment and some level of security. The nature of this product is a combination of formal and informal sector lending. Formal relating to the traditional lending conducted by banks or financial institutions. This is where credit approval is based on character, cashflows, debt capacity, credit history, and traditional collateral. Informal on the other hand relies on the personal knowledge of the borrower coupled with informal collateral sources rather than sophisticated feasibility analysis.

Therefore, Cull et al (2007), delineated that characteristics of individual lending by MFIs include efforts made by MFI staff (typically loan officers) to develop close relations with potential clients. It also encompasses screening them by way of credit checks and/or character references to tailor the loan size and terms to suit individual needs. In addition, loans are guaranteed by some form of collateral (less stringent than that of formal lenders) or cosignatory (an individual who legally accepts joint responsibility for a loan but does not receive the loan amount).

#### 2.1.3.1.2 Group-based Lending

Group lending refers to providing credit to a group of individuals or an individual within an established group, typically a small community, who are collectively responsible for loan repayment. It involves the creation of groups of individuals sharing similar desires to attain financial services. A unique feature of this type of lending is the concept of "social collateral". The collateral substitutes are known as "group guarantees" for the poor who cannot offer traditional collateral desired by most FSPs. According to Cull et al, (2007), group guarantees are designed to negate further lending to any member if a particular member defaults. The concept of a group guarantee elicits increments in the loan repayment rate as members avoid social sanctions imposed on them.

It is also an incentive for MFIs to reduce transaction costs caused by information asymmetry. This is the case when shifting screening and monitoring costs to the group. Similarly, transaction costs are reduced as loan officers will not directly deal with each individual in a group but rather deal with the designated group leader of that particular group.

### 2.1.3.2 Savings

Savings are defined as partial guarantees in the form of funds received from a borrower as a precondition to access credit and are placed ordinarily in an FSP licensed to take deposits for the entire loan period. Aside from that, they are established as a means to provide funding for MFIs to improve their loan outreach and lessen reliance on donor funds. The mobilizing of savings serves the function of improved financial intermediation for the poor given the right macroeconomic and legal environment. According to Nyamsogoro (2010), the two categories of savings are;

#### 2.1.3.2.1 Compulsory Savings

Obligatory (compulsory/forced) savings represent funds that must be contributed by a person (s) as a condition of obtaining credit. It is normally a percentage of the amount on the credit facility (Churchill et al, 2006). In principle, compulsory savings help build an asset base. They are necessary for demonstrating the value of saving practices as borrowers are taught to save and learn financial discipline. Financial discipline involves the ability to manage cash flows as well as periodic contributions. For the most part, compulsory savings however are considered to be a part of the loan product rather than an actual savings product. Moreover, the compulsory savings acts as a form of collateral and clients have no access to the savings for long as the loan remains outstanding or are still members of the MFI.

#### 2.1.3.2.2 Voluntary Savings

As the name suggests, voluntary savings are non-compulsory deposits made at the client's discretion into an FSP. Both borrowers and non-borrowers can deposit money according to their needs although clients may in some cases need to be members of an MFI (Churchill et al, 2006). Interest rates are relatively low compared to higher rates offered by official monetary establishments or banks. The excess liquidity can then be mobilized by MFIs to serve low-income individuals. The ideological difference between voluntary and compulsory savings lies in the latter teaching financial discipline and the former providing appropriate services to clients who are assumed to be knowledgeable about saving.

According to Churchill et al (2006), there are three conditions that MFIs need to meet to mobilize voluntary savings. The first is the presence of an enabling environment that includes an established legal and regulatory framework, reasonable political stability, and suitable demographic conditions. The second condition pertains to the adequate and effective supervisory capabilities to protect depositors. The third is that MFIs must be financially solvent and consistently manage their funds effectively with a high loan repayment rate.

#### 2.1.3.3 Insurance

Insurance is a form of risk protection tailored to the needs and financial capacity of low-income individuals. It hedges clients against specific perils at a premium proportionate to the likelihood and associated costs of mitigating the particular risk(s). Much like any insurance product, risk pooling enables a lot of persons individually or collectively to share the costs of risks materializing.

Armendáriz and Morduch (2010), made clear that insurance products are relatively new and still at the experimental stage. The most common insurance product offered by MFIs in collaboration with insurance companies is “Credit Life Insurance”. Credit life insurance is offered as part of a loan package aimed at hedging outstanding loans in the event of a client’s untimely death. According to Armendáriz and Morduch (2010), it thereby prevents undue financial burden imposed on the deceased’s family and also provides means to cover burial costs for the latter. This was the case with the Foundation for International Community Assistance (FINCA) Uganda which partnered with American Insurance Group (AIG) and offered 700 dollars to dependents in the event of an accidental death (Armendáriz and Morduch, 2010).

#### 2.1.3.4 Magstripe and Smart Cards

According to Helms (2006), magstripe and smart cards which in this case can either be debit and/or credit cards, enable an individual access to credit if and when needed. In addition, these cards contain information concerning an individual’s savings or line of credit. Whereas magstripe cards store data magnetically, smart cards contain memory chips (or processors) that store and process dynamic data including cryptographic keys.

In the case of credit cards, the borrower is provided a line of credit to which money is borrowed within or to a predetermined limit and is required to be repaid with interest following the terms and conditions applied. Debit cards on the other hand enable clients access to their savings which is ideally limited to the total savings accumulated by the latter (Helms, 2006). Typically, either card is used to make purchases, online transactions, and cash withdrawals. It also gives online access to client accounts through institutional infrastructures such as Automated Teller Machines (ATMs) and Point-of-Sale (POS) systems.

Ledgerwood (1999), delineated that similar to the case of insurance, magstripe, and smart card services are still relatively new in the field of microfinance. Only a few examples can be cited much like the introduction of credit cards pioneered by Growth Trust Corporation in Swaziland. This is due to the inadequate infrastructure put in place within the formal sector.

#### 2.1.3.5 Payment Services

Payment services refer to a range of financial transactions and mechanisms that facilitate the electronic transfer of funds between individuals, businesses, or financial institutions (Helms, 2006). In traditional banking systems, payment services include salary deposits, transfers, and bill payments for customers who maintain an account with a bank. Banks' payment services are typically tied to the clients' deposit accounts. Ledgerwood (1999), informed that an MFI can provide payment services similar to banks under savings (where applicable) or can be provided separately as an outsourced service at stipulated charges. In addition, this type of service also includes domestic and/or international transfers and remittances of funds using a negotiable instrument such as the Electronic Fund Transfers (EFC) In Zambia. According to Ledgerwood (1999), a few MFIs offer payment services. This is because MFIs must have an extensive branch network or relationships with one or more banks.

### 2.1.4 Microfinance Models

MFIs exist to facilitate financial services for the less fortunate vis-a-vis informal and adaptable models. Models refer to a specific set of principles, practices, frameworks, and key strategies that MFIs use to provide financial services in a particular context (Ledgerwood, 1999). Aside from the contextual factors in a given country, models are tailored to target markets that demand financial intermediation (Alemayehu, 2008). To add on, models most often do not work in a vacuum as MFIs rely on different FSPs to supplement their services to satisfy the target clients effectively. According to Ledgerwood (1999), the following are the most well-known microfinance models;

#### 2.1.4.1 Individual Lending

As defined earlier, Individual lending is providing credit facilities to persons that are not designated to a group that is compelled to be accountable for the loan being repaid. The repayment ideally includes interest which is ordinarily higher than the rates paid on

formal sector loans but lower than the informal sector. This model entails frequent and personal contact between the loan officers and individual clients to provide specific credit products to satisfy client needs (Harper et al, 2007). Harper et al (2007) made clear that the model is best suited for larger urban areas, production, and clients that can provide substantial collateral or cosigner.

The methodology behind individual lending revolves around clients who are at least working in the informal sector and require working capital or loans to obtain fixed assets. Loan officers operate a relatively small number of clients to build rapport. The loan amounts and terms are based on prudent credit analysis; thus, documentation is required (Athanasoglou and Staikouras, 2006). A loan file will typically comprise of a loan application, loan contract, client references (if applicable), credit score history, collateral and/or cosigner agreement, and legal deeds to assets being pledged. Subsequently, loans are disbursed after approval at the head office of the MFI.

The credit facility amount can vary with terms between six months to five years (Athanasoglou and Staikouras, 2006). Savings may or may not be provided depending on the institutional structure of the MFI. Athanasoglou and Staikouras (2006), mentioned that Institutions such as BRI and Alexandria Business Association in Egypt follow the Individual lending model.

#### 2.1.4.2 Grameen Bank Solidarity Lending

This lending model developed by the Grameen Bank in Bangladesh is rooted in group pressure. Group members jointly guarantee repayments of outstanding loan balances and the availability of loans to all group members is determined by members' ability to repay their loans (Sima, 2013). In addition, clients are typically women from rural and urban areas who seek income-generating activities.

Sima (2013), elaborated that the model has peer groups typically consisting of five unrelated members that form groups by themselves and are incorporated in village centers with the threshold of eight peer groups. Village centers play a vital role as they are physical hubs where MFIs operate. They serve as focal points for group meetings, financial transactions, and the overall administration of MFI programs (Sima, 2013). According to Sima (2013), loan officers carry 200 to 300 clients, and appraisals are done by center leaders and group members whereas the branch staff is mainly tasked

with verifying information and making periodic visits to the client's business. In addition, savings are mandatory and must be contributed before the loan is disbursed and during the term of the loan. Due to the pool of savings which acts as a group fund managed by its members, the need for collateral is not mandatory. In a group of 5 members, the first two are provided with a credit facility (Sima, 2013). After a successful repayment, two more members receive loans and similarly, the last member receives a loan based on the success rate of the last two members.

According to Sima (2013), loan amounts are generally between 100 to 300 dollars with terms of six months to a year. Repayments are weekly and interest rates are charged at a rate of 20 percent a year.

#### 2.1.4.3 Latin American Solidarity Group Lending

Ayayi and Sene (2010), indicated that in Latin America, the solidarity group model was introduced by ACCION International which paid much resemblance to the Grameen model. This model is targeted at the informal sector micro-businesses such as market vendors and merchants (predominately women) who seek short-term working capital loans.

Similar to the Grameen model, members are collectively responsible for loan repayments and the availability of loans is dependent on members' ability to repay their loans weekly at the program office (Ayayi and Sene, 2010). In addition, the model incorporates minimal technical assistance in the form of capacity building. Unlike the Grameen model, the Latin American Solidarity Group Lending operates on a larger scale with four to seven group members and credit officers working 200 to 400 clients (Ayayi and Sene, 2010). Loan approval is made by loan officers with minimal economic investigation and disbursement at the branch office is directed to group leaders. The group leader then immediately distributes to each member as with this model, every member generally receives an equal loan amount (Ayayi and Sene, 2010). Savings are usually required and are deductible from the loan amount as opposed to before the disbursement is made.

Loan amounts are between 100 to 200 dollars and after that, amounts gradually have no upper limit provided that clients have demonstrated the ability to service large amounts of debt (Ayayi and Sene, 2010). Interest rates are charged at quite a high rate

coupled with service fees. Ayayi and Sene (2010), made mention that very few voluntary savings are offered. Ultimately, the model encourages intragroup emergence funds to serve as a safety net. According to Ayayi and Sene (2010), an affiliate of ACCION International, Fundación para la Promoción y Desarrollo de la Microempresa (PRODEM) in Bolivia followed the Latin American Solidarity Group Lending model.

#### 2.1.4.4 Village Banking

The concept of village banking was instigated by the Foundation for International Community Assistance (FINCA) in the mid-1980s. Village banks are “banks” managed by the community; they offer financial services, the creation of self-help groups, and the accumulation of savings in rural areas (Meyer, 2002). The bank, as run by its members (predominately women) is self-selected and collectively, establishes bylaws that govern internal operations (Meyer, 2002). In addition, the village bank is financed by mobilized members’ savings (internal account) and loans provided by the sponsoring MFI (external account).

Meyer (2002), explained that a village bank consists of 30 to 50 members and a management committee who receive loans and training (inclusive of agriculture innovations) from the sponsoring MFI. The sponsoring MFI extends credit (loan capital) to a village bank for onward lending to its members who all sign a loan agreement as a means of a collective guarantee (Meyer, 2002). From the loan capital, the village bank is then able to collect and mobilize savings for further onward lending or collective investment activities. Meyer (2002), further mentioned that meetings are held weekly or monthly to attend to administrative issues such as collecting savings, disbursement of loans, and where applicable, training with the MFI officer.

Loan capital is initially based on aggregate loan requests from all individual members of a village bank (Meyer, 2002). Subsequent loans however are determined by aggregated savings made by each member. The term on these loans is usually between 10-12 months fixed at each cycle with interest rates stemming from one to three percent per month (Meyer, 2002). Furthermore, the loan amount is repaid (at a lump sum) at the end of each cycle. Regarding the specific loans made to individual members, Loan amounts are in small figures which can amount to 50 dollars (varies between countries) with a term of four to six months and are repaid in weekly installments (Meyer, 2002). Second-cycle loans are determined by the aggregate weekly savings (20 percent of the

loan amount at the least) made by the member during the initial loan period. Meyer (2002), clarified that loans or investment activities funded by internal accounts are set on different conditions with higher interest rates and shorter terms. Similarly, subsequent loans are tied to the aggregate savings made by its members. Meyer (2002), added that interest is not earned on individual savings however, based on the contribution made to the village bank, a proportion of the returns from onward lending or investment activities is distributed to members on a pro-rata basis. According to Meyer (2002), FINCA Mexico and Costa Rica follow the village banking model.

#### 2.1.4.5 Self-Reliant Village Banks (Savings and Loans Association)

The self-reliant village bank is a model developed by the International Development and Research (IDR); a French NGO in the mid-1980s. They are established and managed by rural village communities and they differ from the standard village bank model by FINCA. The difference is in the way self-reliant village banks cater to the needs of the whole village as opposed to the needs of self-selected groups in a village.

Ledgerwood (1999), conveyed that, self-reliant village banks are initiated by a supporting program that classifies villages exhibiting adequate social cohesion as well as a need to form village banks. The villagers determine their organization as they elect the management and credit committee and two or three managers. In addition, the villagers are also responsible for formulating rules for their banks. Contrary to the standard village bank, the sponsoring program is not obliged to provide a line of credit (Ledgerwood,1999). The self-reliant village bank ultimately relies on its savings mobilization. Ledgerwood (1999), pointed out that self-reliant villages are tasked with mobilizing savings and extending short-term credit to villagers on an individual basis. Once the bank builds on its network or association, the latter links itself to the formal financial sector by negotiating with banks for the provision of lines of credit. According to Ledgerwood (1999), management in this model is highly decentralized, and central services are narrowed to internal audit and control, specific training, and representation. To ensure financial sustainability, the village banks pay for central services.

When it comes to the loan amount, there's no direct linkage with a member's savings capacity (Ledgerwood, 1999). In addition, repayment is restricted to one installment. Interest rates however are set according to the village banks' experience with traditional savings and loan associations. Hartarska and Nadolnyak (2007), put forth that remote

areas are ordinarily faced with high rates of interest as a result of the opportunity cost. Given the fact that loans are disbursed per individual, collateral then becomes necessary. Above all else, social pressure and village trust remain critical for high repayment rates.

### 2.1.5 Approach to Microfinance

Morduch (2000), illuminated that the center of debate on effectively alleviating poverty revolves around two compelling beliefs, promoting discussions that warrant more emphasis. This ongoing debate is commonly called the “microfinance schism”. The schism stems mostly from ideologies on what consequences hold for prioritizing financial self-sufficiency (FSS) over the depth of outreach (Morduch, 2000). It is widely acknowledged that a compromise emerges between FSS (profitability) and depth of outreach. The following are the two compelling views;

#### 2.1.5.1 Financial System Approach

The financial system or Institutionist approach emphasizes ensuring FSS for MFIs and avoiding heavy dependence on social investors to fund MFI operations (Nyamsogoro, 2010). The financial system school of thought proclaims that financial viability as measured by FSS, is more important to attain depth of outreach (Nyamsogoro, 2010). The argument is based on the notion that donor dependence is uncertain and unless an MFI is self-sustainable, it cannot serve the poor in the long term.

#### 2.1.5.2 Poverty Lending Approach

Contrary to promoting financial viability, in the Poverty Lending Approach or Welfarist Approach, there is a potential tension over FSS as it leads to a mission drift that is, moving away from the objective of poverty reduction. The welfarist approach emphasizes poverty lending as measured by the depth of outreach over FSS (Morduch, 2000). The school of thought follows the view that MFIs were primarily established for poverty alleviation; to empower the poor who are economically active. Due to the latter notion, depth of outreach is given higher priority even when it appears non-profitable. Morduch (2000), made clear that any challenges faced in funding should be covered by social investors, donors, or government support programs because the poorest are cost ineffective to reach when profitability is considered.

### 2.1.6 Institutional Forms of Microfinance Institutions

Ledgerwood (2013), elaborated that MFIs have distinct Institutional forms with a variety of characteristics when it comes to their governance structure and regulation. Typically, there are four main forms of MFIs.

#### 2.1.6.1 NGOs

The first institutional form of MFIs is NGOs. NGOs are primarily concerned about both social objectives and financial sustainability. The services rendered by NGOs are predominately loans aimed at low-income households. The sources of funds are centered on donors as the latter is ownerless (Ledgerwood, 2013). Ledgerwood (2013), made clear that NGOs are not regulated by a monetary authority or state government.

#### 2.1.6.2 Cooperatives and Credit Unions

The second institutional form of MFIs are cooperatives and credit Unions. Cooperatives are also primarily concerned about social and financial sustainability. Ledgerwood (2013), elaborated that cooperatives and Credit Unions are member-based and desire to maximize their returns and also maximize their social objectives by offering many financial services to their members despite not being cost-effective. Unlike NGOs, the services rendered by cooperatives are inclusive of savings besides the loan facilities aimed at its members. The source of funding is centered on the mixture of savings collected from its members and debt owed to FSPs. Ledgerwood (2013), clarified that cooperatives are partly regulated by a monetary authority or state government.

#### 2.1.6.3 NBFIs

The third institutional form of MFIs is NBFIs. NBFIs are primarily concerned about financial sustainability and maximizing profit for their shareholders. The services rendered by NBFIs are predominately loans and microinsurance aimed at clientele dependent on the product offering (Ledgerwood, 2013). The source of funding is centered on the mixture of debt and equity. According to Ledgerwood (2013), NBFIs are regulated by a monetary authority or state government.

#### 2.1.6.4 Banks

The fourth institutional form of MFI is a bank (commercial and rural). Conventional banks have become increasingly involved in the MFI industry (Ledgerwood, 2013). Much like NBFIs, they are influenced by their financial structure and pressure to maximize profit for their shareholders even though they claim to focus on social sustainability. The services rendered by banks are predominately loans and savings aimed at a broad target of clients inclusive of SMEs (Ledgerwood, 2013). The source of funding is centered on the mixture of debt and equity. Ledgerwood (2013), made clear that banks are regulated by a monetary authority or state government.

### 2.1.7 Legal Framework of Microfinance Institutions

According to Ledgerwood (1999), the regulation and supervision of MFIs are viewed as a set of governing rules that apply to MFIs and how they operate. The legal frameworks are meant to protect MFI clients (especially depositors), promote fair trade in the sector, and enhance public confidence in the financial system (Ledgerwood, 1999). Regulations are meant to create an enabling environment for MFI operations, development, and growth of the industry as a whole (Chiumya, 2010). Moreover, regulating institutions enables them to increase their capital by mobilizing deposits and borrowings from capital markets. Despite arguments of regulations affecting the sustainability of MFIs negatively due to costs and repression, unregulated MFIs however have limited options for sourcing finance, that is, limited access to capital to increase loanable funds (Chiumya, 2010).

According to Muriu (2011), countries such as Ghana and the Philippines indicated that the financial performance and sustainability profiles of regulated MFIs had differed significantly (positively) compared to the pre-regulation performance. The reason being among others, the ability of owners to step forward with additional capital. Similarly in Zambia, notwithstanding other applicable laws, regulated MFIs have an ad-hoc legal framework known as “The Banking and Financial Services (Microfinance) Regulations, 2006”. These regulations have been in existence since January 2006 and during that period, there has been an increase in the number of licensed MFIs, fair business practices, clarification of institutional forms, and increased capital levels (Chiumya, 2010).

### 2.1.8 Category of Microfinance Institutions in Zambia

MFIs in Zambia are categorized into three tiers. Chiumya (2010), delineated that the first tier known as “Tier I” refers to the DTMFIs who are required to have a minimum regulatory capital of K2,500,000.00. The services typically rendered in Tier I are savings, in-country transfers, credit facilities, and any service that the BoZ prescribes. Bank of Zambia (2023), indicated that there are currently 7 DTMFIs as at 31 October 2023. The second tier (Tier II) is designated for Non-Deposit-Taking Microfinance Institutions with a minimum paid-up capital of K100,000.00 (Chiumya, 2010). Unlike Tier I, the services rendered under this category are narrowed down to only the provisioning of credit facilities (Chiumya, 2010). There are 26 NDTMFIs as at 31 October 2023 (Bank of Zambia, 2023). The third tier (Tier III) are MFIs that are not supervised by the BoZ nor are they required to have a license with the latter. Chiumya (2010), expressed that it is unclear as to which services they provide. Moreover, because they are not under the regulatory ambit of the BoZ the exact number of institutions or individuals under Tier III remains unknown.

## 2.2 Empirical Review

Ayi and Maty (2010), studied at a global level the drivers of MFI’s financial sustainability using MFIs in 101 countries spread over the region from 1998 to 2006. It was revealed that when management maintained an adequate loan portfolio with rates of interest that gave profit on top of cost recovery, the latter became key to financial sustainability. The study findings also revealed that the percentage of women borrowers had a negative impact on sustainability but was statistically insignificant. Ultimately, the results of the investigation noted the customer outreach of microfinance programs and the age of MFIs had a positive although smaller impact on the financial sustainability of MFIs.

Quayes (2012), researched what impact depth of outreach had on financial sustainability in 83 different countries by sampling 702 MFIs. Research findings showed that outreach and financial sustainability had a positive and significant relationship. On the other hand, Jorgen (2011), scrutinized the factors that determine prosperity and profit-making by MFIs using a sample of 879 MFIs. In this study, ROA and profit margins were used as dependent variables and secondary data were collected through the MIX market. It was found that gross loan portfolio, age (new), and capital asset ratio influenced profitability and were statistically significant.

In the pioneer experiential study of the profitability of African MFIs, Muriu (2011), sought to investigate factors that contributed to the low profitability of MFIs in Africa. The study looked at unbalanced panel data that constituted 210 MFIs across 32 countries for the period 1997 to 2008. Given that a quantitative approach was used, the Generalized Method of Moments (GMM) system was adopted. Profitability was proxied by ROE and ROA. Using secondary data gathered from the MIX database, the study revealed that inflation, gearing ratio, and age were statistically insignificant whereas freedom from corruption, the size of MFIs, and capital were significantly connected to profitability.

Dissanayake (2012), studied the determinants of profitability for a period stemming from 2005 to 2011 in Sri Lanka an independent island nation located in South Asia. The study focused on eleven MFIs and used the ROE as a proxy for profitability. He attempted to see the connection between the ROE and dissimilar inner features. He analyzed secondary data from the MIX market using regression analysis. According to his research findings, the expense ratio and the debt/equity ratio were insignificant whereas the cost per borrower and write-off ratio were statistically significant. In addition, the personnel productivity ratio was not a major determinant.

Nyanzu et al (2018), investigated the impact of regulation on MFIs' sustainability and social outreach in Sub-Saharan Africa. The study utilized unbalanced panel data for 30 countries that stemmed from 2002 to 2012. In addition, data was analyzed using a multilevel estimation technique. This technique helped to capture variability within and between groups, providing a more nuanced and accurate understanding of the relationships in the data set. The study findings revealed that regulation supports breadth of outreach and MFI sustainability but it does not affect the depth of outreach. It is also worth noting that authoritarian quality had a positive effect on outreach and sustainability. Deposit-taking MFIs however showed more sustainability but preferred to serve the not-so-poor (marginal).

Tehulu (2013), experientially explored the effect of determinants on the financial sustainability of 23 MFIs in East Africa over the study period stemming from 2004 to 2009. The researcher used unbalanced panel data and analyzed the data using binary probit and ordered probit models. It was revealed that when it comes to financial sustainability, the size of the MFI, PAR, management incompetence, and loan strength are critical to an institution. Deposit mobilizing and outreach, however, were insignificant.

Njogu (2011), examined the factors that decide the financial performance of MFIs in Kenya. The research study looked at 41 institutions that were under the regulatory ambit of the Association of Microfinance Institutions. It was found that operational costs, product diversity, access to capital, liquidity, and outreach were among the key factors that determined the financial performance of MFIs.

Nyamsogoro (2010), researched the financial sustainability of 98 rural MFIs sampled in Tanzania. The research relied on both secondary and primary data stemming from four years. Given that the researcher chose to use panel data, the overall research adopted a quantitative research approach. Study findings showed that operating efficiency, capital structure, PAR, size of MFI, and number of borrowers were statistically significant and hence affected the financial sustainability of MFIs. In addition, Bekalu et al (2019), conducted a study in Ethiopia analyzing 132 observations from 11 institutions for 12 years with STATA software version 13; determining what drives profitability. It was established that GDP, the concentration of the market, efficiency of operations, and PAR were critical determinants.

Quayes (2012), in his study, utilized impartial panel data and applied bivariate multiple regression on 14 MFIs in Ethiopia. The research period stemmed from 2002 to 2010. His findings revealed that reliance ratio, cost per borrower, breadth of outreach, and depth of outreach affected financial sustainability. Similarly, Sima (2013), with a sample size of 13 MFIs in Ethiopia over the period 2003 to 2010, studied the internal and external factors that impacted profitability. Quantitative research primarily documentary analysis was utilized. The study findings revealed that the age of the MFI was a factor affecting profitability whereas GDP, size, and capital adequacy were insignificant. In the same setting, Abebaw (2014), conducted a study similar to Sima (2013), but over the period 2003 to 2011. Despite similar findings much like capital adequacy being insignificant, size and GDP on the other hand positively impacted profitability and were significant.

Ngumo and Collins (2017), studied the determinants of financial performance of 7 MFI banks in Kenya for the period 2011 to 2015 using a descriptive research design. Secondary data was used during data collection and study findings reviewed that financial performance was positively and significantly affected by the size of the MFI, capital adequacy, and operational efficiency. Credit risk and liquidity risk on the other hand were found to be statistically insignificant.

In a similar study, Abdurahman and Mazlan (2014), revealed that the sustainability of MFIs was negatively impacted by the breadth of outreach, and operating expense ratio. The size of the MFI however had a positive impact on sustainability.

Sekabira (2013), examined the impact capital structure had on the performance of 14 sampled MFIs in Uganda. The research findings revealed that financial and operational sustainability were negatively impacted by donations and debt. He recommended that MFIs need to consider sourcing funds from the capital markets in the long run to attain sustainability. Bogan (2009), carried out a similar research study for the period 2003 to 2006. The scope of the research covered Middle East Africa, Latin America, Africa, and East Europe. The findings were in agreeance with Sekabira in that long-term sustainability was negatively impacted by grants and debt.

## 2.3 Theoretical Framework

A theoretical framework is a structured set of concepts, theories, and prepositions that form the basis of understanding a problem or phenomenon (Sekran and Bougie, 2016). The theoretical framework in this study was based on theories proposed by Abebaw (2014), and Sima (2013), which provided a rational explanation of the association among the independent variables and how they influence the dependent variable. The theoretical framework also provided a basis on which the conceptual framework was built. The adopted theories were as follows;

### 2.3.1 Theory of Balanced Portfolio

This theory explains that the rate of return on all assets held in a portfolio coupled together with the ownership risks associated with each asset serves the function of the optimal asset balance (Abebaw, 2014). In essence, the most effective composition in a portfolio indeed results from each asset being assessed for risk and return by management. Allowing for risk reduction to yield a profit thereby impacts the overall financial performance of an institution (Abebaw, 2014). The application of this study is that capital adequacy plays a critical role in the portfolio management of MFIs. A high capital position enables MFIs to expand their lending activities, diversify their loan portfolios, and absorb potential losses more effectively. Thus, higher capital adequacy ratios influence ROA by reducing the risk of insolvency and enhancing the stability of returns through diversification.

### 2.3.2 Theory of Efficiency

The efficiency theory explains how well-organized institutions are capable of generating more profit. In this theory, two approaches “scale efficiency” and “X-efficiency” are considered. Scale efficiency suggests that institutions with large market share can influence profitability due to the phenomenon known as “economies of scale” (Abebaw, 2014). Economies of scale relate to the advantage that arises when large institutions increase their scale of production and lower their average costs per unit of output (Abebaw, 2014). X-efficiency on the other hand suggests that the internal efficiency of an institution’s management in terms of its strategic leadership and risk mitigation influences profitability (Abebaw, 2014). As applied to this study, the theory holds that aside from the influence of market share on profitability, internal and external analysis as a function of sound managerial decisions affects the financial performance of an MFI. This can be in the case of inflation, in which poor decisions affect MFIs’ loan books vis-à-vis the increased cost of borrowing that impacts the borrowers’ ability to access credit or repay a loan facility. Ultimately the MFIs’ size and quality of loans deteriorate; reducing the real value of its ROA which also forms part of the institutions’ capital base.

### 2.3.3 Theory of Market Power

The market power theory explains how the market structure, market share, and differentiation of an MFI impact profitability and sway prices (Sima, 2013). In this theory, two approaches are considered, the “relative market power (RMP)” and the “structure-conduct-performance (SCP)” approach. The RMP approach suggests that the relative market share of an individual institution plus its product differentiation, gains market power and impacts profitability (Sima, 2013). On the contrary, the SCP approach suggests that increased market concentration affects conduct in the market as dominant institutions take advantage of their gained market power and impact profitability (Sima, 2013). The application of this study emphasizes the SCP approach as it holds that higher market concentration implies fewer competitors and potentially greater market power for dominant MFIs in the market impacting their conduct in lending practices, pricing strategies, risk management, and competitive behavior which affects the overall financial performance of institutions.

## 2.4 Knowledge Gap

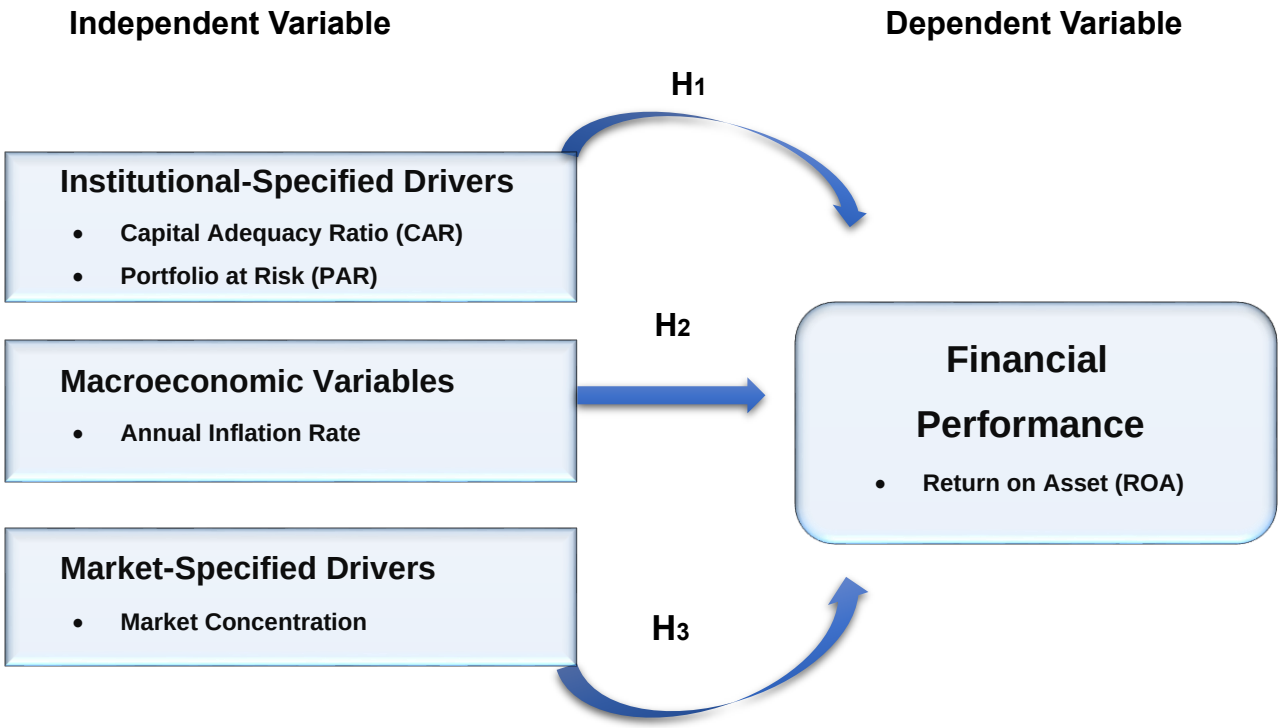
The literature revealed the existing gaps of knowledge concerning drivers of the financial performance of MFIs. It is worth noting that the literature also provided useful insights for the study, including empirical data for variables' indicators as well as theoretical viewpoints that have been utilized to examine the drivers of financial performance. However, several empirical studies that were reviewed in this study focused on measuring the drivers of financial performance in MFIs using institutional-specified drivers. External drivers were not utilized as often to account for macroeconomic or market-related factors that potentially also affect financial performance. It was also observed that some studies had financial sustainability or performance either proxied by FSS and or operational self-sufficiency (OSS). While the latter and the former are indeed important matrices, their focus is more on covering immediate costs and operational expenses. ROA and/or ROE on the other hand provide a broader picture of an institution's overall financial health. The ROAs' ability to measure sustainable returns on their assets, aligns with the long-term objective of financial sustainability and the ROEs' returns generated on equity investment are essential for attracting sustainable growth. Furthermore, the ROA and ROE provide for easier comparison across MFIs. It is for these reasons that the current study tries to fill the knowledge gap by considering external factors and utilizing the ROA as a dependent variable that encapsulates the broader financial health of an MFI.

## 2.5 Conceptual Framework

A conceptual framework is a fundamental structure outlining the essential concepts, theories, and relationships that a researcher employs to comprehend, analyze, and investigate their subject (Saunder, et al, 2016). The conceptual framework in this study was informed by the review of the literature and guided by the theoretical framework adopted.

Institutional-specified drivers, macroeconomic variables, and market-specified drivers were established as independent variables for this study with the dependent variable being financial performance. The constructs and their proxies were described visually by the conceptual framework in Figure 2.1 below using the author's source;

**Figure 2.1: Conceptual Framework**




**Source:** Author's source (2024)

### 2.5.1 Financial Performance

The concept of sustainability as earlier discussed in Chapter One has been generally explained as the ability to repeat performance through time. The sustainability of an MFI can be seen in several dimensions. According to Balkenhol (2007), financial sustainability connotes the key measurement of viability. Financial sustainability in this regard relates to MFIs' ability to generate profit from their core business; over and above their expenses. According to Balkenhol (2007), it also relates to MFIs achieving their social objective without the funding structure heavily skewed toward donations or grants. Lastly, sustainability relates to developing various approaches that best provide financial services to the unserved segment.

The ROA is an effective measure of profitability (Abebaw, 2014). The ratio illustrates the profits earned per unit of asset invested and indicates how effective management generates profit from its assets. Despite the biases the ROA poses by not considering off-balance sheet items, Abebaw (2014), explained how off-balance sheet activities are uncommon among MFIs. Therefore, as for the dependent variable for this study, the ROA was selected.

### 2.5.2 Drivers of Financial Performance of MFIs

According to Sima (2013), drivers of performance in institutions can resonate from numerous factors. MFI profitability can be expressed as a function of internal and external factors. Internal factors refer to management-controllable factors unique to an institution and external factors refer to factors beyond management's control and unique to market conditions or economic indicators (Sima, 2013). For this study, internal factors have been conceptualized as "institutional-specified drivers" whereas external factors have been conceptualized as "macroeconomic variables" and "market-specified drivers". The remaining paragraphs below explain how the drivers of the financial performance in DTMFIs were operationalized in this study.

#### 2.5.2.1 Institutional Specified Drivers

##### 2.5.2.1.1 Capital Adequacy

Capital adequacy in MFIs refers to the sufficiency of financial resources, particularly capital, to absorb potential losses and risks inherent in MFI operations. It also determines the robustness of an individual MFI to unexpected economic downturns. The capital adequacy ratio is a crucial measure to ensure the stability and sustainability of an MFI (Sima, 2013). According to Sima (2013)**,** MFIs with higher levels of capital perform better than their undercapitalized peers and pose less instability to the financial system. Therefore, for this study, the capital adequacy ratio (measured by total regulatory capital to total risk weight assets) was utilized as a proxy.

According to Muriu (2011), a study on the determinants of profitability of 210 MFIs concluded that profitability (measured by the ROA or ROE) had a positive association with capital adequacy (measured by equity to asset ratio). This was the case across different model specifications including external factors beyond management's control. Intuitively, capital serves as an indication that institutions that are adequately capitalized are prone to absorb unexpected losses or reduce their reliance on external funding.

##### 2.5.2.1.2 Quality of Loan Portfolio

The loan portfolio refers to a complete set of loans which can vary in size, type, and risk, held by an FSP licensed to provide credit facilities. The latter includes all outstanding loans. Alemayehu (2008), explained that a loan book is regarded as an MFI's largest financial asset; it is therefore viewed as the main revenue-generating

asset on the balance sheet. The same is true where the largest source of risk is concerned. The quality of the portfolio is an indication of the MFIs' asset quality (Alemayehu, 2008). High-quality assets have a lower risk of default and contribute to the financial strength of an institution and vice-versa. Therefore, the quality of a loan portfolio is a critical area for financial performance analysis especially for MFIs whose loans are not backed by adequate collateral.

Bekalu et al (2019), explicated in their empirical study that financial performance is affected negatively by credit risk. Their study findings supported the connotation that poor asset quality (measured by PAR) negatively impacts MFI profitability significantly. Thus, in this research study, PAR was selected as a proxy.

**$H_0$:** Institutional-specified drivers do not affect the financial performance of deposit-taking microfinance institutions in Zambia.

**$H_1$:** Institutional-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

#### 2.5.2.2 Macroeconomic Variables

##### 2.5.2.2.1 Inflation

A general indicator that measures the upward movement in the general prices of goods and services is inflation (Madura, 2013). This affects any currency's purchasing power positively or negatively. According to Madura (2013), inflation is often cited to be a significant determinant of profitability. The degree of influence inflation has on profitability is a function of the precise forecast executed by an institution's internal controls (Madura, 2013). If the rate of inflation is predicted precisely, an institution does not get substantially impacted unless otherwise. The same is true when forecasted with less precision. For this research study, the annual rate of inflation was used as a proxy to investigate whether financial performance could be affected in the context of the MFI sector.

**$H_0$:** Macroeconomic variables do not affect the financial performance of deposit-taking microfinance institutions in Zambia.

**$H_1$:** Macroeconomic variables affect the financial performance of deposit-taking microfinance institutions in Zambia.

#### 2.5.2.3 Market Specified Drivers

##### 2.5.2.3.1 Market Concentration of MFI

According to Abebaw (2014), market concentration refers to the extent to which a relatively small number of institutions dominate the total market for a particular product or service. Abebaw (2014), further explained that market concentration can be determined by the Herfindahl-Hirschman (H-H) index. To determine market concentration using the HH index, each institution's market share (proportioned to the industry's total assets) is squared and then summed up. A high concentration (one or greater) may indicate dominance by a few major players who lack competition and thus can set the price for financial services making it easy for them to be more profitable. A low concentration (zero or less) on the other hand suggests a more diverse and competitive market landscape lessening an MFI's profitability. For this research study, market concentration was used as a proxy and was measured by the H-H index.

**$H_0$:** Market-specified drivers do not affect the financial performance of deposit-taking microfinance institutions in Zambia.

**$H_1$:** Market-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

## 2.6 Chapter Summary

This chapter served as a basis for the current research by presenting the existing literature of knowledge. A review of empirical studies, gaps in literature, insights that informed the research hypotheses in the theoretical and conceptual framework were also outlined. The proceeding chapter described the research methodology adopted for data collection and analysis.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.0 Introduction

This chapter elucidated the research methodology; utilizing a specific approach to achieve the study objectives. In conjunction with the aforementioned, it detailed the research design, study population, sample size, sampling techniques, collection of data, data analysis techniques, and model specification.

## 3.1 Research Approach

Creswell and Creswell (2018), clarified that any approach is anchored on the inherent characteristic of a research problem or matter that necessitates resolution. In the realm of an investigative study, three forms of approach take precedence in social or business research (Creswell and Creswell, 2018). One form of approach is qualitative research which seeks the exploration or comprehension of subjective interpretations that people attribute to human and social problems. The second approach, quantitative research, seeks to uncover objective findings in the typical relation between independent and dependent variables. The third approach to inquiry, mixed methods research, quite simply incorporates both qualitative and quantitative approaches; on the premise of enhancing insights beyond the scope of what either approach provides solely.

Grounded in the positivist paradigm, which guides quantitative research by seeking objective truths in causal relationships and adding to the body of literature for subsequent tests, this study implemented a quantitative approach in an attempt to investigate what drives financial performance in DTMFIs in the context of Zambia.

## 3.2 Research Design

Creswell and Creswell (2009), asserted that within an approach lie strategies of inquiry that provide an explicit framework employed in the research study. The strategy of inquiry better known as the research design serves as the pillar of outlining all research activities, and thus selecting a suitable design ensures that research findings align with the research questions or hypothesis (Creswell and Creswell, 2009). In that regard, a longitudinal research design was implemented in this study. According to Creswell and

Creswell (2009), longitudinal (panel) data is best suited as it encompasses observations across various entities and periods allowing control over individual heterogeneity and time-specific effects. Overall, longitudinal research design offers a more nuanced and in-depth understanding of what drives certain outcomes over time.

### 3.3 Study Population

The target population constituted all DTMFIs in Zambia under the regulatory ambit of the BoZ. DTMFIs as at 31 October 2023 consisted of 7 DTMFIs (Bank of Zambia, 2023).

### 3.4 Sample Size

The sample size was made up of five DTMFIs namely; Bayport Financial Services Limited, Entrepreneurs Finance Centre (EFC), Madison Finance Company Limited (MFinance), FINCA Zambia Limited, and Vision Fund Zambia Limited. The remaining two DTMFIs namely; Microfinance Zambia Limited and Ecsponent Financial Services Limited were excluded due to the unavailability of consecutive data on published financial statements for the former and the latter's operations under the BoZ license are relatively new compared to the selected five whose data covered the 2015-2022 period.

### 3.5 Sampling Techniques

Techniques used when sampling refer to procedures involved when choosing an ample number of suitable elements from a study population to generalize their characteristics to that population (Sekran and Bougie, 2016). Convenience sampling is a non-probability sampling technique in which a researcher selects a sample based solely on the availability and accessibility of data or participants for inclusion in the research study (Sekran and Bougie, 2016). Convenience sampling was implemented in this study because the data obtained was based on information that was readily available to the researcher in the public domain.

The sampling process commenced when the researcher obtained the list of all DTMFIs registered on the BoZ website to ascertain the specific institutions regulated by the BoZ. The researcher then proceeded to collect quarterly financial statements or audited financial statements published by DTMFIs on newspapers and company websites for the past thirty-two quarters.

## 3.6 Data Collection and Instruments

Saunder et al (2016), indicated that research data can be primary and or secondary data. Aligned with the longitudinal research design adopted and the notion of dealing with panel data collected from multiple sources to generate a comprehensive data set, this research was therefore based on “multiple-source secondary data”. This was by way of published quarterly financial statements and published audited financial statements for institutional-specified drivers. As for market-specified drivers, this was obtained from the BoZ website which publishes every quarter, industry figures on the MFI sector (Bank of Zambia, 2023). Lastly, macroeconomic variables were based on data publicly available on the World Bank website (World Bank, 2023). In addition, other secondary data; published books, financial journals, and websites regarding this research study not mentioned explicitly were also utilized.

## 3.7 Data Analysis

To ascertain whether there was a relationship between institutional-specified drivers, macroeconomic variables, and market-specified drivers with financial performance, the study used panel data and analyzed the latter using descriptive statistics, correlation analysis, and multiple linear regression analysis on the E-VIEWS version 9 econometric software package.

Similar to Bekalu et al (2019), to ascertain the drivers affecting the financial performance of DTMFIs in Zambia, the model specification below was adopted in this study.

$$ROA_{i,t} = \alpha i + \beta 1(PAR)_{i,t} + \beta 2(CAR)_{i,t} + \beta 3(INF)_{i,t} + \beta 4(MKTC)_{i,t} + \mu_{i,t}$$

Where;

**ROA** $_{i,t}$ = Return on asset specific to DTMFI $i$ at time $t$

**αi** = The intercept term varying among DTMFIs but remaining constant

**μi, t** = Random error term

**β1 to β4** = Representing the coefficient of variables in this equation

**(PAR)**$_{i,t}$ = Portfolio at risk specific to DTMFI $i$ at the time $t$

**(CAR)**$_{i,t}$ = Capital adequacy specific to DTMFI $i$ at the time $t$

**(INF)**$_{i,t}$ = Inflation specific to DTMFI $i$ at the time $t$

**(MKTC)**$_{i,t}$ = Market concentration specific to DTMFI $i$ at the time $t$

## 3.8 Validity and Reliability

### 3.8.1 Validity

How precisely a process, technique, or instrument can measure a concept as it was originally intended to; is known as validity (Greener and Mareli, 2018). In the same way, Greener and Mareli (2018), expounded on validity as the accuracy with which data findings tally with research objectives.

The two forms of validity that helped guide this research were face and discriminant validity. While face validity provided an initial impression of the regression model's ability to measure the drivers of the financial performance of DTMFIs in Zambia; the subjective nature of it did not confirm the actual ability to measure the intended constructs accurately. Discriminant validity in contrast, through correlational analysis in the data analysis chapter, evaluated the extent to which different constructs (independent variables) in this study were distinct (did not correlate strongly) from one another. Discriminant validity ensured that the measurement instruments accurately captured unique aspects of the constructs investigated.

### 3.8.2 Reliability

According to Creswell and Creswell (2003), research must be auditable such that the reader can undertake the same method and produce consistent findings. In this study, to employ test-retest reliability was appropriate. test-retest reliability can be conducted at different times, under different conditions, or at the least, the method can be clear enough to instill confidence in the reader that the results were not manipulated in any form. As mentioned by Creswell and Creswell (2003), the measurement and observation cannot be valid if the study is not reliable.

## 3.9 Ethical Considerations

The data gathered was kept confidential and exclusively used for championing this research study. Moreover, the researcher was obliged to adhere to the Data Protection Act as well as acknowledge any data source used in this research. Consequently, the aim of this research was based on multiple-source secondary data in the public domain, and consent to collect this data ethically was sought by way of obtaining an ethical clearance form as required by the University of Lusaka to resolve any ethical anxieties.

## 3.10 Chapter Summary

This chapter outlined the research methodology that was utilized to accomplish the study's objectives. The target population and sampling design were also outlined. Furthermore, it provided a detailed framework for the necessary steps undertaken to collect and analyze relevant data. The succeeding chapter delineated the findings in addition to the interpretations.

# CHAPTER FOUR

# DATA ANALYSIS AND INTERPRETATION

## 4.0 Introduction

Following the methodology in the previous chapter, this chapter delineated the data analysis and interpretation. The main focus was centered on presenting data obtained from research findings. Once analyzed using E-VIEWS version 9, the study data was visually summarized through graphs, tables, and chart formats to deepen the understanding of the interpretations and the overall study.

Regarding the fundamental attributes of the data collected, descriptive statistics were utilized to summarize the samples' properties. The latter was also used to establish the groundwork for representing the data's indications visually.

## 4.1 Descriptive Statistics

The essence of a numerical summary was for easy assimilation. Summarizing a comprehensive set of data provides greater insights into a variable's patterns and properties. The main summary measures used in this study to describe the properties were standard deviation and range (measures of dispersion) for variability and mean and median (measures of central tendency) for location. Subsequently, Table 4.1 below depicts all descriptive statistics in this research study.

### 4.1.1 Capital Adequacy

As evidenced by the data analyzed in Table 4.1, sampled DTMFIs had on average 31.15 percent regulatory capital set aside during the period 2015 to 2022. The minimum value was 15 percent whereas the maximum was 61 percent and the standard deviation was 0.14. These results implied that the sampled institutions had on average, a strong capital position, well enough to alleviate probable losses that could be derived from financial and/or business risks. This indication also held when considering the median value of 26.5 percent which factored in the outliers in the data set. In addition, it is worth noting that the minimum prudential threshold set by the BoZ is 15 percent.

### 4.1.2 Quality of Portfolio

Concerning PAR, 9.2 percent of the loan portfolio on average was in arrears. This was satisfactory as it was slightly below the maximum threshold set by the BoZ at 10 percent. The latter indicated that default risk was moderately low which ultimately didn't affect the institutions' profitability significantly during the period under study. Aside from that, a deviation of 4.6 percent depicted some variability in the quality of the institutions' loan books. In addition, 19 and 1 percent represented the maximum and minimum values observed, implying the highest and lowest quality of the loan portfolio.

### 4.1.3 Inflation

As observed in Table 4.1 below, inflation during the period 2015 to 2022 was 12.5 percent on average with a median value of 10.5 percent; which was not within the target band of 6 to 8 percent set by the BoZ. A notable degree of dispersion of 5.2 percent implied that there was a deviation of inflation around the mean. The minimum value of 6.6 percent represented a point in 2017 when inflation was relatively at an all-time low. Due to the low inflationary pressure in 2017, the monetary policy rate (MPR) and statutory reserve ratio were observed to be declining to reduce the cost of funding and support credit growth. Conversely, data findings also revealed that in 2022, inflation was at a relatively all-time high as it stood at 22 percent. This signified high inflationary pressure in the commodity markets resulting in economic challenges. To add on, economic shocks such as the coronavirus-19 (COVID-19) also affected the economic landscape.

### 4.1.4 Market Concentration of DTMFIs

During the period 2015 to 2022, the level of concentration as measured by the H-H index depicted a high concentration in the market as 1.28 was recorded as the maximum value. The mean concentration was 1.23 during the period under study. An H-H index with a value over 0.01 translates to a less competitive environment prevailed by few companies, thus high market concentration amongst DTMFIs was experienced during the period. The minimum value of 1.15 represented some presence of a slightly more competitive market during the period. The findings ultimately contributed to the nuance of competitive dynamics with a moderate variation of 0.046.

### 4.1.5 Financial Performance

Table 4.1 revealed how the sampled institutions during the study period on average had an ROA of 2.46 percent. Moreover, 18.2 and negative 16 percent were the maximum and minimum values respectively. By way of indication, this implied that on average, the sampled DTMFIs gained 0.246 ngwee in every 1 kwacha invested during the period. Ultimately, the standard deviation of 8.28 implied variation in profits amongst sampled MFIs about the mean.

**Table 4. 1: Descriptive Statistics**

| | Mean | Median | Maximum | Minimum | Std. Dev. | Observations |
|---|---|---|---|---|---|---|
| **Independent Variable** | | | | | | |
| ROA | 2.4575 | 2 | 18.2 | -16 | 8.281177 | 40 |
| | | | | | | |
| **Dependent Variable** | | | | | | |
| PAR | 9.2 | 9 | 19 | 1 | 4.597658 | 40 |
| MKTC | 1.229644 | 1.242272 | 1.284164 | 1.145796 | 0.045634 | 40 |
| INF | 12.475 | 10.5 | 22 | 6.6 | 5.180523 | 40 |
| CAR | 31.15 | 26.5 | 61 | 15 | 14.89545 | 40 |

**Source:** E-Views 9 Output (2024)

## 4.2 Correlation Analysis

For this study, a correlation matrix was utilized to provide a snapshot of the association that exists between the ROA and capital adequacy, PAR, market concentration, and inflation. The correlation matrix also formed the basis for testing multicollinearity for the validity and reliability of the linear regression model.

**Table 4. 2: Pearson Correlation**

| | ROA | PAR | MKTC | INF | CAR |
|---|---|---|---|---|---|
| ROA | 1 | | | | |
| PAR | -0.12301 | 1 | | | |
| MKTC | -0.14612 | -0.02742 | 1 | | |
| INF | -0.08203 | 0.049197 | -0.39417 | 1 | |
| CAR | 0.612996 | -0.18503 | -0.1779 | 0.163699 | 1 |

**Source:** E-Views 9 Output (2024)

From Table 4.2 above, it was observed that PAR, market concentration, and inflation had negative correlation coefficients of 0.123, 0.146, and 0.082 respectively. The above described how a decrease or increase in one of the named independent variables could lead to an increase or decrease in the ROA. Capital adequacy, on the other hand, had a correlation coefficient of 0.61 and was the only variable that was positively associated with the ROA implying an association contrary to that of the aforementioned independent variables.

## 4.3 Test for Classical Linear Regression Model Assumptions

Classical assumptions were used to ensure the validity of the statistical inferences drawn from the regression analysis employed in this research. The following diagnostic tests were conducted to assess these assumptions.

### 4.3.1 Test for Multicollinearity Assumption

In this assumption, it is posited that the independent variables are orthogonal, which means that they are statistically independent and do not cause instability in the linear regression model. Thus, the pairwise correlation should not exceed 0.80 (Kenndy, 2008). Table 4.3 below depicted that multicollinearity was non-problematic.

**Table 4. 3: Test for Multicollinearity**

| | PAR | MKTC | INF | CAR |
|---|---|---|---|---|
| PAR | 1 | | | |
| MKTC | -0.02742 | 1 | | |
| INF | 0.049197 | -0.39417 | 1 | |
| CAR | -0.18503 | -0.1779 | 0.163699 | 1 |

**Source:** E-Views 9 Output (2024)

### 4.3.2 Test for Autocorrelation Assumption

In this assumption, it is posited that residuals in the time series model are not correlated serially across different time points but rather, linearly independent. To effectively test this assumption, the researcher utilized the Durbin-Watson (DW) test. The non-rejection region lay between 1.72 (dU) and 2.28 (4-dU); established by using the Durbin-Watson Table in Appendix II. As observed in Table 4.5, 1.84 was the DW statistic value in the research finding which was within the non-rejection region thus the assumption held.

### 4.3.3 Test for Homoscedasticity Assumption

This assumption pertains to the consistency of the variance in residuals across all independent variables. By using a Breusch-Pagan test, the null hypothesis “No cross-section dependence (correlation) in residuals” was tested. Table 4.4, revealed that the p-value of 0.0576 was slightly greater than the significance level of 0.05 entailing the insufficient evidence to reject the null hypothesis.

**Table 4. 4: Homoscedasticity**

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals
Equation: Untitled
Periods included: 8
Cross-sections included: 5
Total panel observations: 40
Cross-section effects were removed during estimation

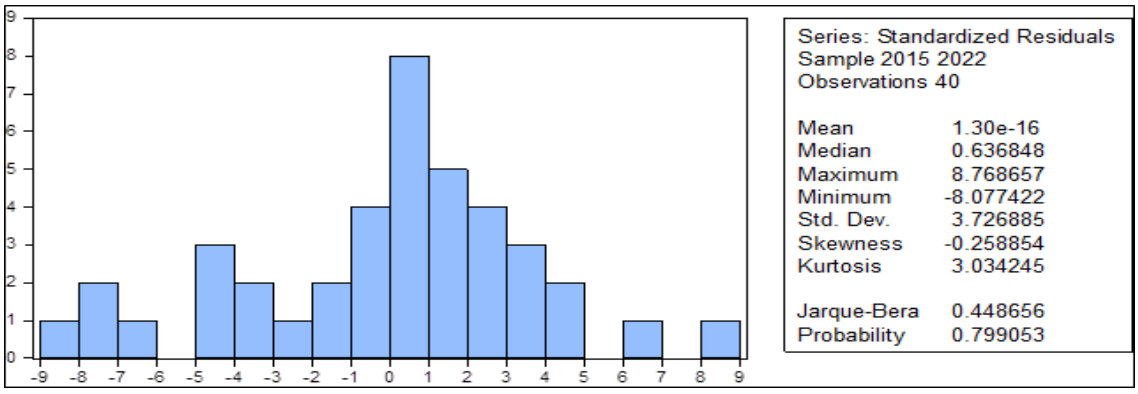
| Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Breusch-Pagan LM | 17.84662 | 10 | 0.0576 |
| Pesaran scaled LM | 0.636525 | | 0.5244 |
| Bias-corrected scaled LM | 0.279382 | | 0.7800 |
| Pesaran CD | 0.163841 | | 0.8699 |

**Source:** E-Views 9 Output (2024)

### 4.3.4 Test for Normality of Residuals Assumption

This assumption is based on the expectation that the distribution of residuals in a linear regression model follows a bell-shaped curve when plotted on a histogram. Thus, the null hypothesis posits that residuals are normally distributed. For this assumption to hold, the Bera-Jarque p-value should exceed 0.05. Study findings in Figure 4.1 revealed a Bera-Jarque p-value of 0.799 therefore, the null hypothesis was accepted.

**Figure 4. 1: Test for Normality**




**Source:** E-Views 9 Output (2024)

## 4.4 Regression Analysis

To fulfill the aim of the research study, multiple linear regression was utilized to model the relationship between ROA and CAR, PAR, market concentration, and inflation. To enhance precision, fixed effects were used to address company-specific characteristics. Additionally, this regression analysis was carried out at a significance level of 0.05.

**Table 4. 5: Regression Analysis Results**

Dependent Variable: ROA
Method: Panel Least Squares
Date: 01/12/24 Time: 11:41
Sample: 2015 2022
Periods included: 8
Cross-sections included: 5
Total panel (balanced) observations: 40

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 36.05089 | 22.30285 | 1.616425 | 0.1161 |
| PAR | -0.596251 | 0.175937 | -3.389001 | 0.0019 |
| MKTC | -26.62104 | 16.63918 | -1.599901 | 0.1198 |
| INF | -0.329549 | 0.145026 | -2.272345 | 0.0302 |
| CAR | 0.280502 | 0.106850 | 2.625190 | 0.0133 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.797461 | Mean dependent var | 2.457500 |
| Adjusted R-squared | 0.745193 | S.D. dependent var | 8.281177 |
| S.E. of regression | 4.180203 | Akaike info criterion | 5.893705 |
| Sum squared resid | 541.6971 | Schwarz criterion | 6.273703 |
| Log likelihood | -108.8741 | Hannan-Quinn criter. | 6.031100 |
| F-statistic | 15.25716 | Durbin-Watson stat | 1.837512 |
| Prob(F-statistic) | 0.000000 | | |

**Source:** E-Views 9 Output (2024)

As observed in Table 4.5 above, study findings revealed that regarding the drivers of the financial performance of sampled DTMFIs in Zambia, 79.7 percent of the variation is jointly derived from institutional specified and macroeconomic variables as explained by the R-squared statistic. On the other hand, 20.3 percent of the remaining variation was derived from other drivers that were not accounted for in this regression analysis. The p-value for the F-statistic was 0.0000 and affirmed the overall model, indicating that the drivers influencing the financial performance of sampled DTMFIs in Zambia were significant. In addition, the latter ultimately increased validity and reliability. Regarding the first null hypothesis which posited that institutional-specified drivers do not affect the financial performance of DTMFIs in Zambia, Table 4.5 revealed that the null hypothesis was rejected at p-values of 0.0019 and 0.0133, indicating evidence against it. Similarly, Table 4.5 indicated that the second null hypothesis, suggesting that macroeconomic variables do not affect the financial performance of DTMFIs in Zambia, was rejected at a p-value of 0.0302. However, Table 4.5 showed that the third null hypothesis, proposing that market-specified drivers do not affect the financial performance of DTMFIs in Zambia, was accepted, with a p-value of 0.1198.

## 4.5 Chapter Summary

This chapter presented the data analysis and interpretation of the research findings in alignment with the research's specific objectives of the study. The discussion of findings was delineated in the proceeding chapter.

# CHAPTER FIVE

# DISCUSSION OF FINDINGS

## 5.0 Introduction

This chapter delineated the findings following the presentation and interpretation provided in the preceding chapter. The discussion of the findings was grounded on providing insights and new understandings of the drivers of financial performance in Zambia.

## 5.1 Discussion of Research Findings

As stated in Chapter One, the main objective of this research was to investigate what drives the financial performance of microfinance institutions in the case of deposit-taking microfinance institutions in Zambia and add to the body of existing literature. To get to this objective, the following specific objectives were formulated;

1. To establish whether institutional-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

2. To ascertain whether macroeconomic variables affect the financial performance of deposit-taking microfinance institutions in Zambia.

3. To determine whether market-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia.

Based on the aforementioned specific objectives, study findings established that institutional-specified drivers affected financial performance positively and negatively. In addition, the macroeconomic environment also negatively affected the financial performance of DTMFIs in Zambia. On the contrary, market-specified drivers did not affect the financial performance of DTMFIs in Zambia as research data did not provide substantive evidence in support of market concentration.

Institutional-specified drivers proxied by PAR and capital adequacy are, according to research findings, drivers of the financial performance of sampled DTMFIs in Zambia. PAR had a coefficient of negative 0.596 and was statistically significant at 0.0019 which implied that when the value of PAR increases, profitability is affected which reduces the

financial performance of the DTMFI. This finding was aligned with Sima (2013), Nyamsogoro (2010), Tehulu (2013), and Bekalu et al (2019). Capital adequacy, on the contrary, had a coefficient of 0.280; statistically significant with a p-value of 0.0133. This suggested that maintaining a healthy capital base is advantageous for DTMFIs as there is a proportionate increase in the ROA which boosts financial performance. This finding was congruent with Muriu (2011), and Ngumo and Collions (2017). However, the same finding was inconsistent with Abebaw (2014), whose data was revealed to be statistically insignificant, and Sima (2013), who revealed that aside from capital adequacy having a negative coefficient of 0.029, the explanatory variable was insignificant at 0.43. Therefore, based on the research findings, the null hypothesis; institutional-specified drivers do not affect the financial performance of deposit-taking microfinance institutions in Zambia was rejected and the alternative hypothesis which stated that institutional-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia was accepted.

Macroeconomic variables proxied by the annual rate of inflation were found to be a driver of the financial performance of sampled DTMFIs in Zambia with a negative coefficient of 0.329. The research findings depicted that inflation was statistically significant at 0.030 which was contrary to Muriu (2011), and Bekalu et al (2019), who established inflation as statistically insignificant at 0.357. Therefore, based on the study findings, the null hypothesis; macroeconomic variables do not affect the financial performance of deposit-taking microfinance institutions in Zambia was rejected and the alternative hypothesis which stated that macroeconomic variables affect the financial performance of deposit-taking microfinance institutions in Zambia was accepted.

Market-specified drivers proxied by market concentration were found to be statistically insignificant at 0.1198 with a negative coefficient of 26.62. This finding was aligned with Abebaw (2014), who established a p-value of 0.105 and a negative coefficient of 0.866. Based on the research findings for the study period under review, an increase in market concentration had adverse implications on the institutions' profitability however, there was not enough evidence to support this hypothesis. Therefore, based on research findings, the null hypothesis; market-specified drivers do not affect the financial performance of deposit-taking microfinance institutions in Zambia was accepted and the alternative hypothesis which stated that market-specified drivers affect the financial performance of deposit-taking microfinance institutions in Zambia was rejected.

## 5.2 Contributions to Existing Knowledge

In Chapter One, it was explained that numerous studies were conducted to assert what drives the financial performance of MFIs. Despite drawing on experiences from sizable and well-established MFIs from different countries, findings have remained inconclusive. Moreover, in as much as certain institutional-specified drivers were found to be significant, the same factors affecting financial performance were insignificant in other economies across other studies. In addition, not much emphasis was placed on macroeconomic variables and market-specified drivers as probable drivers. Thus, this study intended to contribute to the existing literature within the context of Zambia.

Firstly, capital adequacy showed that well-capitalized institutions are prone to increase their profitability as compared to those institutions that are under-capitalized. Having sufficient capital allows institutions to disburse more credit facilities and expand their asset portfolio.

Secondly, the loan portfolio quality depicted a relationship with financial performance which was stated to be negative. This is in and of itself something that is expected as an increase in PAR erodes the interest income generated from DTMFI operations as institutions are required to set aside a provision for loan losses from either their revenues or regulatory capital. This adversely has a bearing on the ROA, limiting the institution's capacity to leverage its assets effectively, and impeding its capacity to channel resources back into the community it serves.

Thirdly, research findings established that not only institutional-specified drivers but also macroeconomic factors such as inflation impact the financial performance of DTMFIs in Zambia. Contrary to this, the market-specified drivers were observed to have no evidence in support of their influence on the financial performance of DTMFIs in Zambia. Thus, grounded on substantial empirical evidence, it can be said that research findings aligned with the overarching objective of the research study and added to the existing literature in the Zambian context.

## 5.3 Chapter Summary

This chapter discussed the findings from the data analysed and further gave insight into the drivers of financial performance in Zambia. The succeeding chapter presented the conclusions and recommendations for this research study.

# CHAPTER SIX

# CONCLUSIONS AND RECOMMENDATIONS

## 6.0 Introduction

This chapter provided the conclusions and recommendations derived from the discussion of findings in the preceding chapter. It aimed to conclude, in the Zambian context, what drives financial performance in DTMFIs. Furthermore, it also aimed to propose recommendations to relevant stakeholders such as policymakers to further channel their efforts into ensuring DTMFIs are financially sustainable to achieve the overarching goal of alleviating poverty.

## 6.1 Research Conclusion

MFIs are recognized as a feasible means of alleviating poverty. They incorporate the notion of having an inclusive financial system that enables the unserved segment to be more economically active. This includes the poor (especially the youths and women), enterprises of a micro nature, and the unemployed who have been excluded by conventional FSPs. The field of microfinance has progressed in its approach from the provisioning of microcredit to providing a variety of beneficial services including non-financial services to low-income individuals. Notwithstanding the substantial efforts made by MFIs, one of the most notable concerns of researchers and stakeholders alike is the imperative need for MFIs to maintain financial sustainability. This study served the purpose of investigating what drives the financial performance of DTMFIs in Zambia. Based on study findings, capital adequacy, PAR, and the annual rate of inflation were found to be major contributors. Thus, to have a more enabling environment that contributes to poverty reduction and economic growth, more structures need to be put in place to ensure that aside from being financially sound, MFIs are also financially sustainable.

## 6.2 Recommendations for Policymakers and DTMFIs

Policymakers should engage in more financial literacy programs not only aimed at educating individuals or institutions on the importance of accessing financial services but also at understanding the implications of macroeconomic variables such as inflation and risk management on MFIs. In addition, given the sensitivity to inflation, institutions

and policymakers should together engage in more proactive macroeconomic scenario-based planning. This should ideally involve effectively modeling various inflation scenarios to evaluate the probable impact on financial performance prompting the development of contingency plans to navigate the adverse economic conditions.

MFIs should ensure continuous training for their staff because the human element is virtual when it comes to risk management. Staff, particularly credit personnel, should be at all times well-trained to assess and manage risks efficiently. This also includes portfolio management, risk assessment, and adhering to regulatory standards set by policymakers such as the Bank of Zambia.

### 6.3 Limitations of the Study and Future Recommendations

The major theme regarding limitations in this research was centered on the unavailability of information in different aspects. Firstly, the researcher was confined from including Microfinance Zambia Limited and Ecsponent Financial Services Limited which would have completed the whole study population as opposed to the actual sample utilized. As stated in the methodology chapter, the exclusion was due to the unavailability of consecutive data for the former, and the latter's operations under the BoZ license being relatively new compared to the selected five whose data covered the 2015 to 2022 period. However, using the rule of thumb, when sampling, five out of seven (71.4 percent) was still an acceptable sample size for this study. The second hindrance due to the unavailability of information was based on the researcher being limited from including other variables such as average loan balance, borrowers per loan officer, cost per borrower, or percentage of women borrowers. Institutional-specified factors driving financial performance should not only be based on parameters such as capital adequacy and or PAR. It must also include factors relating to MFI operations as per their mandate to alleviate poverty. These variables were excluded as data was not easily attainable at the time nor explicitly made available to the public domain.

The third hindrance due to the unavailability of information was based on the scope of the study. This study was confined to DTMFIs who when compared to NDTMFIs are the minority as the latter are comprised of approximately 26 institutions as at 31 October 2023. Unlike DTMFIs, NDTMFIs are not mandated even by law to publish their financials unless in certain instances such as donor-oriented NDTMFIs. The rationale for this is that when compared to DTMFIs, the act of mobilizing deposits necessitates the need to

consistently keep the public informed and depositors' interests safeguarded. NDTMFIs on the other hand rely on shareholder funding and borrowings from various credit providers thus, it is of the understanding that such stakeholders are aware of the risks involved in such activities. Consequently, findings in this research may be challenging to generalize to the whole MFI sector despite DTMFIs holding the largest portion of the market share by total assets. In addition, another drawback besides the unavailability of information was based on the DTMFIs themselves. Not all of the DTMFIs involved at the time of this study were driven by the need to provide financial services to the poor. For instance, some institutions unlike FINCA were payroll lending oriented which ideally, still excluded the economically disadvantaged as the latter limited the degree to which the DTMFIs could serve the informal sector.

All in all, for future studies on this research topic, it is hoped that with more time and resources, further investigations can be inclusive of NDTMFIs and sampled in proportion to the whole MFI sector which will include more desirous variables focused on MFI core operations of poverty reduction.

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## APPENDICES

**Appendix I:** Secondary Data (Source: Published Audited Financial Statements, Published Quarterly Financial Statements, World Bank Website and BoZ Website)

| INSTITUTION | YEAR | PAR | CAR | ROA | INF | MKTC |
|---|---|---|---|---|---|---|
| FINCA | 2015 | 5 | 21 | 2 | 10.1 | 1.26 |
| FINCA | 2016 | 6 | 20 | 3 | 17.9 | 1.27 |
| FINCA | 2017 | 7 | 21 | 2 | 6.6 | 1.28 |
| FINCA | 2018 | 7 | 16 | 1 | 7.5 | 1.25 |
| FINCA | 2019 | 11 | 21 | -3 | 9.1 | 1.24 |
| FINCA | 2020 | 16 | 18 | -16 | 15.7 | 1.21 |
| FINCA | 2021 | 10 | 28 | -9 | 22 | 1.18 |
| FINCA | 2022 | 3 | 25 | 6 | 10.9 | 1.15 |
| MADISON | 2015 | 11 | 22 | -3 | 10.1 | 1.26 |
| MADISON | 2016 | 10 | 16 | 2 | 17.9 | 1.27 |
| MADISON | 2017 | 12 | 15 | 2 | 6.6 | 1.28 |
| MADISON | 2018 | 12 | 15 | 8 | 7.5 | 1.25 |
| MADISON | 2019 | 11 | 15 | 3 | 9.1 | 1.24 |
| MADISON | 2020 | 18 | 15 | -4 | 15.7 | 1.21 |
| MADISON | 2021 | 17 | 15 | 1 | 22 | 1.18 |
| MADISON | 2022 | 19.0 | 17.0 | 2.0 | 10.9 | 1.15 |
| VISION FUND | 2015 | 4.0 | 35.0 | 0.3 | 10.1 | 1.26 |
| VISION FUND | 2016 | 13.0 | 37.0 | -1.2 | 17.9 | 1.27 |
| VISION FUND | 2017 | 17.0 | 39.0 | -12.7 | 6.6 | 1.28 |
| VISION FUND | 2018 | 13.0 | 20.0 | -9.9 | 7.5 | 1.25 |
| VISION FUND | 2019 | 2.0 | 19.0 | -9.1 | 9.1 | 1.24 |
| VISION FUND | 2020 | 3.0 | 50.0 | -1.9 | 15.7 | 1.21 |
| VISION FUND | 2021 | 1.0 | 53.0 | 3.2 | 22 | 1.18 |
| VISION FUND | 2022 | 1.0 | 38.0 | 2.7 | 10.9 | 1.15 |
| BAYPORT | 2015 | 5.0 | 42.0 | 11.8 | 10.1 | 1.26 |
| BAYPORT | 2016 | 8.0 | 51.0 | 9.3 | 17.9 | 1.27 |
| BAYPORT | 2017 | 9.0 | 61.0 | 18.2 | 6.6 | 1.28 |
| BAYPORT | 2018 | 10.0 | 55.0 | 17.7 | 7.5 | 1.25 |
| BAYPORT | 2019 | 9.0 | 42.0 | 16.5 | 9.1 | 1.24 |
| BAYPORT | 2020 | 12.0 | 60.0 | 10.5 | 15.7 | 1.21 |
| BAYPORT | 2021 | 14.0 | 60.0 | 16.6 | 22 | 1.18 |
| BAYPORT | 2022 | 12.0 | 55.0 | 17.1 | 10.9 | 1.15 |
| EFC | 2015 | 6.0 | 28.0 | 0.6 | 10.1 | 1.26 |
| EFC | 2016 | 6.0 | 20.0 | -9.9 | 17.9 | 1.27 |
| EFC | 2017 | 9.0 | 25.0 | 1.1 | 6.6 | 1.28 |
| EFC | 2018 | 10.0 | 20.0 | 0.1 | 7.5 | 1.25 |
| EFC | 2019 | 7.0 | 34.0 | 5.4 | 9.1 | 1.24 |
| EFC | 2020 | 6.0 | 31.0 | 3.0 | 15.7 | 1.21 |
| EFC | 2021 | 9.0 | 32.0 | 3.6 | 22 | 1.18 |
| EFC | 2022 | 7.0 | 39.0 | 8.3 | 10.9 | 1.15 |

**Appendix II:** Durbin-Watson Table

| α = .05 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | k = 1 | | k = 2 | | k = 3 | | k = 4 | | k = 5 | |
| n | dL | dU | dL | dU | dL | dU | dL | dU | dL | dU |
| 6 | 0.61 | 1.4 | | | | | | | | |
| 7 | 0.7 | 1.36 | 0.47 | 1.9 | | | | | | |
| 8 | 0.76 | 1.33 | 0.56 | 1.78 | 0.37 | 2.29 | | | | |
| 9 | 0.82 | 1.32 | 0.63 | 1.7 | 0.46 | 2.13 | 0.3 | 2.59 | | |
| 10 | 0.88 | 1.32 | 0.7 | 1.64 | 0.53 | 2.02 | 0.38 | 2.41 | 0.24 | 2.82 |
| 11 | 0.93 | 1.32 | 0.66 | 1.6 | 0.6 | 1.93 | 0.44 | 2.28 | 0.32 | 2.65 |
| 12 | 0.97 | 1.33 | 0.81 | 1.58 | 0.66 | 1.86 | 0.51 | 2.18 | 0.38 | 2.51 |
| 13 | 1.01 | 1.34 | 0.86 | 1.56 | 0.72 | 1.82 | 0.57 | 2.09 | 0.45 | 2.39 |
| 14 | 1.05 | 1.35 | 0.91 | 1.55 | 0.77 | 1.78 | 0.63 | 2.03 | 0.51 | 2.3 |
| 15 | 1.08 | 1.36 | 0.95 | 1.54 | 0.82 | 1.75 | 0.69 | 1.97 | 0.56 | 2.21 |
| 16 | 1.1 | 1.37 | 0.98 | 1.54 | 0.86 | 1.73 | 0.74 | 1.93 | 0.62 | 2.15 |
| 17 | 1.13 | 1.38 | 1.02 | 1.54 | 0.9 | 1.71 | 0.78 | 1.9 | 0.67 | 2.1 |
| 18 | 1.16 | 1.39 | 1.05 | 1.53 | 0.93 | 1.69 | 0.92 | 1.87 | 0.71 | 2.06 |
| 19 | 1.18 | 1.4 | 1.08 | 1.53 | 0.97 | 1.68 | 0.86 | 1.85 | 0.75 | 2.02 |
| 20 | 1.2 | 1.41 | 1.1 | 1.54 | 1 | 1.68 | 0.9 | 1.83 | 0.79 | 1.99 |
| 21 | 1.22 | 1.42 | 1.13 | 1.54 | 1.03 | 1.67 | 0.93 | 1.81 | 0.83 | 1.96 |
| 22 | 1.24 | 1.43 | 1.15 | 1.54 | 1.05 | 1.66 | 0.96 | 1.8 | 0.96 | 1.94 |
| 23 | 1.26 | 1.44 | 1.17 | 1.54 | 1.08 | 1.66 | 0.99 | 1.79 | 0.9 | 1.92 |
| 24 | 1.27 | 1.45 | 1.19 | 1.55 | 1.1 | 1.66 | 1.01 | 1.78 | 0.93 | 1.9 |
| 25 | 1.29 | 1.45 | 1.21 | 1.55 | 1.12 | 1.66 | 1.04 | 1.77 | 0.95 | 1.89 |
| 26 | 1.3 | 1.46 | 1.22 | 1.55 | 1.14 | 1.65 | 1.06 | 1.76 | 0.98 | 1.88 |
| 27 | 1.32 | 1.47 | 1.24 | 1.56 | 1.16 | 1.65 | 1.08 | 1.76 | 1.01 | 1.86 |
| 28 | 1.33 | 1.48 | 1.26 | 1.56 | 1.18 | 1.65 | 1.1 | 1.75 | 1.03 | 1.85 |
| 29 | 1.34 | 1.48 | 1.27 | 1.56 | 1.2 | 1.65 | 1.12 | 1.74 | 1.05 | 1.84 |
| 30 | 1.35 | 1.49 | 1.28 | 1.57 | 1.21 | 1.65 | 1.14 | 1.74 | 1.07 | 1.83 |
| 31 | 1.36 | 1.5 | 1.3 | 1.57 | 1.23 | 1.65 | 1.16 | 1.74 | 1.09 | 1.83 |
| 32 | 1.37 | 1.5 | 1.31 | 1.57 | 1.24 | 1.65 | 1.18 | 1.73 | 1.11 | 1.82 |
| 33 | 1.38 | 1.51 | 1.32 | 1.58 | 1.26 | 1.65 | 1.19 | 1.73 | 1.13 | 1.81 |
| 34 | 1.39 | 1.51 | 1.33 | 1.58 | 1.27 | 1.65 | 1.21 | 1.73 | 1.15 | 1.81 |
| 35 | 1.4 | 1.52 | 1.34 | 1.58 | 1.28 | 1.65 | 1.22 | 1.73 | 1.16 | 1.8 |
| 36 | 1.41 | 1.52 | 1.35 | 1.59 | 1.29 | 1.65 | 1.24 | 1.73 | 1.18 | 1.8 |
| 37 | 1.42 | 1.53 | 1.36 | 1.59 | 1.31 | 1.66 | 1.25 | 1.72 | 1.19 | 1.8 |
| 38 | 1.43 | 1.54 | 1.37 | 1.59 | 1.32 | 1.66 | 1.26 | 1.72 | 1.21 | 1.79 |
| 39 | 1.43 | 1.54 | 1.38 | 1.6 | 1.33 | 1.66 | 1.27 | 1.72 | 1.22 | 1.79 |
| 40 | 1.44 | 1.54 | 1.39 | 1.6 | 1.34 | 1.66 | 1.29 | 1.72 | 1.23 | 1.79 |
| 45 | 1.48 | 1.57 | 1,43 | 1.62 | 1.38 | 1.67 | 1.34 | 1.72 | 1.29 | 1.78 |
| 50 | 1.5 | 1.59 | 1.46 | 1.63 | 1.42 | 1.67 | 1.38 | 1.72 | 1.34 | 1.77 |
| 55 | 1.53 | 1.6 | 1.49 | 1.64 | 1.45 | 1.68 | 1.41 | 1.72 | 1.38 | 1.77 |
| 60 | 1.55 | 1.62 | 1.51 | 1.65 | 1.48 | 1.69 | 1.44 | 1.73 | 1.41 | 1.77 |
| 65 | 1.57 | 1.63 | 1.54 | 1.66 | 1.5 | 1.7 | 1.47 | 1.73 | 1.44 | 1.77 |
| 70 | 1.58 | 1.64 | 1.55 | 1.67 | 1.52 | 1.7 | 1.49 | 1.74 | 1.46 | 1.77 |
| 75 | 1.6 | 1.65 | 1.57 | 1.68 | 1.54 | 1.71 | 1.51 | 1.74 | 1.49 | 1.77 |
| 80 | 1.61 | 1.66 | 1.59 | 1.69 | 1.56 | 1.72 | 1.53 | 1.74 | 1.51 | 1.77 |
| 85 | 1.62 | 1.67 | 1.6 | 1.7 | 1.57 | 1.72 | 1.55 | 1.75 | 1.52 | 1.77 |
| 90 | 1.63 | 1.68 | 1.61 | 1.7 | 1.59 | 1.73 | 1.57 | 1.75 | 1.54 | 1.78 |
| 95 | 1.64 | 1.69 | 1.62 | 1.71 | 1.6 | 1.73 | 1.58 | 1.75 | 1.56 | 1.78 |
| 100 | 1.65 | 1.69 | 1.63 | 1.72 | 1.61 | 1.74 | 1.59 | 1.76 | 1.57 | 1.78 |
| 150 | 1.72 | 1.75 | 1.71 | 1.76 | 1.69 | 1.77 | 1.68 | 1.79 | 1.66 | 1.8 |
| 200 | 1.76 | 1.78 | 1.75 | 1.79 | 1.74 | 1.8 | 1.73 | 1.81 | 1.72 | 1.82 |

**Appendix III:** Ethical Clearance

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## UNILUS-RESEARCH ETHICS COMMITTEE

Ref no: FWA00033228-4401/24

Date: 5th January 2024

**STUDENT NAME: CHAWANZI SAKALA**

**A STUDY ON THE DRIVERS OF FINANCIAL PERFORMANCE OF MICRO-FINANCE INSTITUTIONS: A CASE OF DEPOSIT TAKING MICRO-FINANCE INSTITUTIONS IN ZAMBIA**

The above research was submitted to the research ethics committee for review. The study has no major ethical problems and is approved subject to the following:

1. The study cannot be changed without express permission of the UNILUS research ethics committee.

2. Approval from the necessary authority should be sought.

**Congratulations and the committee wishes you success in your work.**

**Professor Kasonde Bowa**
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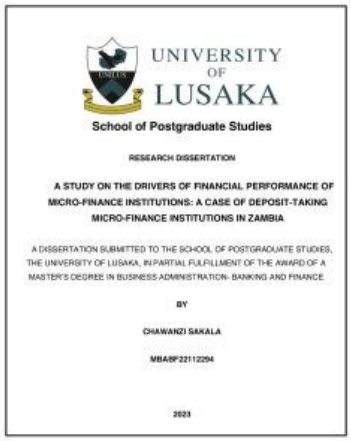

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A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, THE UNIVERSITY OF LUSAKA, IN PARTIAL FULFILLMENT OF THE AWARD OF A MASTER'S DEGREE IN BUSINESS ADMINISTRATION- BANKING AND FINANCE

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