The influence of international ownership on the performance of microfinance institutions

Samuel Anokye Nyarko
&
Linda Nakato

Supervisor

Roy Mersland

This master's thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

University of Agder, 2016

School of Business and Law

DECLARATION

We declare that this master thesis is our own effort and that, to the best of our knowledge, it does not contain materials previously published by other person(s) neither does it contain materials which have been submitted by any person(s) to the University of Agder or any other university for the award of any degree, except where we have made acknowledgement in the text.

ACKNOWLEDGEMENTS

It will be a gross ingratitude if we selfishly take all the credit for the successful accomplishment of the task of writing this thesis without acknowledging and appreciating special persons who variously contributed.

First and foremost, we are appreciative to the Almighty God for his help, protection, providence and unflinching love towards us throughout the two years of our studies and for seeing us through the writing of this thesis.

Secondly, we are especially grateful to our supervisor, Professor Roy Mersland, for his sound guidance, counseling and immense support in various ways. His timely directions were valuable in sharpening our ideas and were also vital for the successful completion of this thesis.

Thirdly, we appreciate the help of Kwame Ohene Djan, a PhD student at University of Agder who worked closely with us to have this thesis successfully completed. His suggestions were useful for improving the quality of our work. We also thank him for proofreading the entire work and for his constructive criticisms and useful comments.

Fourthly, we express our heartfelt gratitude to Stephen Zamore, a PhD student at University of Agder for his kind assistance and for proofreading the entire thesis. We appreciate all his comments and suggestions. God bless him.

Fifthly, we say thank you to Celeste Ximena De la Huerta Nunez, an assistant to Roy Mersland who helped us in correcting errors in the data.

Sixthly, we are thankful to the staff (both teaching non-teaching) of University of Agder and all other persons who contributed to our two years of study.

Finally, our profound thanks go to the Norwegian government for funding the cost of our two years stay and education in Norway through the Norwegian State Educational Loan Fund (Statens Lånekasse for Utdanning).

LIST OF ABBREVIATIONS

MFI(s)	Microfinance Institution(s)
ROE	Return on Equity
GDP	Gross Domestic Product
CEO	Chief Executive Officer
NGO	Non-Governmental Organization
OLS	Ordinary Least Squares

FOREWORD

This thesis is written towards the completion of the Master of Science degree in Business Administration at the University of Agder. The degree relates to a specialization in International Management. The topic of this thesis, "the influence of international ownership on the performance of microfinance institutions", agrees with the subject matter of this specialization as we seek to establish the relationship between international ownership (presence of international shareholders) and the financial performance of Microfinance Institutions. In addition, the thesis identifies specific characteristics that are possessed by Microfinance Institutions that have international shareholders.

We have included a reflective note that touches on three broader themes (i.e. internationalization, innovation and responsibility). These themes are essential areas for a professional in Business Administration today. This reflective note details how the main theme and findings of this thesis relate to the three broad themes of internationalization, innovation and responsibility. This reflective note is enclosed in appendix VI.

ABSTRACT

The microfinance industry is experiencing rapid growth and financing this growth is a legitimate concern. During the past decade, international commercial funding in the form of international equity and debt has played a remarkable role in this regard. Until now, microfinance research that focus on the performance implications of international funding of MFIs is inadequate even though microfinance literature is voluminous. Our study focuses on the presence of international shareholders in microfinance institutions. Using data from 148 Microfinance Institutions (MFIs) in 51 countries, we empirically determine MFI characteristics that relate to presence of international shareholders. We also investigate the influence of international shareholders on the overall financial performance of MFIs and operating cost. We find that 53% of MFIs that are shareholder owned have international shareholders. This reiterates that there is a growing international equity funding for MFIs and that international equity is playing a remarkable role in financing the rising growth of the microfinance industry. Concerning the characteristics of MFIs, we find that shareholder MFIs that have international shareholders have high international orientation. Also, these MFIs often use village banking lending methodology, have higher outreach in terms of number of credit clients and usually serve urban markets. Regarding financial performance, we find that MFIs that have international shareholders are less profitable and less efficient in terms of ROE and ratio of cost to income respectively. We therefore conclude that the presence of international shareholders has a negative influence on overall financial performance of MFIs. In addition, MFIs that have international shareholders have higher operating cost profiles in the form of administrative and personnel costs. These findings are robust and as well, they are empirically and theoretically supported. The findings should however be generalized with caution. This is because, as literature suggests, performance improvements that result from having international shareholders may take time to realize and as well operating costs may be low in later years due to learning effects.

Key words: Internationalization, microfinance institutions, international shareholder, performance

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE

GENERAL INTRODUCTION

In this master thesis, we investigate the influence of international shareholders on the overall financial performance and operating cost of Microfinance Institutions (MFIs) as well as the specific characteristics of MFIs that have international shareholders. Previous microfinance research suggest that the type of ownership and capital structure may affect the performance of MFIs (Bogan, 2008; Tchakoute-Tchuigoua, 2010). But does the identity and origin (local or international) of the shareholders matter at all? Do MFIs with international shareholders differ in characteristics from those without international shareholders? We are of the opinion that MFIs that have international shareholders may possess certain specific characteristics. Also, international shareholders may influence governance and operations in ways that affect performance of MFIs.

Since 2005, there has been increasing participation of international equity investors in funding MFIs in many developing countries (Lützenkirchen and Weistroffer, 2012). Since additional local funding is often inadequate or sometimes unavailable, the international equity funding window could be deemed necessary to contribute to the financing of the rising growth of the microfinance industry (Swanson, 2007). However, the coming on board of international shareholders in the fairly young and growing industry raises important policy and practical questions for both policy makers and international shareholders. For policy makers in the industry, it is imperative to ask: should MFIs have international shareholders at all? Do MFIs benefit in any way from having international shareholders? International equity investors may also have to quiz themselves if they provide much benefits to MFIs in which they have invested. Assaying to provide answers to these all-important policy questions, our study would be useful to many MFIs, policy makers in the microfinance industry and international equity investors in the industry.

Our research is founded on three theories; agency theory, resource based theory and liability of foreignness. In the heart of the agency theory is the agency problem. This problem is commonplace in firms characterized by separation of ownership and management. The theory predicts that due to the possible divergence of the interest of owners (shareholders) and managers, firms bedeviled by the problem would show poor performance. In the real world, separation of ownership and management is inevitable in certain entities and hence good governance, which could be realized with the presence of international shareholders, could serve as a possible remedy to the agency

problem. Previous research find that foreign ownership in banks improves governance, fosters the imposition of governance reforms that improve performance and helps in realigning corporate governance practices to protect shareholders and reduce agency costs (Williams & Nguyen, 2005; Yoshikawa & Phan, 2001; Heugens, Van Essen & van Oosterhout, 2009; Yoshikawa & Phan, 2003). International shareholders influence governance by securing board representation and through informal dialogues with management (Berger, Hasan & Zhou, 2009; Ahmadjian, 2007). Management is convinced of shareholders' interests through these means (Berger et al. 2009).

The resource based theory explains the competitive advantage of firms based on the quality, uniqueness and rarity of resources such firms possess. This theory predicts that generally, firms having superior resources would earn superior profits and elicit superior performance. International shareholders could be important resources (due to their capital, knowledge and governance skills) or even serve as links to important resources (García-Herrero & Santabárbara, 2008; Heugens et al., 2009). They may also enhance board activities through other capabilities they possess such as superior risk management skills, good monitoring skills, knowledge and technology (Berger et al., 2009; García-Herrero & Santabárbara, 2008; Sturm & Williams, 2004; Khanna & Palepu, 1999; Heugens et al., 2009). Berger et al. (2009) assert that international shareholders usually transfer these capabilities they possess into firms in which they invest. Therefore, drawing on the resource based theory, we suppose that MFIs with international shareholders may perform better compared to their counterparts with only domestic owners.

However, international shareholders may not influence the performance in anyway or even affect the same negatively due to the effect of liability of foreignness. Over the years, the theory of liability of foreignness has proved powerful in explaining the failure of some foreign investments by companies. Foreign investors in the banking industry could be plagued by liability of foreignness and as well, inefficiencies in foreign owned banks could be attributed to reasons of liability of foreignness (Miller & Parkhe, 2002; Lensink, Meesters & Naaborg, 2008). Therefore, based on this theory, international shareholders may influence performance negatively. The theory of liability of foreignness predicts an outcome which is opposite to that of resource based theory.

In the mainstream banking industry, studies have shown that foreign ownership improves overall profitability and efficiency especially in terms of ROA, ROE and cost to operating income (Berger et al., 2009; Lin & Zhang, 2009; Bonin, Hasan & Wachtel, 2005). Improvements in governance,

efficiency, asset quality, and capitalization serve as the main channels through which foreign equity investors affect performance of banks in which they have invested (García-Herrero & Santabárbara, 2008; Crystal, Dages & Goldberg, 2001; Heugens et al., 2009). These improvements are high if the foreign owners are strategic investors (Bonin et al., 2005; Claessens & Djankov, 1999). Also, the benefits and performance improvements from foreign ownership may take a longer time to realize (Williams & Nguyen, 2005). The findings of some studies however suggest that the mere presence of foreign owners is not important and does not affect performance but increasing foreign ownership and sometimes, the combination of foreign ownership and foreign directorship positively relates to performance of banks (Yoshikawa & Phan, 2003; García-Herrero & Santabárbara, 2008; Choi & Hasan, 2005).

Other studies rather find that foreign ownership and rising foreign ownership is negatively related to the financial performance and efficiency of banks (Lensink & Naaborg, 2007; Berger, Clarke, Cull, Klapper & Udell, 2005; Lensink et al., 2008; Unite & Sullivan, 2003). The negative effect of foreign owners is worse in countries with bad governance practices (Lensink et al., 2008). Sturm & Williams (2004) and Crystal, Dages & Goldberg (2002) could not find significant differences between the performances of banks with international owners and those without international owners. Overall, there is mixed evidence regarding the relationship between international ownership and performance in the mainstream banking industry.

MFIs are internationalizing through investment and are also affected by other international influences. Mersland, Randøy and Strøm (2011) study the impact of international influence on the performance of MFIs and find that the internationalization of MFIs enhances social performance but not financial performance. Mori, Randøy & Golesorkhi, (2013) also conclude that international influence drives board independence in MFIs. Meanwhile board independence could lead to better performance in MFIs (Hartarska, 2005). According to Mersland and Urgeghe (2013) MFIs' access to international commercial debt relates to performance. What about access to international equity? Since international debt and equity are both foreign funding sources for MFIs, we are of the opinion that the presence of international shareholders may influence performance. Many other microfinance research investigate the relationship between other MFI characteristics and board mechanisms and performance (e.g. Galema, Lensink & Mersland 2012; Hartarska & Mersland, 2012; Mersland & Strøm, 2008; Mori, Golesorkhi, Randøy & Hermes, 2015). To the best of our

knowledge, the question pertaining to the influence of international equity on MFIs' performance and the MFI characteristics that relate to having international shareholders remain unanswered in the microfinance literature. We fill this literature gap by examining the influence of international shareholders on the financial performance of MFIs. As well, we assess specific characteristics of MFIs which relate to having international shareholders.

In this study, we answer the following research questions:

1. What are the characteristics of MFIs that have international shareholders?
2. How does the presence of international shareholders influence overall financial performance and operating cost of MFIs?

We deem it important to answer the above research questions for two reasons. First, we fill the identified literature vacuum and add to existing microfinance literature that examine the effect of internationalization and foreign funding on MFIs' performance. Second, we provide empirical evidence on the influence of international equity on the financial performance of MFIs. This is because, the participation of international equity investors in financing MFIs may have implications for their financial performance. We find it interesting to examine the financial performance implications when MFIs have international shareholders.

We use data from 148 MFIs in 51 emerging and developing countries. The data is generated from risk assessment reports prepared by 5 rating agencies (i.e. MicroRate, Microfinanza, Planet Rating, Crisil and M-Cril). The reports are from 1998 to 2012 with the majority from 2004 to 2008. Since all the rating agencies are approved by Consultative Group to Assist the Poor (C-GAP), we deem the data reliable.

In the data, there are two independent samples: shareholder MFIs that have international shareholders and those that do not have international shareholders. The main variable of the study is the dummy variable for international shareholder. Analyzing the data, we first employ two univariate statistical techniques, *t*-test and χ^2 test to compare the respective means and medians of the independent samples contained in the data. Subsequently, we carry out multiple regression analysis using Random Effects (RE) Generalized Least Squares (GLS) and logistic regression panel data models. We also employ the Durbin-Wu-Hausman test for endogeneity using the two-stage least squares instrumental variable method. Whiles a good instrument is difficult to find, we

follow previous literature by employing lagged values of the independent variable as instruments (Lee, 2014; Owen & Yu, 2008; Kang & Sivaramakrishnan, 1995).

We find that 53% of MFIs that are shareholder owned have international shareholders. This confirms that there is growing international equity funding for MFIs and that international equity is playing a remarkable role in financing the rising growth of the microfinance industry. Exploring the characteristics of MFIs, we find that shareholder MFIs that have international shareholders have high international orientation as these MFIs are more often affiliated to international networks, have internationalized boards, international CEOs and have been initiated by international actors. Also, these MFIs often use village banking lending methodology, have higher outreach in terms of number of credit clients and usually serve urban markets. MFIs that have international shareholders and those that do not have international shareholders have other organizational characteristics in common such as focus on women and regulation by banking authorities. Regarding financial performance, we find that MFIs that have international shareholders are less profitable and less efficient in terms of ROE and ratio of cost to income respectively. We therefore conclude that the presence of international shareholders has a negative influence on overall financial performance of MFIs. In addition, MFIs that have international shareholders have higher operating cost profiles in the form of administrative and personnel costs. Our findings are robust and as well, they are empirically and theoretically supported. The findings should however be generalized with caution. This is because as literature suggests performance improvements that result from having international shareholders may take time to realize and as well operating costs may be low in later years due to learning effects.

The rest of the thesis is organized as follows. Chapter two deals with the relevance of the study. In chapter three, we discuss the various theories that underpin our research. We also present previous empirical findings and the conceptual framework. Chapter four focuses on the description of the data. Chapter five presents the research methodology. Here we document all the methods and procedures that are employed to analyze the data. The findings of the data analysis is presented in chapter six. Chapter seven is dedicated to the discussion of the findings. Finally, chapter eight covers the summary of findings, conclusion, implications and recommendations for future studies. We also present the limitations of the study.

CHAPTER TWO

BACKGROUND AND RELEVANCE OF THE STUDY

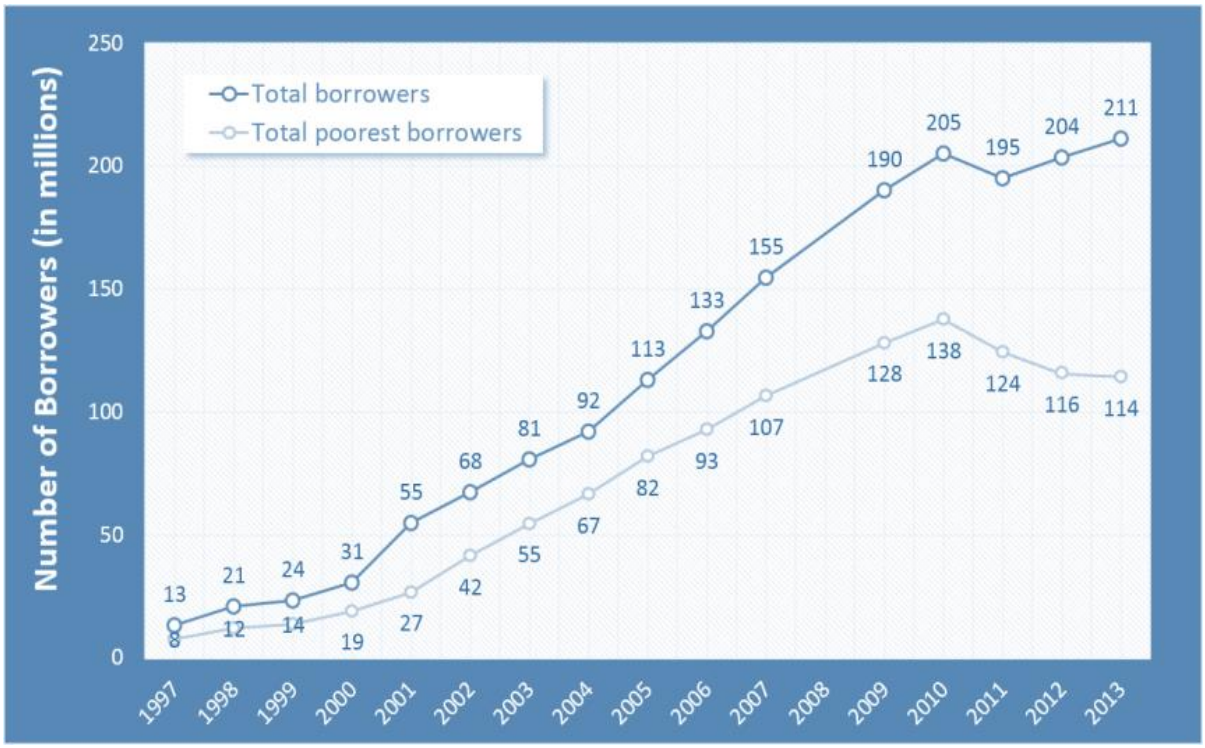
2.0 Introduction

This chapter is dedicated to the background and relevance of the study. We present the motivation and the main justification of the study. We touch on relevant issues in the microfinance industry, the growing international funding in the industry and finally the gap in microfinance research which we assay to fill with this thesis.

2.1 The Global Microfinance Industry

Microfinance refers to the "means and institutions created in order to provide financial services to people excluded from traditional banking" (Labie & Mersland, 2011, p. 284). Microfinance Institutions (MFIs) which are also referred to as Microbanks (Mersland et al., 2011) are the institutions which are in the business of providing banking services to poor clients (Hartarska & Mersland, 2012; Armendáriz & Morduch, 2010). Microfinance was thrust into the limelight in 2006 when the noble peace prize was awarded to Mohammad Yunus and Grameen Bank (Mersland et al., 2011; Armendáriz & Morduch, 2010) as well as the United Nations declaration of 2005 as "the year of Microcredit" (Mersland & Strøm., 2009; Galema et al., 2012). Microfinance has therefore attracted significant interest and attention both nationally and internationally (Labie & Mersland, 2011). According to Labie & Mersland (2011), most MFIs have their roots in Credit unions, NGOs and public bank restructurings. In a research by Mersland & Urgeghe (2013, p. 17), they argue that "the provision of microfinance services to poor families and micro-entrepreneurs has evolved to become a global industry during the recent decade". This means that there is a souring growth in microfinance activities across the globe. In figure 2.1 below, we demonstrate the growth of the MFI industry in terms of number of borrowers. From 13 million people in 1997, MFIs were serving more than 200 million people in 2013, most of which are poor borrowers as evident in figure 2.1.

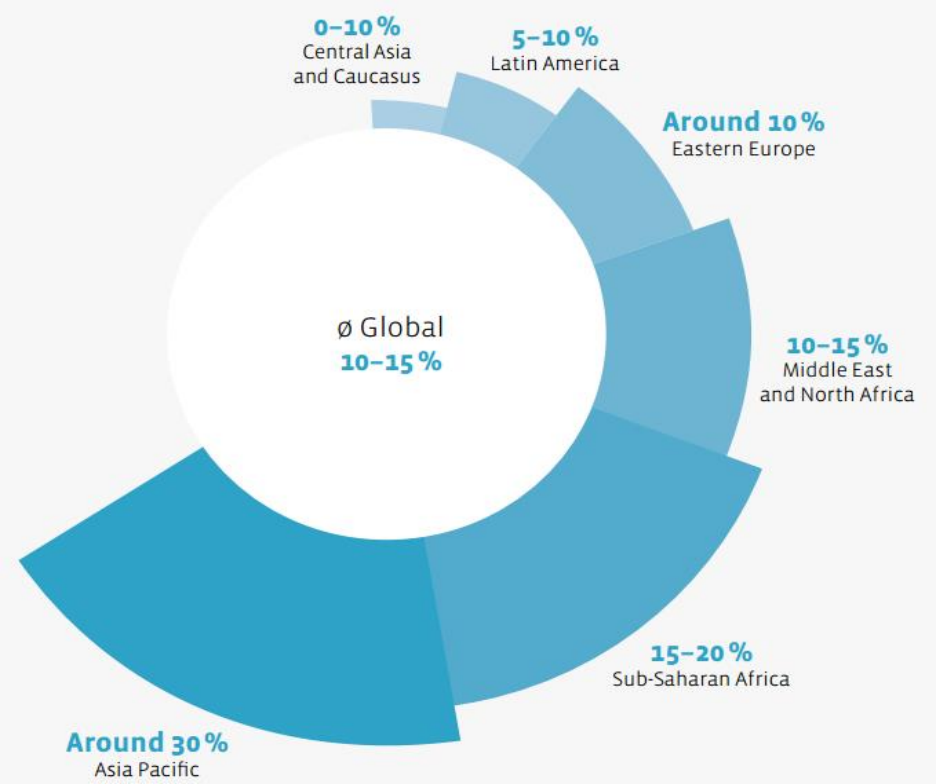
Figure 2.1: Growth of borrowers (total borrowers and total poorest borrowers)



Source: State of the microcredit summit campaign report 2015 by Reed (2015)

Buttressing this, the ResponsAbility (2016, p. 4) has forecasted that "the developments and growth trends across the major microfinance markets across the globe in 2016 is expected to be as follows: 10-15% growth is expected in the global market, around 30% growth is expected in the Asia Pacific, 15-20% in Sub-Saharan Africa, 10-15% in Middle-East and North Africa, around 10% in Eastern Europe, 5-10% in Latin America and 0-10% in Central Asia and Caucasus". This is depicted in the figure below:

Figure 2.2: Forecasted annual growth in the global microfinance industry

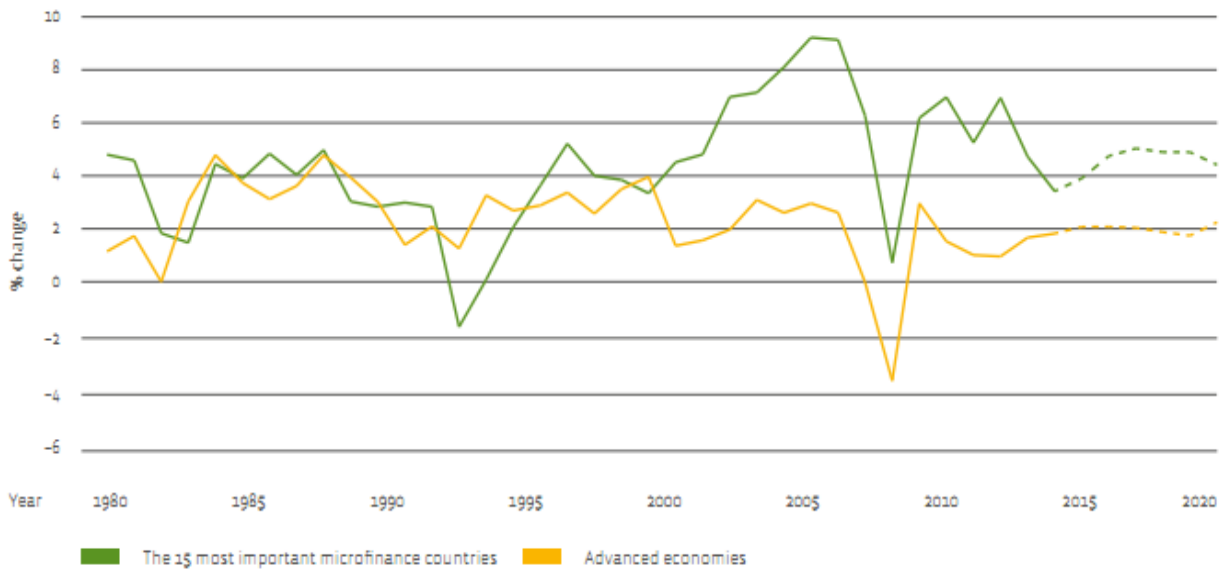


Source: Microfinance Market Outlook (p. 4) by ResponAbility (2016)

The high growth expectation in the industry deepens and underscores the growing importance of MFIs in the countries in which they operate. These countries are usually emerging and developing economies. According to ResponsAbility (2016, p. 8), the major microfinance markets include "India, Cambodia, Kenya, Bolivia, Azerbaijan, Ghana, Mongolia, Paraguay, Costa Rica, Tajikistan, Armenia, Peru, Kyrgyzstan, Georgia, and Ecuador". This may be due to the very nature of the activities of MFIs of providing financial services to small enterprises, table top vendors, micro entrepreneurs and other poor borrowers which are common in these countries. The observed growth in the microfinance industry seems resilient and sustainable. This assertion is justified by the high GDP growth in economies with large microfinance markets. Figure 2.3 illustrates the observed and forecasted GDP growth rates of 15 most important microfinance economies and developed countries. As evident in the figure, whiles advanced economies are showing a relatively slower GDP growth, microfinance economies are showing high and robust GDP growths. This

highlights the resilience of the industry. Given the importance, growth and sound prospects of the industry, we deem research in microfinance justifiable and worthwhile.

Figure 2.3: GDP growth rates of advanced economies and 15 most important microfinance economies



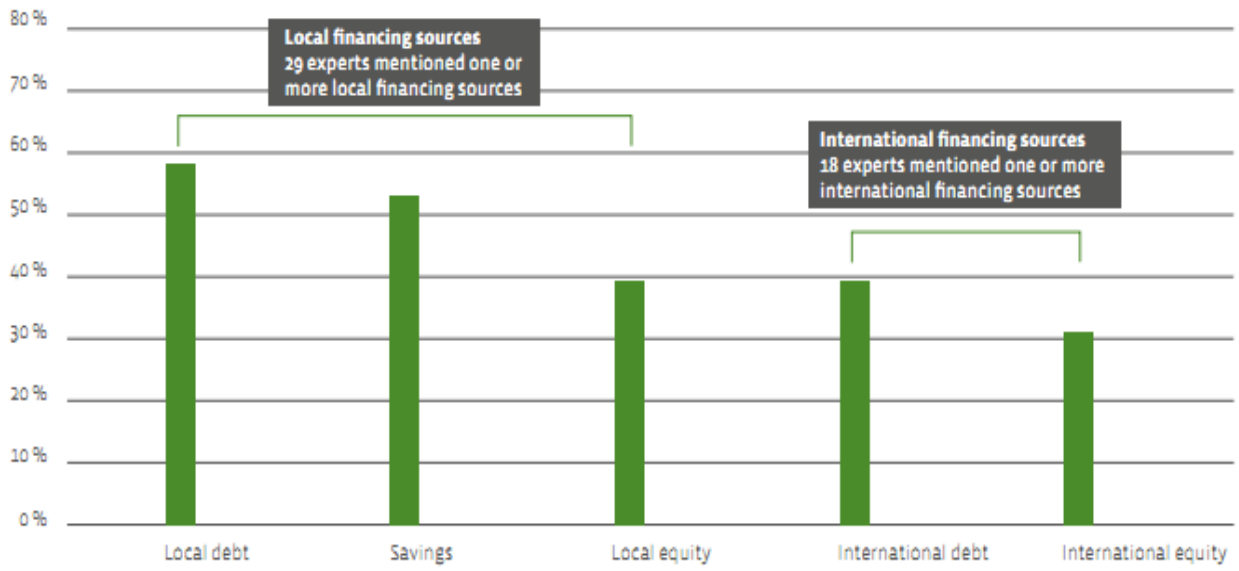
Source: Microfinance Market Outlook (p. 13) by ResponAbility (2016)

2.2 Microfinance and International funding

MFIs are usually the basic banks serving the poor in the countries in which they operate, the emerging and developing countries (some of which are mentioned in the preceding section). Owing to this, one would expect these institutions to be nationally or locally owned. However, due to the relative growing economic importance of these MFIs or the countries in which they operate, MFIs are attracting international investors and hence owners as well. At the initial stages of the development, MFIs were primarily Non-profit establishments supported by donations, grants and subsidies (Dieckmann, Speyer, Ebling & Walter, 2007). Today, the microfinance industry has grown significantly and broken grounds into new segments and even "into a more commercialized industry" (Lützenkirchen & Weistroffer, 2012). Owing to these developments, the landscape of Microfinance activities has evolved including its funding. MFIs are now financed by a mix of "donations, equity capital, borrowings and deposits" and foreign or international funding has

increased since 2005 – thanks to Microfinance Investment Vehicles (Lützenkirchen and Weistroffer, 2012). According to the Microfinance Market outlook of 2016, experts believe that international funding (which comprises of both debt and equity) would be one of the important funding sources for MFIs in the coming years. The diagram below gives credence to this assertion. We opine that increasing international participation in the funding of MFIs will have great implications on their performance. Hence, the core theme of this paper.

Figure 2.4: Important funding sources projected for the next three years



Source: Microfinance Market Outlook (p. 24) by ResponAbility (2016)

An international shareholder in an MFI may be imperative if such an investor brings in new knowledge and experiences that enhance performance of the MFI. There could also be an instance where there is a gap in knowledge between MFI banking system and that of the mainstream or regular banking. In such a case, new knowledge by an international shareholder may bridge such a gap and hence increase the operational efficiency of MFIs. International shareholders could also serve as important links to resources and capital as well as international networks. In another sense, international shareholders may bring on board their experience and other governance enhancing skills that improves monitoring and hence reducing the agency cost while fostering performance. However, obviously, international shareholders are not nationals of the country in which the MFI is operating. There are therefore higher tendencies for their efforts to be militated against by

liability of foreignness. This is most likely if there are differences in culture, language, norms and values between the home country of the international shareholder and the country in which the MFI is operating. In the dataset for this research, most of the international investors are from western countries (see table 4.2), whose culture and way of life are largely different from developing countries where most MFIs operate. In such a scenario, the presence of an international investor or shareholder may not have any influence or would even impact negatively on the performance of the microfinance institution. One may therefore legitimately ask: is it worthwhile for MFIs to have international shareholders? Based on our evidence, we provide answer to this question by examining the influence of international shareholding (or ownership) on the financial performance of MFIs. This is the main objective of this thesis.

2.3 Microfinance research

Microfinance research that focuses on governance and performance in microfinance institutions remains scanty and underdeveloped (Galema et al., 2012). The existing ones have considered the relationship that exists between various governance mechanisms and MFI performance (See Hartarska, 2005; Mersland and Urgeghe, 2013; Mersland et al., 2011; Galema et al., 2012; Hartarska & Mersland, 2012; Mersland & Strøm, 2008) whiles others focused on capital structure (Bogan, 2008) and board structure (Mori et al., 2015; Mori et al., 2013). To the best of our knowledge, despite the growing international equity investment in MFIs, no study has yet considered the relationship between international shareholding and MFI performance neither has there been a study about the characteristics of MFIs that relate to presence of international shareholders even though such studies are very common in traditional firms as well as the banking industry. This is a vacuum in the microfinance literature. International funding for Microfinance institutions has developed into a growing specialized global market attracting investors of diverse profit seeking motives (ResponsAbility, 2016; Mersland and Urgeghe, 2013). The analysis of Galema et al. (2012, p. 720) in a way reaffirmed previous appeals for the transformation of Microfinance NGOs "into regulated, shareholding, financial intermediaries". It is likely for these MFIs to appeal to international equity investors when this transformation occurs.

Also, predictions by experts suggest that international funding (which includes international equity) through Microfinance Investment Vehicles (MIVs) would remain an important source of

funding for MFIs for the coming years (ResponsAbility, 2016; Lützenkirchen & Weistroffer, 2012). We are of the opinion that international shareholders may influence the performance of MFIs in various ways. Mersland and Urgeghe (2013) find that MFIs' access to international debt relates to performance and the findings of Bogan (2008) also suggest that the capital structure of MFIs matter. Therefore, if capital structure matters, then it may also matter who owns the equity in Microfinance institutions, and if access to international debt relates to performance, then access to international equity may relate to performance as well. Drawing on agency theory, liability of foreignness and resource based theory, we examine the influence of international shareholders on the financial performance of MFIs in order to fill the research vacuum and to contribute to literature. We accomplish this using data on 148 MFIs from 51 emerging and developing countries. Our study is useful to academia as it contributes to the ongoing microfinance research. Policy makers of MFIs that have international shareholders and those considering to raise capital through international equity would also find it useful and interesting. It is also useful to international equity investors in the microfinance industry.

2.4 Chapter summary

The microfinance industry is growing and expected to experience further growths. International funding could be the available means of financing the trending growth as local funding may be insufficient or even unavailable in extreme situations. There is therefore increasing international participation in financing MFIs and experts believe that international equity would be among the most important funding sources for MFIs in the coming years. This trend may have implications for the operations and the general performance of MFIs.

Meanwhile even though microfinance literature is voluminous, no study has yet examined the influence of international ownership on the performance of MFIs, to the best of our knowledge. No study has also considered the characteristics of MFIs that relate to having international shareholders. Our research is therefore relevant in two ways. Firstly, we fill the identified literature vacuum and add to existing microfinance literature. Secondly, we provide empirical evidence on the influence of international equity on the financial performance of MFIs.

CHAPTER THREE

THEORY AND PREVIOUS FINDINGS

3.0 Introduction

The previous chapter discussed the relevance and background of this study and hence highlighted the need to find answers to the research questions. In this chapter, we present the basic and core theories that underlie this paper. We also present the findings of prior research and subsequently formulate the research hypotheses. Finally, we illustrate the conceptual framework in a model.

3.1 Core and basic theories

In this section, we present the core theories for this research. The core theories: corporate governance, agency theory, resource based theory and liability of foreignness are discussed in turns below:

3.1.1 Meaning and definition of corporate governance

Corporate governance has been variously defined by scholars with different views. To Johnson, Boone, Breach & Friedman (2000, p. 142), corporate governance means "the effectiveness of mechanisms that minimize agency conflicts involving managers, with particular emphasis on the legal mechanisms that prevent the expropriation of minority shareholders". The definition emphasizes rights of minority stockholders and the role of law, rules and regulations in the same way as Gillan and Starks (1998) who rather defined corporate governance from the general corporate operations perspective without focusing on any stakeholder. According to Shleifer & Vishny (1997, p. 737), "corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment". In this light, Hartarska (2005, p.1628) explained governance in microfinance as "the mechanisms through which donors, equity investors, and other providers of funds ensure themselves that their funds will be used according to the intended purposes". In this definition she specifies the key suppliers of finance to MFIs. Governance mechanisms can be internal or external. In MFIs, "internal governance factors are those related to the MFI's board and include its size, representations by various stakeholders and managerial capture whiles external factors account for the weak market-disciplining mechanisms in microfinance, such as a lack of private shareholders, the limited role

of competition, and differences in regulation" (Hartarska & Mersland, 2012, p. 219). As we would see later, good governance that could be made possible with having international shareholders is a remedy to the overarching problem of governance (agency problem).

3.1.2 Agency theory

Governance problems are universal and exist in business organizations of various forms and types such as corporations, large professional partnerships, financial mutuals, and nonprofit firms (Fama & Jensen, 1983a; Jensen & Meckling, 1976; Thomsen, 2008) and may explain the differences between the performance of different firms with different ownership (Williams & Nguyen, 2005). Agency problems are prevalent in the governance of firms characterized by the separation of ownership and management (control) (Fama & Jensen, 1983b; Williams & Nguyen, 2005; Thomsen, 2008).

This phenomenon has a rather long history. Adam Smith, in his book, "*The wealth of Nations",* observed that "*the directors of such companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company*" (Smith & Garnier, 1838, P. 311). Therefore, the agency problem seems to be the basic problem of governance in firms (Thomsen, 2008).

Jensen & Meckling (1976, p. 308) defined an agency relationship as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent". According to the theory, the interest of the principal and that of the agent could diverge and hence the likelihood for the agent to engage in self-seeking ventures rather than protecting and upholding the interest of the principal (Hill & Jones, 1992; Jensen & Meckling, 1976; Fama & Jensen, 1983b; Thomsen, 2008). In corporations and other firms, the relationship between owners

(stockholders) and managers fits the definition of agency, with managers being agents and owners (shareholders) being principals (Thomsen, 2008).

Good governance is often deemed as an antidote to the agency problem (Thomsen, 2008). Foreign share ownership improves governance (Williams & Nguyen, 2005) and also serves as an effective medium for the imposition of governance reforms (Yoshikawa & Phan, 2003) that lead to superior performance. Yoshikawa and Phan (2001) argue that increasing foreign ownership is helpful in realigning corporate governance practices to those that protect shareholders and hence reducing the agency problem. Khanna & Palepu (1999) stressed that foreign institutional investors possess good monitoring skills that improve corporate governance. Therefore, firms having foreign institutional investors would exhibit superior performance. Gulamhussen & Guerreiro (2009, p. 16-17) opine that "foreign equity owners enhance monitoring activity and influence management to adopt more efficient strategic and operational practices". In this regard, Heugens et al., (2009) assert that foreign shareholders contribute to the profitability of the firms in which they invest by helping those firms to realize good governance practices. Berger et al. (2009) observe that foreign shareholders secure board seats to improve corporate governance and to convince managers of protecting shareholders' interest. The presence of foreign shareholders could therefore potentially align the interest of managers and that of shareholders thereby reducing the agency problems between shareholders and managers. Contrary, García-Herrero & Santabárbara (2008) find that foreign shareholders having a seat on the board does not improve performance as Berger et al., (2009) claim.

The cost associated with these mechanisms is the so-called, agency cost (Shapiro, 2005; Jensen & Meckling, 1976). These costs therefore include; "the monitoring expenditures by the principal, the bonding expenditures by the agent, and the residual loss" (Jensen & Meckling, 1976, p. 308). According to Fama & Jensen (1983b), agency cost is the price paid by open corporations for the advantages that accrue to them as a result of using unrestricted stock. Elsewhere, agency cost is described as inefficiency (Williams & Nguyen, 2005). Since available literature suggest that foreign ownership is associated with efficiency in the banking industry (E.g. Berger et al., 2009; Lin & Zhang, 2009; Bonin et al., 2005), foreign ownership could reduce agency cost significantly and boost performance.

3.1.3 Resource Based Theory (RBT)

The Resource Based Theory (RBT) is rather deeply rooted in explaining the sources of sustained competitive advantage of firms (Barney, 2001). Thus the theory assays to offer explanation as to why some firms consistently outperform other firms. In the heart of the theory is the argument that organizational resources and capabilities underpin competitive advantage rather than the organization's strategy, industry factors or the broader business environment (Barney, 1991). Also, firms with relatively superior resources are those that earn higher profits (Peteraf, 1993). By definition, resources in a firm are tangible or intangible in nature and include; "brand names, in-house knowledge of technology, employment of skilled personnel, trade contacts, machinery, efficient procedures, capital, capabilities, general organizational procedures, firm attributes, information and knowledge" (Wernerfelt, 1984, p. 172; Barney, 1991, p. 101). The resources of a firm that achieve a sustainable competitive advantage in the long run are those that are valuable, difficult to replicate, rare in nature and non-substitutable (Barney, 1991; Hart, 1995). Hall (1992) emphasized the importance of intangible assets (such as employees' know-how, patents and license) for a sustainable competitive edge. The resource based theory is widely researched in the strategic management literature and as well, it is applied in microfinance research (for example, see; Mersland et al, 2011).

The resource based theory has been of interest in writing this paper as international shareholders possess knowledge and international experience that may be important to the governance and business of MFIs. MFIs that have international shareholders possess an important resource, access to external capital (García-Herrero & Santabárbara, 2008; Heugens et al., 2009). Such international shareholders may also possess governance enhancing capabilities that improve monitoring and the general activities of the board such as superior risk management skills, good monitoring skills, knowledge and technology (Berger et al., 2009; García-Herrero & Santabárbara, 2008; Sturm & Williams, 2004; Khanna & Palepu, 1999). According to Heugens et al. (2009), foreign shareholders contribute to firm performance by enhancing managerial capability through the provision of knowledge and organizational resources. Berger et al. (2009) observe that foreign shareholders transfer these capabilities into firms in which they invest to improve efficiency and performance. However, being international shareholders, they originate from countries other than the country in which the respective MFIs operate. Owing to this, they could have difficulties in

leveraging their competences into MFIs due to differences in culture and general norm systems. In light of this, we discuss the theory that deals with this phenomenon, liability of foreignness, in the next section.

3.1.4 Liability of foreignness

Liability of foreignness is often conceived as cost and other disadvantages associated with international investment and interaction with variables within the international business climate (Hymer, 1976; Zaheer, 1995). It is the result of differences that exist between countries such as spatial distance, complex local business environment, discrimination against foreigners, restrictions from one's home country as well as host country government policies which favour natives (but not expatriate investors) (Zaheer, 1995; Mezias, 2002). Prior research has also stressed the explanatory ability of national culture differences to liability of foreignness (See Mezias, Chen, Murphy, Biaggio, Chuawanlee, Hui, Okumura, and Starr, 2002). Calhoun (2002) opines that culture manifestations in the international business environment could be by formal or informal means. He indicates that whiles difficulty in understanding the formal manifestations (usually laws, rules and regulations) could be a source of liability of foreignness, their impact is minimal as formal documentation and descriptions are equally available to natives and foreigners. Hence the informal manifestations of culture (usually codified in norms, practices and procedures) serve as the greatest source of liability of foreignness (Calhoun, 2002). Miller & Parkhe (2002) provide evidence of liability of foreignness in the banking industry in the same manner as it manifests in other industries. Owing to reasons of liability of foreignness, Lensink et al. (2008) find that foreign ownership in banks is associated with inefficiency. We therefore argue that foreign investors and for that matter international equity holders in the microfinance industry would suffer liability of foreignness alike. As liability of foreignness is associated with poor profitability (Lu & Beamish, 2001; Lu & Beamish, 2004; Zaheer 1995), MFIs that have international shareholders may show low performance compared with those that do not have international shareholders.

Meanwhile liability of foreignness varies with time (Zaheer & Mosakowski, 1997) and is strongest during the initial period of interaction with the foreign investment (Lu & Beamish, (2001). In effect, liability of foreignness may reduce in later years perhaps due to familiarization with the foreign environment or through learning (Petersen & Pedersen, 2002). The role of knowledge in

minimizing liability of foreignness is highlighted here. International shareholders therefore can minimize the ill-effects of liability of foreignness through pre-investment and post-investment learning and acquisition of knowledge of the foreign investment climate.

3.2 Empirical findings of previous research

3.2.1 Typical characteristics of MFIs

Typically, MFIs possess diverse characteristics in terms of size, age, markets they serve, lending methodology, among others. According to Mersland & Strøm (2012a), a typical MFI is relatively small in terms of number of credit clients, loan portfolios, number of employees and average loan size. Also, these authors observe that the typical MFI employs collective lending methodology (such as solidarity group lending) and targets women clients. Regarding targeting of women clients, D'espallier, Guérin & Mersland (2011) find that the characteristics of MFIs that relate to focus on women include; use of group lending methodology, international orientation, small average loan size and non-commercial legal status. Generally group lending seems to be a hallmark and a largely shared characteristic among MFIs (Mersland & Strøm, 2008; Armendáriz & Morduch, 2010). Studies have shown that the widespread use of group lending methodology in the industry is due to the joint liability and high repayments that characterize group loans (Armendáriz & Morduch, 2010). However, among the MFIs studied by Mersland & Strøm (2012a), the repayment rates associated with group and individual loans do not vary much. As stated by Mersland & Strøm (2012b), another overarching characteristic of MFIs is focus on poor clients and this is highlighted in the granting of smaller loans. They further note that whiles few MFIs serve more than 400,000 clients, the average MFI serves fewer than 4,000 clients. Also MFIs are characterized by high lending rates to their customers. This is done to cater for the high operating cost that is associated with granting smaller loans. Additionally, Mersland & Strøm (2012a) observe that most characteristics (e.g. size and age) are diverse among MFIs. They attribute the wide diversity to the young nature of the industry and the fact that MFIs are at different stages of development and are also domestically established in diverse contexts. The characteristics of the MFIs in the dataset employed for this study are presented in chapter four (under section 4.3).

3.2.2 International shareholders and performance in the banking industry

Empirical findings in the banking literature show mixed evidence regarding the relationship between international or foreign ownership and performance. Yoshikawa & Phan, (2003) find that an increase of foreign ownership in banks leads to improvement in ROA and RI (Stock Return Index). García-Herrero & Santabárbara (2008) report similar findings. They further assert that improvements in efficiency, asset quality, and capitalization are the main channels for the positive impacts of foreign shareholders' presence. Also, according to these authors, corporate governance improvements play a key role in realizing the benefits of foreign ownership and hence stressed on the strict incorporation of corporate governance provisions into contracts between firms and their foreign investors. These findings however contradict the main findings of Lensink & Naaborg (2007). The latter find that rising foreign ownership in banks rather negatively affects performance. They observe that banks having a lower foreign stake perform better than those with higher foreign stake. Some other studies also reveal the poor performance and inefficiency associated with foreign ownership in banks (Berger et al., 2005; Lensink et al., 2008). Lensink et al. (2008) add that the negative effect is relatively low in countries with good governance and worst in countries plagued with bad governance.

Berger et al. (2009) report that minority foreign ownership in banks improves both profit and cost efficiency. They also observe that performance improves after foreign investment. Berger et al. (2009) further document mechanisms employed by foreign shareholders to increase efficiency. First, foreign shareholders secure board positions to improve governance in firms they have invested. Such board representation may lead to board independence, increased knowledge, board expertise, efficient monitoring, performance improvements and a reduction in the agency cost (Gulamhussen & Guerreiro, 2009; Choi & Hasan, 2005). Gulamhussen & Guerreiro (2009, p. 16) observe that "foreign board members' independence appears to play an important role in the corporate orientation and internal cost management of domestic banks". Meanwhile the findings of García-Herrero & Santabárbara (2008) seem to show that having a seat on the board is just nominal and does not present any advantage to foster performance. Other mechanisms reported by Berger et al. (2009) include the conscious transfer of performance-enhancing skills, knowledge, superior technology and contribution to the training of employees (see also García-Herrero & Santabárbara, 2008). Lin & Zhang (2009) find that international ownership in Chinese banks

improves profitability and efficiency especially in terms of ROA and Cost to operating income (COI). On this basis they contend for further ownership reforms in Chinese banks. Bonin et al. (2005) contend that presence of a strategic foreign owner improves cost efficiency but not profit efficiency. They also find a higher average ROE for banks with majority government holding than for foreign owned banks

Overall, Crystal et al. (2001) conclude that foreign owned banks show higher financial strength relative to locally owned banks. In addition, they opine that foreign owned banks institute aggressive mechanisms to guard against asset quality deterioration and are also willing to forgo short term profitability to guarantee long term soundness. This could reasonably suggest that foreign ownership in banks promotes long term financial soundness and stability. In line with this long term perspective, Williams & Nguyen (2005) report that the governance, profitability and efficiency improvements that accompany the presence of foreign shareholders take a longer time to realize. Sturm & Williams (2004) find that foreign owned banks do not exhibit superior performance compared to locally owned banks. However, foreign owned banks show strength in technological and scale efficiency and are characterized by aggressive response to asset quality and a stronger loan growth potential (Crystal et al., 2002). According to Khanna & Palepu (1999), foreign institutional owners are good monitors and that their presence is often related to superior performance. They stress the role of foreign institutional ownership in enhancing good governance and performance. The results of Gulamhussen & Guerreiro (2009) show that "the presence of foreign equity and board members forces banks to re-orient their corporate strategy and reduce operating and total costs". Given such cost reduction, performance and efficiency improvements are likely. Regarding the finding relating to operating cost, Unite & Sullivan (2003) suggest otherwise.

Choi & Hasan (2005) find that the mere existence of a foreign shareholder in a bank is not important. However, an increase in foreign ownership combined with the presence of foreign directorship improves performance significantly in terms of returns and risk. Finally, there is empirical evidence that ownership concentration is an able mechanism for enhancing good governance and fostering performance and efficiency (Pivovarsky, 2003; McConnell & Servaes, 1990). Available evidence from the banking literature however suggests that performance

improvements are well pronounced when ownership is concentrated in the hands of foreigners and especially foreign strategic investors (Claessens & Djankov, 1999; Heugens et al., 2009).

3.2.3 Internationalization, Governance and performance of MFIs

"Professionalization and commercialization of MFIs have provided the basis for growth and prosperity of the microfinance industry" (Lützenkirchen et al., 2012, p. 9). According to Lützenkirchen et al. (2012, p. 9), the volume of assets of MFIs grew 35% on average yearly and as a result, MFIs were seen "by many as a secure and profitable investment opportunity". This rapid growth inevitably requires funding which is relatively difficult to obtain internally from local sources. In the paper "*The Role of International Capital Markets in Microfinance*", Swanson (2007, p. 2) noted that "*domestic emerging country commercial banks, which should be major funding sources for MFIs, are typically averse to lending to them. Moreover, capital markets in most developing countries are thin and the major institutional players are averse to or legally constrained from significant investment in microfinance. For these reasons, it is unlikely that domestic sources in emerging countries will generate more than a fraction of the more than $200 billion that will need to be raised to satisfy potential demand*". International funding therefore could be the only means to finance the souring growth of the microfinance industry.

In recent times, there has been increasing pressure from donors in favour of financial sustainability. This pressure together with the rapid growth of the microfinance industry has propelled MFIs to turn to international sources for funding (Mersland & Urgeghe, 2013). In essence, international capital markets are instrumental for providing the necessary funding for supporting the growth in the microfinance industry. In 2010, MFIs enjoyed US$ 13 billion as direct investment from international investors in the form of equity and debt (Lützenkirchen & Weistroffer, 2012). This and the studies by Mersland et al. (2011) and Mersland & Urgeghe (2013) provide evidence that MFIs are internationalizing through investment. Generally, in literature that focus on multinational firms, there is evidence that internationalization leads to better company performance (Tallman and Li, 1996). Mersland et al. (2011) specifically find that such form of internationalization (through investments) exerts a positive influence on the social performance of Microfinance institutions but not on financial performance.

Some studies have also examined the relationship between international governance mechanisms and performance of microfinance institutions. Mersland, & Strøm (2009) examine the relationship that exists between governance and performance using a dataset comprising of 278 MFIs from 60 countries. They find that an international director on the board does not improve performance. This suggests that international shareholders who secure board position may do so to the peril of performance of the MFI in which they have invested. Some later studies also find partly similar results that international directorship negatively affects financial performance but enhances social performance (Mersland et al, 2011; Masulis, Wang & Xie, 2012). This is somewhat contrary to the findings of Oxelheim & Randøy (2003) and a recent study by Mori et al. (2015) which provide evidence that internationalization of boards is associated with better company performance and firm value and signals positively to the capital market.

Hartarska (2005) studies the relationship between governance mechanisms and the performance of MFIs in Eastern and Central Europe as well the Newly Independent States. Based on data from three surveys conducted in the years 1998, 2001 and 2002 respectively, she finds that there is "a tradeoff between MFI outreach and sustainability depending on stakeholder representation on the board". An independent board seems crucial for good governance and performance (Hartarska, 2005). Mori et al. (2015) also encourage board independence to trigger better performance of MFIs. Such level of board independence in MFIs can be achieved through international influence (Mori et al., 2013) and when foreign investors are present (Ahmadjian, 2007). Mersland & Urgeghe (2013) investigate the relationship between international funding through debt and the performance of MFIs. They find that MFIs access to international commercial funding is strongly related to performance.

3.2.4 Internationalization, Liability of foreignness and performance

There is evidence in internationalization literature that firms venturing abroad meet disadvantages and are faced with liability of foreignness in the form of additional costs as compared to their domestic counterparts. (Mezias, 2002; Zaheer, 1995). This concept was first studied by Hymer (1976, p.34) who noted that "national firms have the general advantage of better information about their country: its economy, its language, its law, and its politics". He further noted that "To a foreigner, the cost of acquiring this information may be considerable" (Hymer, 1976, p. 34).

Zaheer coined the term liability of foreignness, to refer to "all additional costs a firm operating in a market overseas incurs that a local firm would not incur" (Zaheer 1995, p. 343). She argues that these costs arise due to spatial distance between the parent and subsidiary companies impacting coordination, due to cultural, political and economic differences, and foreign companies' unfamiliarity with the environment (Zaheer 1995). This is partly similar to Bell, Filatotchev and Rasheed (2012, p. 107) who study liability of foreignness in the capital market and identified "institutional distance, information asymmetry, unfamiliarity and cultural differences as the sources of liability of foreignness in capital markets".

Liability of foreignness has been considerably studied in literature. In their study, Zaheer & Mosakowski (1997) find that liability of foreignness exists in foreign currency trading rooms which they found to have a lower survival rate than local trading rooms and that it varies over time i.e. declines with time and increasing deregulation. Prior to that, Zaheer (1995) asserts that liability of foreignness makes foreign trading rooms less profitable than the local ones. This is attributed to the fact that the local rooms have much easier, timely and cheaper access to the host country information. Similarly, Miller & Parkhe (2002, p. 66) study liability of foreignness in the banking industry but on a firm level rather than departmental level as the case for Zaheer and Mosakowski (1997) and find that "on average foreign-owned banks are less X-efficient than host country banks" providing evidence for a liability of foreignness.

Liability of foreignness impacts on foreign investment decisions (Baik, Kang, Kim, & Lee, 2013) as well as market entry strategies (Chen, Griffith & Hu, 2006). It is strongest during the initial stages of internationalization and is often associated with poor corporate performance (Lu & Beamish, 2001; Lu & Beamish, 2004; Zaheer, 1995). Microfinance literature is voluminous (Galema et al., 2012) and many studies have delved into the internationalization of MFIs. However, to the best of our knowledge, empirical evidence of the influence of liability of foreignness on the growing internationalization and performance of MFIs is yet to be found and made available. Nonetheless, liability of foreignness can have the same influence on the microfinance industry as it has on other industries.

3.3 Research hypotheses

In this subsection, we present our research hypotheses.

3.3.1 International Shareholders and MFI characteristics.

Various studies in microfinance have shown that internationalization through investment and international influence enhance social performance of MFIs (Mersland et al., 2011; Mersland & Urgeghe, 2013; Mori et al., 2015). International players in the microfinance industry therefore seem to promote social goals in MFIs. For example, a typical social set up indicator, focus on women has characterized MFIs since the inception of the industry and is often backed by international players in the industry (Mersland & Strøm, 2012b; D'espallier et al., 2013). We therefore predict the following relationship:

H_1: MFIs that have international shareholders have higher social set-up

Most countries have regulations that govern the mainstream banking sector. However, little provision is made for MFIs. In their paper, Hartarska & Nadolnyak (2007) note that laws and regulations that cater for the Microfinance industry are usually driven by large microfinance networks. These networks are composed of international organizations like World vision, Foundation for International Community Assistance (FINCA), ACCION International that are actively involved in the financing of the microfinance industry with equity funds (Norell, Emory-Smith & Bruett, 2003). International shareholders, being unfamiliar with the environment in which they wish to invest are more likely to prefer a regulated environment as this may make them feel that their investments are secure. In view of this, we expect that international shareholders will have a higher presence in regulated than unregulated MFIs and hence we formulate the following hypothesis:

H_2: MFIs that have international shareholders are more regulated than their counterparts that have only domestic ownership.

International influences on the microfinance industry include membership to an international network, initiation by international actors, international board membership, international CEO among others (Mersland et al., 2011) We opine that these influences are likely to improve the publicity and reputation of MFIs internationally and hence make those MFIs appeal to other

international actors such as international equity investors. Stated differently, we are of the opinion that MFIs that have appealed to other international actors are likely to appeal to international equity investors as well. Available evidence even suggests that the international networks also invest equity funds in MFIs (Norell et al., 2003). We therefore expect that:

H_3: MFIs that have international shareholders are characterized by high international orientation.

MFIs adopt collective lending methodologies such as solidarity group lending and village banking (Mersland & Strøm, 2012). These collective lending methods have foreign or international origin. For example: group lending was founded by Grameen Bank in Bangladesh in addition to ACCION International in Latin America (Ledgerwood, 2014) whiles village banking was pioneered by FINCA (Abbink, Irlenbusch, & Renner, 2006). Owing to the fact that they were pioneered by international organizations that are highly involved in the microfinance industry including funding, these collective lending methods may appeal to international shareholders. We therefore formulate hypothesis as follows:

H_4: MFIs that have international shareholders often adopt collective lending methods.

3.3.2 International shareholding, MFI financial performance and operating cost

International private equity investors invest in specialized investment funds called Microfinance Investment Vehicles (MIVs) "which then channel the invested funds to MFIs" (Lützenkirchen et al., 2012, p. 8). In a way, these MIVs are serving as specialized capital markets for the microfinance industry (Mersland & Urgeghe, 2013). According to Wiesner & Quien, (2010), MIVs invest in regularly regulated, and monitored MFIs that are performing well, both financially and socially. MIVs therefore concentrate in finding MFIs that are financially sound and operate in efficient ways (Mersland & Urgeghe, 2013; Wiesner & Quien, 2010). MIVs also appear to seek both financial and social returns from their investment in MFIs (Mersland & Urgeghe, 2013). In addition, the presence of international shareholders can also promote performance through the introduction of governance enhancing mechanisms such as board independence (Hartarska, 2005; Mori et al., 2015) and effective monitoring of the management team through formal and informal means (Ahmadjian, 2007). In the event of this happening, the board becomes effective in executing their supervisory and monitoring role and hence a reduction in agency cost which can subsequently improve performance as managers are less likely to engage in expropriation and other self-seeking

ventures. From the perspective of resource based theory, international shareholders may serve as important access to capital and other valuable resources which enhance performance. These shareholders can be good monitors who possess governance enhancing knowledge and skills. Evidence in literature suggests that foreign ownership is related to quality loan portfolios and implementation of aggressive approaches to guard against deterioration of portfolio quality (Crystal et al., 2002). This could lead to lower default cost and higher profitability. Also, anchoring on the findings of Gulamhussen & Guerreiro (2009), one could reasonably expect that the international shareholder variable would be related to lower operating costs. Based on these, we argue that MFIs that have international shareholders may outperform their counterparts who do not have international shareholders.

On the other hand, internationalization is often impacted by liability of foreignness and foreign investors are affected by the same (Baik et al., 2013; Mezias, 2002; Zaheer, 1995). Being international shareholders, it is logical for them to elect or agitate for the election of an international board member to represent their interest (Berger et al., 2009). But in the microfinance literature, the presence of international directors is often not associated with good performance (Mersland & Strøm, 2009; Mersland et al., 2011; Masulis et al., 2012). Liability of foreignness could be a possible explanation for this relationship. For example Mersland & Strøm (2009) and Mersland et al. (2011) note that international directors could represent a cost factor as they are likely to bring on board a costly culture hence negatively affecting performance. Lensink et al. (2008) find that foreign ownership impacts negatively on the efficiency of banks. They provide evidence to the effect that such negative impact is the result of difficulty in dealing with "regulations, banking supervision rules, local judiciary in general, and corruption" (Lensink et al., 2008, p. 841). This is an obvious manifestation of liability of foreignness. According to literature, liability of foreignness manifests as additional costs and often negatively affects performance. In sum, the empirical findings and theories explored predict opposite outcome. Therefore, putting all together, we formulate alternative hypotheses as follows:

H_{5a}: The presence of international shareholders in an MFI positively influences overall financial performance.

H_{5b}: The presence of international shareholders in an MFI negatively influences overall financial performance.

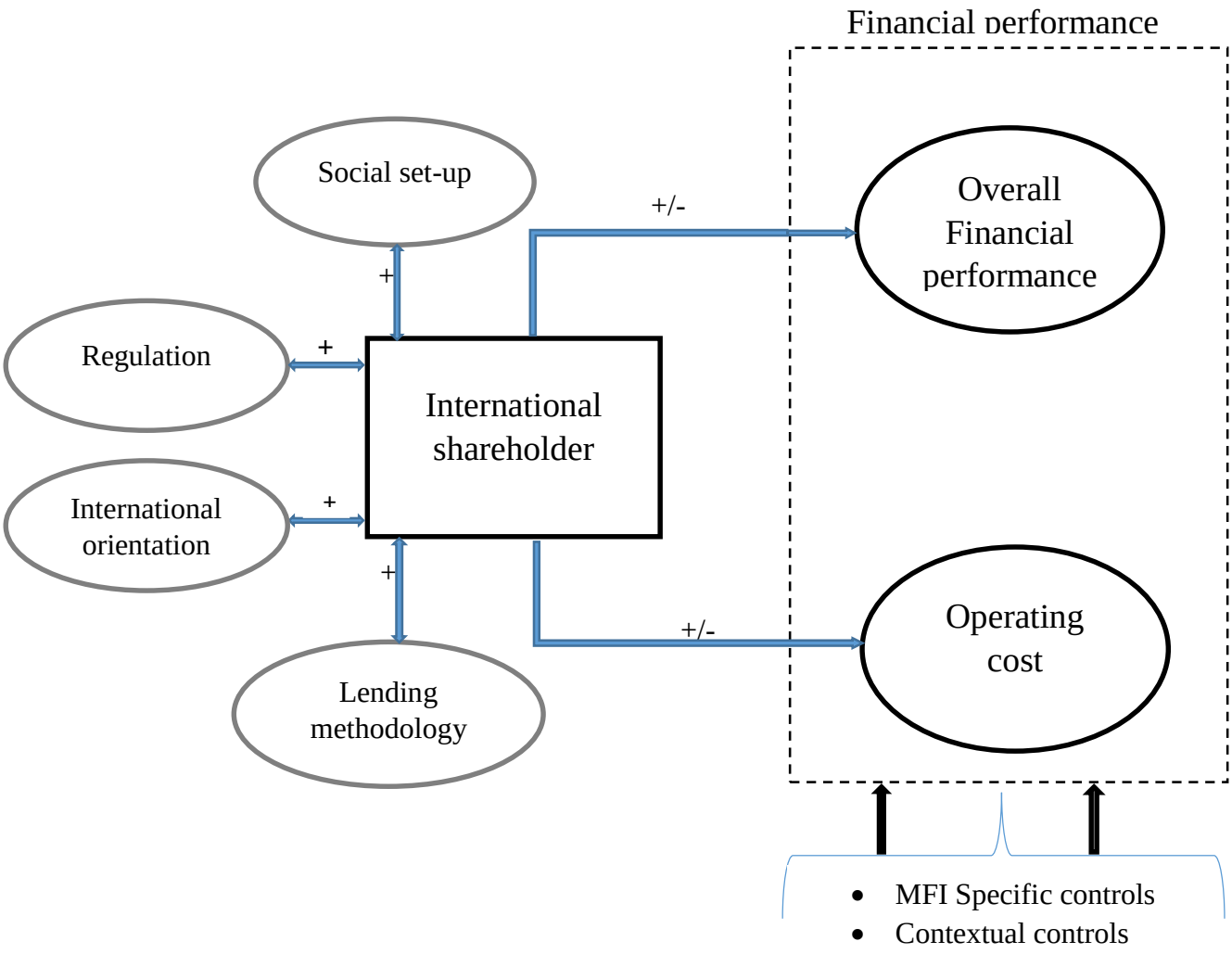
H_{6a}: The presence of international shareholders reduces operating cost

H_{6b}: The presence of international shareholders increases operating cost

3.4 Conceptual Framework

In this section, we present the conceptual framework for this study. This is based on the relationships established by the hypotheses. The framework is shown in figure 3.1 below:

Figure 3.1: Conceptual Framework



Source: ***Authors' own construct***

3.5 Chapter summary

In this chapter, we discussed the main theories that underpin this thesis. These include agency theory, resource based theory and liability of foreignness. We also presented the findings of prior research in the microfinance and banking industry as well as from other related fields. The findings of previous research suggest that foreign or international ownership influence performance. The research hypotheses were also formulated.

CHAPTER FOUR

DATA

4.0 Introduction

In this chapter, we describe the data for this research. We mention the validity and representativeness of the data and outline the country of origin of each MFI.

4.1 Data source and Sample Description

Data can be obtained from two main sources, primary or secondary sources. Sekaran & Bougie (2013, p. 113) define these two sources as follows: "Primary data refers to information obtained first-hand by the researcher on the variables of interest for the specific purpose of the study. On the other hand, secondary data refer to information gathered from sources that already exist".

The data based on which we carry this research is secondary in nature. It is generated from risk assessment reports prepared by five rating agencies i.e. MicroRate, Microfinanza, Planet Rating, Crisil and M-Cril. The reports are from 1998 to 2012 with the majority from 2004 to 2008. The source of information for this study is vital as the data has to be reliable and relevant for our study. For the purpose of this study, only shareholder firms (SHFs), made up of, Bank and Non-Bank Financial Institutions are considered since only MFIs that issue out shares are of interest. These agencies clearly categorize the MFIs along several aspects including legal structure and whether the MFIs have an international shareholder or not. The five rating agencies are endowed with much information as they are the largest players in the Microfinance industry. We deem this information, coming from third party independent rating agencies that are officially approved by the Rating Fund of the Consultative Group to Assist the Poor (C-GAP), as reliable and high in quality.

The dataset employed contains 148 Microfinance Institutions in 51 countries globally. Table 4.1 below shows countries with their corresponding number of MFIs grouped under different regions and in accordance with the categorization by microfinanzarating.org (i.e. Sub-Saharan Africa, South-East Asia & the Pacific, Europe & Central Asia, Latin America & the Caribbean, Middle East & North Africa, and Industrialized countries). It can be seen that Peru has the largest number of MFIs represented in this study. However, generally, Africa is the most represented region with 47 MFIs and Middle East and North Africa is the lowest with 4 MFIs as displayed in figure 4.1.

Since only rated MFIs are included in the dataset, there could be a sample selection bias. However, we believe this to be minimal owing to the fact that this data is not self-reported.

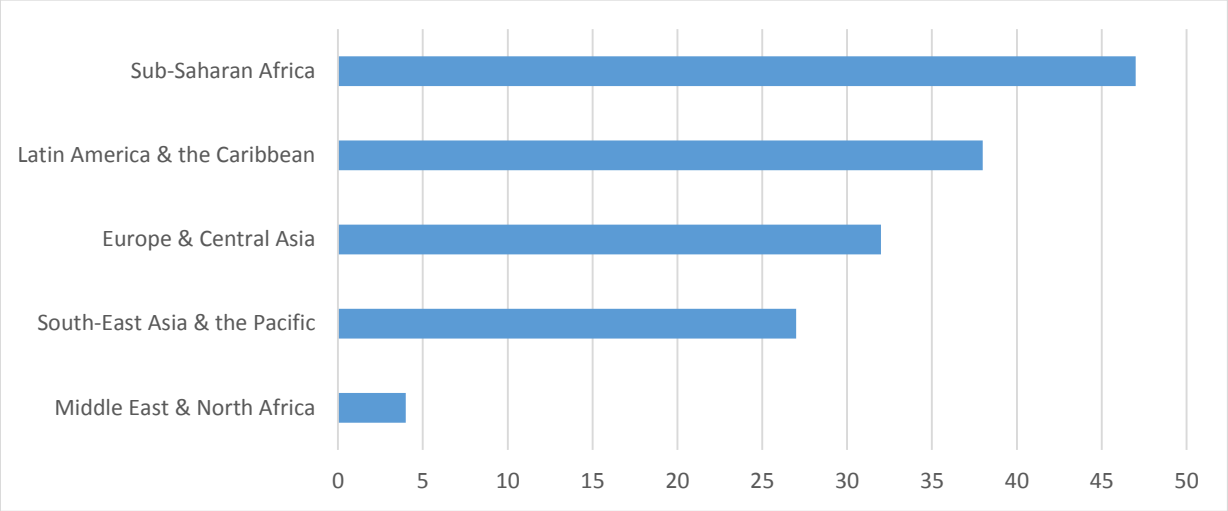
Country specific data are obtained from other sources. Data on GDP per capita, GDP growth and inflation for the respective years are obtained from the World Bank group database[1]. The current account balances for the respective countries and years are obtained from the World Economic Outlook database developed by the International Monetary Fund (IMF)[2]. Heritage index, which measures the level of economic freedom of countries where the MFIs operate is obtained from the website of The Heritage Foundation[3].

[1] http://data.worldbank.org/indicator/
[2] http://www.imf.org/external/pubs/ft/weo/2016/01/weodata/download.aspx
[3] http://www.heritage.org/index/explore

Table 4.1: List of countries, categorized according to region, with their corresponding number of Microfinance Institutions.

Region	Country	Number of MFIs
Africa	Benin	1
	Burkina Faso	1
	Cameroon	3
	Ethiopia	10
	Guinea	1
	Kenya	6
	Madagascar	2
	Mozambique	1
	Niger	2
	Rwanda	3
	Senegal	2
	Tanzania	5
	Uganda	8
	Zambia	2
Latin America and the Caribbean	Argentina	1
	Bolivia	2
	Brazil	1
	Chile	1
	Colombia	1
	Dominican Republic	1
	El Salvador	3
	Haiti	1
	Honduras	2
	Mexico	7
	Nicaragua	1
	Paraguay	1
	Peru	15
	Trinidad and Tobago	1
Europe and Central Asia	Afghanistan	1
	Albania	1
	Armenia	2
	Azerbaijan	7
	Bosnia	1
	Georgia	3
	Kazakhstan	3
	Kosovo	2
	Kyrgyzstan	3
	Moldova	2
	Montenegro	1
	Romania	1
	Russian Federation	1
	Tajikistan	4
South-East Asia and the Pacific	Cambodia	13
	China	4
	East Timor	1
	India	2
	Mongolia	3
	Nepal	3
	Philippines	1
Middle East and North Africa	Jordan	3
	Lebanon	1

Figure 4.1: Distribution of MFIs by region



4.2 Representativeness of the data

Due to the highly diversified nature of the microfinance industry, typically, no dataset perfectly represents all MFIs in the industry (Mersland & Strøm, 2012a; Mersland & Strøm, 2012b). The dataset based on which we carry out this research is no exception to this. However, since, the data is collected by rating agencies (third parties), the information content is richer and reliable. In addition, data on microfinance collected by rating agencies have proved to be quality over the years and many studies based on such data have been published in prominent international journals. Some of these studies are found in the list of references.

4.3 Summary characteristics of the MFIs in the dataset

In the dataset, 53% of the MFIs have international shareholders. The remaining 47% are locally owned and hence have no international shareholders. This gives an indication of rising equity investment in shareholder MFIs. In table 4.2, we present the list of international shareholders in the microfinance industry that are contained in the dataset. As could be seen from the table, most of the international shareholders originate from developed countries. This could mean that MFIs usually look to the "developed North" for funding solutions. The average age of MFIs in the dataset is approximately 9 years and the minimum and maximum ages are 0 and 79 respectively. Also, the mean value of assets of an MFI is US$14,886,383. The minimum and maximum assets values are

US$50,000 and US$279,350,811 respectively. The minimum and maximum values of age and assets show a wide diversity. Mersland & Strøm (2012a) explain that such diversity is due to the young nature of the industry and the fact that MFI are at different stages of development and are also domestically established in diverse contexts. Also in the dataset, 67% of the MFIs are regulated by banking authorities in the countries in which they operate and 30% focus on women clients. 65% and 19% of the MFIs use solidarity group lending and village banking credit methodologies respectively. Regarding capital structure, the average debt to equity ratio is 3.7. MFIs in the dataset therefore employ both debt and equity financing. Detailed descriptive statistics and discussion of the characteristics of the MFIs is presented in chapter 6 (under section 6.1).

Table 4.2 List of international shareholders in the dataset and their corresponding countries of origin

Name	Country
Accion Gateway Fund	United States
ACCION Investments	Cayman Islands
AfriCap	Mauritius
CAF	Venezuela
Citigroup Foundation	United States
CRESUD	Italy
DBMDF	United States
FMO	Netherlands, The
Hivos	Netherlands, The
I&P Developpement	France
IFC	United States
Impulse (Incofin)	Belgium
INCOFIN	Belgium
KEF	South Africa
KFW	Germany
Kolibri Kapital ASA	Norway
NOVIB	Netherlands, The

Name	Country
Oikocredit	Netherlands, The
OTI	United States
ShoreCap Intl.	United Kingdom
SIDI	France
Triodos-Doen Foundation	Netherlands, The
LaCif	Panama
Grameen Trust	Bangladesh
WWB	United States
Triple Jump	Netherlands, The
Blue Orchard	Switzerland
World Vision/Vision Fund	United States
KIVA	United States
Stromme Microfinance	Norway
Shore Bank	
Locfund	
Other	

4.4 Chapter summary

In this chapter, we described the data based on which we carry out this research. The data is from 148 MFIs from 51 countries. This consists of two independent samples, shareholder MFIs that have international shareholders and shareholder MFIs that do not have international shareholders.

CHAPTER FIVE

METHODOLOGY

5.0 Introduction

In this chapter we present the research methodology. Thus we document the various techniques, methods and procedures we employ in analyzing the data. The methods carefully discussed here serve as the blueprint for the measurement of the concepts and the analysis of the data based on which we answer the research questions of this thesis (Sekaran and Bougie, 2013).

5.1 Operationalization and measurement of concepts

Operationalization is "the process of identifying the actual measurement scales to assess the variables of interest" (Zikmund, Babin, Carr & Griffin, 2012). For constructs that cannot be directly observed and measured, researchers usually combine several items to aid their measurement (Sarstedt & Mooi, 2014). This is the process of operationalization. According to Sekaran and Bougie (2013, p. 200), operationalization "is done by looking at the behavioural dimensions, facets, or properties denoted by the concept which are then translated into observable and measureable elements so as to develop an index of measurement of the concept".

In this study, the main concepts include; international shareholder, MFI financial performance and operating cost. These are operationalized with the aid of variables that are empirically supported.

5.1.1 Independent and dependent variables

For the analysis meant to answer the first research question, the dependent variable is the dummy for international shareholder and the independent variables are the MFI characteristics. Regarding the analysis meant to answer the second research question, the dummy for international shareholder is the only independent variable. The dependent variables are the proxies for overall financial performance (sub-divided into overall efficiency and profitability) and operating cost. The proxies for overall financial performance include, return on equity (ROE) (Lin & Zhang, 2009: Bonin et al., 2005) and ratio of cost to income (Lin & Zhang, 2009) for profitability and efficiency respectively. The proxy for operating cost is the ratio of operating cost to assets (D'espallier et al., 2011).

5.1.2 Control variables

We control for country, regional and MFI specific effects as previous microfinance studies do (Mersland et al., 2011; Mersland & Strøm, 2009; Hartarska, 2005). In this study, we include same controls as in Mersland et al. (2011). Additionally, we control for the effects of capital structure in our analysis. The control variables are sub-categorized into MFI specific controls, country specific controls and regional controls. The MFI specific controls are, age, size (total of assets), portfolio at risk and debt to equity ratio. The country specific controls are GDP per capita (adjusted for effects of purchasing power parity), GDP growth, inflation, current account balance and heritage index of the country. The regional controls are as follows: dummy variables for Europe and central Asia, Latin America and Caribbean, Middle East and North Africa, South East Asia and the Pacific and Sub-Saharan Africa.

In table 5.1, we explain the dependent and independent variables used in this study. The explanations for the control variables are shown in table 5.2. In table 5.3 the independent variable and its expected effect on the dependent variables are presented. The expected relationships between the MFI characteristics and the international shareholder variable are also displayed in the same table.

Table 5.1: Explanation of independent and dependent variables

Variable	Explanation/Measure
General and financial performance variables	
International shareholder	Dummy variable with value of (1) if the MFI has an international shareholder and value of (0) if the MFI has no international shareholder
Cost to income	Operating expense divided by total financial revenue
Operating expense to assets	Total operating expense / Total assets
ROE	Return on Equity

Organizational variables	
Credit clients	Number of credit clients
Bank regulation	Dummy variable with a value of (1) if the MFI is regulated by banking authorities and value of (0) if the MFI is not regulated
Urban market	A dummy variable with a value of (1) if the MFI has an urban focus and value of (0) if the MFI has a rural focus.
Female bias	A dummy with the value of (1) if the MFI has a female bias and (0) if otherwise
Lending methodology	
Group lending	Dummy variable with value of (1) if the MFI offers solidarity group loans and value of (0) if not
Village banking	Dummy variable with value of (1) if the MFI offers village banking and value of (0) if not
International variables	
International network member	Dummy variable with a value of (1) if the MFI is a member of an international network and value of (0) if otherwise
International CEO	Dummy variable with a value of (1) if the MFI has an international CEO and value of (0) if otherwise

Table 5.2 Organizational and contextual control variables

Variable	Explanation/Measure
MFI specific controls	
Size	Natural logarithm of total assets of the MFI
Age	Number of years since the MFI was established to the year in which the data was collected
Portfolio at risk	share of outstanding loan portfolio with more than 30 days in arrears
Debt to equity ratio	$\frac{\text{Total debt} + \text{total savings}}{\text{Total equity}}$
Contextual controls	
Country specific controls	
GDP per capita	GDP per capita of the country adjusted for effects of purchasing power parity (PPP)
GDP growth	The annual percentage growth rate of GDP at market prices based on constant local currency
Inflation	Annual percentage of inflation measured by consumer price index
Current account balance	Current account balance of the country as a percentage of GDP
Heritage index	Measure of economic freedom in a country as published by the heritage foundation
Regional controls	
Europe and central Asia (ECA)	Dummy variable with value of (1) for countries from Europe and central Asia and (0) for otherwise

Latin America and Caribbean (LAC)	Dummy variable with value of (1) for countries from Latin America and Caribbean and (0) for otherwise
Middle East and North Africa (MENA)	Dummy variable with value of (1) for countries from Middle East and North Africa and (0) for otherwise
South East Asia and the Pacific (SEAP)	Dummy variable with value of (1) for countries from South East Asia and the Pacific and (0) for otherwise
Sub-Saharan Africa (SSA)	Dummy variable with value of (1) for countries from Sub-Saharan Africa and (0) for otherwise

Table 5.3: Hypothesized relationships between independent and dependent variables

Variables	**Hypothesis** **Int shareholder**
MFI characteristics	
Social set-up	+
Regulation	+
International orientation	+
Collective lending method and market	+
Performance variables	
Cost to Income	+ / -
ROE	+ / -
Operating expenses to assets	+ / -

5.2 Data analysis techniques

Beginning the analysis of our data, we generate the descriptive statistics of the data for the purpose of familiarizing ourselves with the dataset and to understand the characteristics of the MFIs composed in the dataset. According to Fisher & Marshall (2009, p. 93), "descriptive statistics are simply the numerical procedures or graphical techniques used to organize and describe the characteristics or factors of a given sample". According to these authors, descriptive statistics

provide a useful means of summarizing data and describing a sample and also seem the simplest statistical analysis for a researcher to perform.

To answer the first research question, we perform t-test and nonparametric chi square tests (univariate techniques) to compare the mean and median values of MFIs with international shareholders and those without international shareholders along the different MFI characteristics and performance variables. The aim is to assess whether there is a significant difference between MFIs that have international shareholders and those that do not have international shareholders and to also identify MFI characteristics that relate to international shareholders. For comparisons of this kind, independent samples t-test and nonparametric chi square test are most appropriate (Sekaran and Bougie, 2013; Zikmund et al., 2012). We augment the univariate techniques with multivariate logit regression analysis to identify the particular MFI characteristics that relate to presence of international shareholders. In this multivariate setting, we control for regional and MFI specific effects. The dependent variable here is the dummy variable for international shareholders and the MFI characteristics are the independent variables.

To answer the second research question, we perform multivariate analysis in two steps. First, we assess the influence of the international shareholder variable on the overall financial performance. We measure overall financial performance in terms of efficiency and profitability. Ratio of cost to income and ROE are the proxies for efficiency and profitability respectively. Next, we proceed to investigate the impact of international shareholders on operating costs of MFIs with the ratio of operating cost to assets as a proxy for operating cost.

5.3 Panel data

The dataset for this study is of panel nature. Hsiao (2014, p. 1) defines a panel dataset as "one that follows a given sample of individuals (MFIs for the purposes of this study) over time, and thus provides multiple observations on each individual in the sample". This comes with various advantages such as being well suited to study changes in individuals over time, providing more informative data, more variability, less likelihood of collinearity and more efficiency (Baltagi, 2008). It also suggests that individuals are heterogeneous which may lead to biases if ignored. However, panel data techniques as compared to cross-section or time series techniques, take this

into consideration by taking care of such time or individual specific variables. The general panel data model as adopted from Greene (2003) is presented below;

$$y_{it} = x'_{it}\beta + z'_i\alpha + \varepsilon_{it} \quad \text{.....1}$$

Where;

y_{it} Represents the dependent variables, *i* at time, *t*

x'_{it} Is a vector of explanatory variables

β Denotes the vector of coefficients

$z'_i\alpha$ Is the individual effect with z_i containing a constant term and a set of individual or group specific variables, which may be observed or unobserved all considered to be constant over time *t;* and

ε_{it} Is the idiosyncratic error term.

5.4 Panel data models

There are several models that lend themselves to the analysis of panel data and these broadly include, but are not limited to, Pooled Ordinary Least Squares (OLS), fixed effects and Random effects models (Greene, 2003). In this study, we rule out the fixed effects model because it does not take into consideration the effect of time-invariant variables as they are wiped out by the transformation (Baltagi, 2008). We rule it out considering the fact that the central variable of our study, international shareholder, is a dummy variable. Also, some variables for MFI characteristics including the regional control variables are dummies which are time-invariant yet relevant for our study. Henceforth, we shall continue with a discussion of pooled OLS and the Random Effects panel data models in the next section. After, we would look at the choice between the two models with regards to the equations for this study.

5.4.1 Pooled OLS

"The pooled OLS estimator is obtained by stacking the data over *i* and *t* into one long regression with NT observations", (Cameron & Trivedi, 2005, p. 702) after which OLS is applied. OLS fits

a straight line to the data with the aim of producing the least possible total error (Zikmund, 2013). Stacking the data therefore implies that pooled OLS disregards the very nature of panel data. From equation (1) above, if z_i is comprised of only the constant term, then OLS produces efficient estimates for α and β co-efficients under certain assumptions.

Assumptions of Pooled OLS;

Wooldridge (2010) explains assumptions that relate to the analysis of panel data using the pooled OLS method and these are;

No Multicollinearity. This assumption prohibits the existence of a perfect linear relationship among the predictor variables.

Homoscedasticity. This means that the variance of the error term is constant across time and firms.

No serial correlation. The error terms across the different time periods should not be correlated with each other.

Contemporaneous exogeneity. It states that the independent variables and the error term for a particular time period should not be correlated.

In addition to these assumptions, there are other assumptions that are general to the least squares method which according to Greene (2003) include;

Linearity. There should be a linear relationship between the dependent and independent variables in the model.

Normal distribution. The residuals from the model should follow a normal distribution.

5.4.2 Random Effects

Starting from equation (1) above, we noted that z_i contains a constant term and a set of individual or group specific variables, which may be observed or unobserved. If z_i (the individual effect) is unobserved and assumed to be uncorrelated with the included explanatory variables, then equation (1) can be rewritten as; (Greene, 2003)

$$y_{it} = x'_{it}\beta + E[z'_i\alpha] + \{z'_i\alpha - E[z'_i\alpha]\} + \varepsilon_{it}$$

$$= x'_{it}\beta + (\alpha + u_i) + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2$$

Where;

y_{it} , x'_{it} and β are defined as before,

α is the mean of unobserved heterogeneity,

u_i denotes the firm-specific random heterogeneity and

ε_{it} is the remainder heterogeneity of firm *i* at time, *t*.

Equation 2 is a random effects model estimated by the random effects method. This method "specifies that u_i is a group-specific random element, similar to ε_{it} except that for each group, there is but a single draw that enters the regression identically in each period" (Greene, 2003, p. 285).

Assumptions of the Random Effects model;

Random effects specifies similar assumptions as pooled OLS in relation to Homoscedasticity, Multicollinearity, Serial correlation, Linearity and Normal distribution. However, rather than contemporaneous exogeneity, random effects specifies *strict exogeneity* meaning that the current error term is not correlated with the independent variables in every period (Wooldridge, 2010).

5.5 Regression Equations

Here, we present the regression equations based on which we test the research hypotheses. We perform multivariate analysis with four regression equations (with all MFI-specific and contextual controls). To avoid falling into the dummy variable trap, we drop one category; SEAP (South-East Asia and the Pacific) from the regional dummies when performing the regressions.

i. $Int\_shareholder_{it} = \beta_1 Int\_netw\_member_{it} + \beta_2 Int\_CEO_{it} + \beta_3 DM\_Bank\_regul_{it} + \beta_4 Grp\_lend_{it} + \beta_5 DM\_village\_bank_{it} + \beta_6 urban\_mkt_{it} + \beta_7 Female\_bias_{it} + \beta_8 Cr\_clients_{it} + \beta_9 Age_{it} + \beta_{10} Size_{it} + \beta_{11} ECA_{it} + \beta_{12} LAC_{it} + \beta_{13} MENA_{it} + \beta_{14} SSA_{it} + \alpha_i + \varepsilon_{it}$

ii. $$Cost\_income_{it} = \beta_1 Int\_shareholder_{it} + \beta_2 Age_{it} + \beta_3 Size_{it} + \beta_4 PaR30_{it} + \beta_5 Debt\_Equity_{it} + \beta_6 GDP/capita_{it} + \beta_7 Heritage_{it} + \beta_8 Current\_account_{it} + \beta_9 GDP\_growth_{it} + \beta_{10} Inflation_{it} + \beta_{11} ECA_{it} + \beta_{12} LAC_{it} + \beta_{13} MENA_{it} + \beta_{14} SSA_{it} + (\alpha + u_i) + \varepsilon_{it}$$

iii. $$ROE_{it} = \beta_1 Int\_shareholder_{it} + \beta_2 Age_{it} + \beta_3 Size_{it} + \beta_4 PaR30_{it} + \beta_5 Debt\_Equity_{it} + \beta_6 GDP/capita_{it} + \beta_7 Heritage_{it} + \beta_8 Current\_account_{it} + \beta_9 GDP\_growth_{it} + \beta_{10} Inflation_{it} + \beta_{11} ECA_{it} + \beta_{12} LAC_{it} + \beta_{13} MENA_{it} + \beta_{14} SSA_{it} + (\alpha + u_i) + \varepsilon_{it}$$

iv. $$Operexp\_assets_{it} = \beta_1 Int\_shareholder_{it} + \beta_2 Age_{it} + \beta_3 Size_{it} + \beta_4 PaR30_{it} + \beta_5 Debt\_Equity_{it} + \beta_6 GDP/capita_{it} + \beta_7 Heritage_{it} + \beta_8 Current\_account_{it} + \beta_9 GDP\_growth_{it} + \beta_{10} Inflation_{it} + \beta_{11} ECA_{it} + \beta_{12} LAC_{it} + \beta_{13} MENA_{it} + \beta_{14} SSA_{it} + (\alpha + u_i) + \varepsilon_{it}$$

Where;

Int_shareholder = International shareholder, Cost_Income = Cost to income, ROE = Return on Equity, Operexp_assets = Operating expense to Assets, PaR30 = Portfolio at Risk with 30 days in arrears, Debt_Equity= Debt to Equity ratio, Int_netw_member=International network member, Int_CEO=International CEO, DM_Bank_regul=Bank regulation, Grp_lend=Solidarity Group lending, urban_mkt=Urban market, Cr_clients=Credit clients, ECA = Europe & Central Asia, LAC = Latin America & the Caribbean, SSA = Sub-Saharan Africa, MENA = Middle East & North Africa.

5.6 The choice between Pooled OLS and the Random Effects methods

We now turn our attention to testing which of the two methods is more appropriate for our study. This involves testing for the presence of time and individual effects based on the OLS residuals. Breusch and Pagan (1980) derived the Langrage multiplier test for random effects for this purpose. The null hypothesis for this test is that there is no time and individual effects. This means that the OLS estimators are consistent and hence suggesting that pooled OLS is the most appropriate method. The null hypothesis is rejected if the test result indicates the presence of time and

individual effects. Random effects is the most appropriate method when the null hypothesis is rejected.

We perform this test using the *xttest0* command in Stata. The results are shown in table 5.2 below:

Table 5.4: Result for Breusch and Pagan Lagrange multiplier test for random effects

Regression equation	Dependent variable	χ2-statistic	p-value
ii.	Cost_Income	216.78	**0.0000**
iii.	ROE	14.61	**0.0001**
vi.	Operexp_Assets	382.14	**0.0000**

From the results displayed in the table above, we reject the null hypothesis for each of the models tested and conclude that there is time and individual effects (panel effects). Hence, random effects method is the most appropriate for our study. However, we would present pooled OLS results also for each model for the purpose of comparison and checking robustness of results. We proceed to test the assumptions for random effects as discussed in section 5.4.2.

5.7 Test of assumptions

Here, we test for the assumptions required by the random effects method. These include test for normal distribution of the disturbances, multicollinearity, heteroscedasticity, autocorrelation and strict exogeneity.

5.7.1 Normal distribution of the disturbances

We test for this assumption using normal probability plots (Hair, Black, Babin, & Anderson, 2010). All the other variables save for cost to income, total assets, average loan outstanding, credit clients, GDP per capita (PPP adjusted), PaR30 and operating cost to assets are approximately normally distributed. We transform PaR30 by obtaining its square root while all the other variables that are not normally distributed are transformed by taking their natural logarithms. The transformed variables are shown in appendix II.

5.7.2 Multicollinearity

Multicollinearity could be a problem when there is perfect or very high correlation between the independent variables. Multicollinearity poses difficulties in estimating the parameters with high precision level. Coefficients of the independent variable may be indeterminate and standard errors may be too high or even infinite (Gujarati, 2003). To test for this assumption, we generate a correlation matrix for the predictor (independent) variables. The correlation matrix and the corresponding Variance Inflation Factors (VIFs) for the independent variables in equation (i) are presented in appendix IV. The correlation matrix for equations II, III and IV is shown in table 5.3 below.

Table 5.5: Correlation matrix

	Int_sh~r	Age	Size	PaR30	Debt_E~y	GDP_ca~a	Heritage
Int_shareh~r	1.0000						
Age	-0.0630	1.0000					
Size	0.0673	0.4552	1.0000				
PaR30	-0.1395	0.0850	-0.0018	1.0000			
Debt_Equity	-0.0321	0.1114	0.3200	0.1749	1.0000		
GDP_capita	0.0491	0.0273	0.2600	0.0298	0.1225	1.0000	
Heritage	-0.0038	0.0253	0.1459	0.1953	0.1159	0.4658	1.0000
GDP_growth	0.0606	0.0006	-0.0969	-0.1906	-0.1118	0.0082	-0.2809
Inflation	-0.1044	0.0195	-0.1297	-0.0607	-0.0779	-0.2514	-0.3653
Current_ac~t	0.0139	0.0593	0.1832	-0.0024	0.0738	0.2420	-0.0236
ECA	0.2632	-0.1392	-0.0497	-0.2179	-0.0065	0.2855	-0.1010
LAC	-0.1535	0.0553	0.2399	0.2607	0.2191	0.5148	0.4847
MENA	0.0222	-0.0310	-0.0126	-0.1153	-0.1170	0.2337	0.1787
SSA	-0.0781	0.0130	-0.2336	0.1158	-0.1457	-0.7338	-0.3215

	GDP_gr~h	Inflat~n	Curren~t	ECA	LAC	MENA	SSA
GDP_growth	1.0000						
Inflation	0.1754	1.0000					
Current_ac~t	0.1952	-0.1288	1.0000				
ECA	0.2557	0.0931	-0.0055	1.0000			
LAC	-0.2833	-0.2879	0.1776	-0.3116	1.0000		
MENA	-0.0122	-0.0998	-0.0652	-0.1057	-0.1310	1.0000	
SSA	-0.0175	0.2469	-0.1951	-0.3460	-0.4288	-0.1454	1.0000

According to Hair et al. (2010), the threshold value to indicate the presence of multicollinearity is 0.9. Therefore, correlation values of greater than 0.9 indicate the presence of multicollinearity whiles values less than 0.9 indicate absence of multicollinearity. From the correlation matrix above, the highest value is 0.5148 (correlation between LAC and GDP per capita). None of the values is therefore 0.9 or above 0.9 and hence showing the absence of multicollinearity among the independent variables. We complement this by calculating the Variance Inflation Factor (VIF) of each independent variable and comparing the calculated value with the rule of thumb value of 5. The calculated VIF and the corresponding tolerance values are shown in appendix 1. Zikmund et al. (2012) suggest that VIF values of greater than 5 indicate the presence of the multicollinearity problem. From the calculated VIFs shown in appendix 1, all the values are below 5 with the highest being 4.15 (GDP per capita). This again shows that multicollinearity is absent.

5.7.3 Test for heteroscedasticity

Heteroscedasticity is present in a linear model when the disturbances have unequal spread or variance (Gujarati 2003). According to this author, heteroscedasticity when not corrected results in inefficient estimates. Baltagi (2008) adds that the standard errors of such estimates will be biased. We test for this assumption using the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity in Stata. The null hypothesis for this test is that there is constant variance. The results of the test are reported in table 5.4 below. In the table, all p-values in bold indicate presence of heteroscedasticity hence we reject the null hypotheses for those models. Consequently, we perform the regressions using robust standard errors to correct for heteroscedasticity as suggested by literature (Baltagi, 2008)

Table 5.6: Results for the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

Regression equations	Dependent variable	$\chi 2$-statistic	p-value
i.	Int_shareholder	3.99	**0.0457**
ii.	Cost_Income	55.24	**0.0000**
iii.	ROE	594.38	**0.0000**
iv.	Operexp_assets	2.42	0.1199

5.7.4 Test for autocorrelation

Autocorrelation occurs when the error terms in a regression model are not independent of each other. It behaves in a manner similar to heteroscedasticity with regards to the estimates and standard errors as it leads to inefficient estimates and biased standard errors (Baltagi, 2008). We test for this assumption using the Wooldridge test for autocorrelation in panel data with the command "*xtserial*" in Stata. The results are shown in table 5.5 below. From the table most of the equations in our study suffer from autocorrelation. The equations which have their p-values in bold signify presence of autocorrelation. To correct for this, we perform the regressions using robust standard errors as suggested by Baltagi (2008).

Table 5.7: Results of the Wooldridge test for autocorrelation

Regression equations	Dependent variable	F-statistic	p-value
i.	Int_shareholder	0.01	0.9167
ii.	Cost_Income	35.67	**0.0000**
iii.	ROE	9.48	**0.0027**
iv.	Operexp_assets	27.32	**0.0000**

5.7.5 Test for endogeneity

Previous findings in the banking literature suggest that well-performing banks could attract international equity investors. In the global microfinance industry, it is likely that international shareholders would be attracted towards MFIs that are already showing good financial results. In such a case, we would be confronted with the problem of endogeneity. We test for endogeneity using the Durbin-Wu-Hausman test for endogeneity using the two-stage least squares instrumental variable method. Generally, finding a good and perfect instrument is an onerous task. Therefore, following existing literature, we use the lagged values of the explanatory variable as an instrument (Lee, 2014; Owen & Yu, 2008; Kang & Sivaramakrishnan, 1995). The result of the test is shown in table 5.6 below:

Table 5.8: Results for Durbin-Wu-Hausman test for endogeneity

		Durbin		Wu-Hausman	
Regression equation	**Dependent variable**	**χ2-statistic**	**p-value**	**F-statistic**	**p-value**
ii.	Cost_income	0.0038	0.9510	0. 0036	0.9520
iii.	ROE	0.8024	0.3704	0.7723	0.3800
iv.	operexp_assets	0.4748	0.4908	0 .4565	0.4997

From the results displayed in the table, none of the p-values of the Durbin chi square statistic and the Wu-Hausman F-statistic is significant at any level. We therefore conclude that none of our models suffer from the endogeneity problem. Hence, we would perform the regression analysis without using any instrument. However, later, we would employ the instrumental variable approach (where we use the instrument) to perform the analysis in order to check the robustness of the results.

5.8 Robustness checks

For the purpose of ensuring that our results are robust we perform further analysis. We do this by employing the instrumental variable approach. Thus, we perform the regression analysis using the instrument described in sub-section 5.7.5 above.

5.9 Statistical package

We carry out all tests and analysis of the data using version 14 of the Stata statistical software. This software is widely acknowledged and used in quantitative studies – especially those that involve the use of panel data such as ours. Given the large volume of study resources available on the internet, it is also quite easy to use and get accustomed to.

5.10 Chapter summary

In this chapter we described the operationalization of the concepts and the statistical techniques employed to analyze the data. These include two univariate techniques: *t-test* and nonparametric

χ^2-test. We also employ three multivariate regression techniques which include logit regression, random effect and pooled OLS. We use Stata statistical software to analyze the data. In the next chapter, we present the results of the statistical analysis.

CHAPTER SIX

PRESENTATION OF FINDINGS

6.0 Introduction

In this chapter, we present the results of the statistical techniques applied in analyzing the data. We first present the descriptive statistics in table 6.1. We answer the first research question with the results of the *t*-test, nonparametric χ^2-test and logit regression. These results are presented in table 6.2, table 6.3 and 6.4 respectively. We answer the second research question with the results of pooled OLS and random effects.

6.1 Descriptive statistics

Our aim here is to show the general characteristics of the MFIs in the dataset. The descriptive statistics of the data are presented in table 6.1 below:

Table 6.1: Descriptive statistics

Variables	Obs	Mean	Std. Deviation	Minimum	Maximum
Main and performance variables					
Int_shareholder	682	0.53	0.50	0	1
Cost_income	656	0.84	1.38	0.15	30.08
ROE	623	0.03	0.50	-5.72	3.17
Operexp_assets	562	0.21	0.14	0.02	1.00
International orientation					
Int_CEO	610	0.12	0.33	0	1
Int_netw_member	671	0.36	0.48	0	1
Lending methodology and market					
Grp_lend	675	0.65	0.48	0	1

DM_village_bank	661	0.19	0.39	0	1
urban_mkt	659	0.32	0.47	0	1
Organizational variables					
DM_bank_regul	633	0.67	0.47	0	1
Cr_clients	646	19,985.41	33,558.59	10	394,374.00
Female_bias	633	0.30	0.46	0	1
MFI specific controls					
Age	682	8.37	6.05	0	79
Size	677	14,886,383.97	28,070,449.91	50,000.00	279,350,811.00
PaR30	623	0.05	0.08	0.00	0.82
Debt_Equity	639	3.70	7.92	-6.98	105.54
Contextual controls					
Heritage	668	59.27	5.88	43.50	77.80
GDP/capita	658	4,833.84	4,237.79	200.00	23,287.91
GDP_growth	682	6.80	5.45	-14.15	34.50
Inflation	595	6.83	6.19	-8.24	44.39
Current_account	681	-3.58	8.35	-29.82	36.77
ECA	682	0.20	0.40	0	1
LAC	682	0.28	0.45	0	1
MENA	682	0.04	0.20	0	1
SEAP	682	0.13	0.34	0	1
SSA	682	0.32	0.47	0	1

From the table above, 53% of the MFs in the dataset have international shareholders. Regarding the financial variables, the average ratio of cost to income is 0.84 with the highest and lowest values being 0.15 and 30.08 respectively. This signals that on average, the MFIs in the dataset are unable to generate incomes to cover their operating cost. The mean ROE and ratio of operating cost to assets are 3% and 0.21 respectively. Also in the table, 12% of the MFIs have international CEOs and 36% are members of an international network. 65% of the MFIs use group lending methodology whiles 19% use village banking methodology. Solidarity group lending is therefore a popular lending methodology among the MFIs in the dataset. 67% of the MFIs are regulated by banking authorities in the countries in which they operate. This is high but not surprising as the MFIs in the dataset for this thesis are banks and Non-Bank Financial Institutions (NBFIs). These groups of MFIs are usually more regulated that other types of MFIs. The means for credit clients and average loan outstanding are 19,985.41 and $1,452.93 respectively. 30% of the MFIs focus on female clients. Turning to the MFI specific controls, the average value of assets held by MFIs in the dataset is US$14,886,384 whiles the average age of MFIs is approximately 9 years. This suggests that the microfinance industry is fairly young and relatively small in size. The average portfolio at risk is 0.05 while that of debt to equity ratio is 3.7. This suggests that the MFIs in the dataset often subscribe to debt financing over equity. The statistics also suggest that MFIs operate in high growth economies (approximately 7% GDP growth rate) that have slightly above-average economic freedom (heritage value of 59.27). The average inflation in all is countries is 6.19% and the average capital account balance is $-3.58. The means for the regional dummies give an indication that most of the MFIs in the data are operating in Sub-Saharan Africa whiles few are operating in the Middle East and North Africa. Largely, the characteristics of the MFIs in the dataset mimic the typical characteristics of MFIs explored in section 3.2.1.

6.2 International shareholder and MFI characteristics

We identify the MFI characteristics that relate to the presence of an international shareholder by carrying out two univariate tests - the t-test and nonparametric χ^2-test, and logit regression analysis. The results of the respective analysis are shown and discussed in turns in the subsections below; first, the results of the t-test, then the results of the results of the nonparametric χ^2-test and finally that of the logit regression analysis.

6.2.1 Results of the t-test

The t-test compares the means of the two independent samples of MFIs, (those that have international shareholders and those that do not have international shareholders) that consist of the dataset along the various variables. The aim is to assess if there are significant differences between the two samples. The null hypothesis for this test is that there are no significant differences between the samples. The results of the t-test is presented in table 6.2 below. "Yes" is for MFIs that have international shareholders and "No" is for MFIs that do not have international shareholders.

Table 6.2: Results of the t-test

	Means			
Variable	**Yes**	**No**	**t-statistic**	**p-value**
Cost_income	0.3370	-0.4601	-2.9607	0.0032***
ROE	-0.0327	0.1090	3.5651	0.0004***
Operexp_assets	-1.6501	-1.8484	-4.0708	0.0001***
Cr_clients	9.1650	8.8142	-2.9923	0.0029***
DM_village_bank	0.2328	0.1342	-3.2728	0.0011***
Grp_lend	0.6639	0.6258	-1.0319	0.3025
DM_bank_regul	0.6687	0.6811	0.3317	0.7402
urban_mkt	0.3711	0.2549	-3.2171	0.0014***
Female_bias	0.3216	0.2680	-1.4709	0.1418
Int_netw_member	0.4945	0.2019	-8.2392	0.0000***
Int_CEO	0.2340	0.0067	-9.0915	0.0000***

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

From the table above, there are statistically significant univariate differences between MFIs that have international shareholders and those that do not have international shareholders when it comes to most of the characteristics and performance proxies used in this study. MFIs that have international shareholders often offer their services through village banking lending methodology. These MFIs also tend to have higher number of credit clients and serve a larger proportion of urban

markets as compared to their counterparts that do not have international shareholders. In terms of international orientation, MFI that have international shareholders usually have an international CEO and are often affiliated to an international network. Therefore, MFIs that have international shareholders also often have good international orientation. Largely, these findings are according to our expectation.

Regarding the financial performance indicators explored, MFIs that have international shareholders have significantly higher cost to income ratio, lower return on equity and higher operating cost to asset ratio compared to those that do not have international shareholders. This agrees with hypotheses H_{5b} and H_{6b} respectively. This finding suggests that shareholder MFIs that have international shareholders are less efficient, less profitable and often incur higher operating cost. We also observe that the mean ROE for MFIs that have international shareholders is -3.27% and that MFIs that have no international shareholders is 10.9%. This means that on average, international equity investors in the microfinance industry make loses (negative returns) on their investment while local investors earn significantly higher financial returns on their investments. Most likely, international equity investors in the microfinance industry have similar objectives as other international actors in the industry and hence may have more social orientation than financial (see Mersland et al., 2011; Mori et al., 2013). We observe no significant univariate differences between the two independent samples in terms of using solidarity group lending methodology, regulation by banking authorities and targeting of female clients.

In the next subsection, we present the results of the nonparametric $\chi 2$-test and compare with the results of the t-test.

6.2.2 Results of the nonparametric χ^2-test

This χ^2-test compares the medians of the two independent samples of MFIs in the data in order to assess if there are significant differences between them. The null hypothesis for this test is that there are no significant differences in the medians of the independent samples. Table 6.3 presents the results of the nonparametric χ^2-test. "Yes" is for MFIs that have international shareholders and "No" is for MFIs that do not have international shareholders.

Table 6.3: Results of the nonparametric χ2-test

	Median			
Variables	**Yes**	**No**	**χ^2-statistic**	**p-value**
Cost_income	-0.4368	-0.4862	1.7725	0.1830
ROE	0.07	0.10	2.9755	0.0850
Operexp_assets	-1.7113	-1.8326	11.4788	0.0010***
Cr_clients	9.2680	8.9341	3.8849	0.0490***
DM_village_bank	0.0000	0.0000	10.5720	0.0010***
Grp_lend	1.0000	1.0000	1.2215	0.2690
DM_bank_regul	1.0000	1.0000	0.1854	0.6670
urban_mkt	0.0000	0.0000	10.2201	0.0010***
Female_bias	0.0000	0.0000	2.1631	0.1410
Int_netw_member	0.0000	0.0000	61.8149	0.0000***
Int_CEO	0.0000	0.0000	73.0034	0.0000***

* $p<0.1$; ** $p<0.05$; *** $p<0.01$.

The results of the nonparametric χ^2-test confirms the results of the t-test to a large extent. The results indicate that MFIs that have international shareholders have significantly high ratio of operating cost to assets compared to their counterparts which do not have international shareholders. The ratio of cost to income and ROE which were significant in the t-test are not significant in the χ^2-test. There are therefore no statistical differences between the medians of these performance variables for the two samples. However consistent with the t-test results, MFIs that have international shareholders have a lower median for ROE and higher cost to income ratio. The median comparison also show that Shareholder MFIs that have international shareholders usually use village bank lending methodology, have high number of credit clients and operate often in urban markets. They also usually belong to international networks and have an international CEO. Consistent with the t-test results, we observe no significant univariate differences between the medians of the two independent samples in terms of using solidarity group lending methodology, regulation by banking authorities and targeting of female clients. Having presented the results of the univariate techniques, we proceed to consider the outcome of the multiple regression analysis.

6.2.3 Result of the logit regression analysis

In this section we extend the examination of the characteristics of MFIs to a multivariate context. We perform logit regression analysis with the international shareholder variable being the dependent variable whiles the various MFI characteristics are the independent variables. We perform the analysis here in two stages. First, we perform the regression without any control and later perform with MFI specific and regional controls. The result of the logit regression is shown in table 6.4 below.

Table 6.4: Result of the logit regression analysis

	Int_shareholder	Int_shareholder
Int_CEO	4.538	3.897
	(4.41)***	(3.76)***
Int_netw_member	1.508	1.672
	(6.07)***	(6.00)***
DM_bank_regul	-0.015	-0.064
	(0.06)	(0.25)
Grp_lend	-0.205	-0.109
	(0.80)	(0.36)
urban_mkt	0.640	1.200
	(2.46)**	(3.72)***
DM_village_bank	0.874	1.342
	(2.96)***	(3.78)***
Cr_clients	0.217	0.421
	(2.72)***	(3.10)***
Female_bias	-0.106	0.141
	(0.43)	(0.51)
Age		-0.065
		(2.76)***
Size		0.055
		(0.39)
ECA		1.144
		(2.48)**
LAC		-0.249
		(0.63)
MENA		-1.644
		(2.63)***
SSA		-0.840
		(2.08)**
_cons	-2.811	-5.130
	(3.92)***	(3.07)***
N	495	493
Pseudo R^2	0.22	0.27

Wald χ^2	75.26***	115.01***

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

The results of the logit regression affirms that of the univariate analysis. From the results, all the international orientation variables (international CEO and international network member) are significantly positively related to the international shareholder variable. This finding is consistent with hypothesis H_3. Also the results show that shareholder MFIs that have international shareholders usually serve urban markets, have larger number of credit clients and reach their clients via village banking methodology. With this, we confirm hypotheses H_1 and H_4 respectively. These findings are robust as they still hold even after controlling for MFI specific and regional differences. We observe that there is a negative significant relationship between international shareholder and age of MFI. This suggests that MFIs that have international shareholders are young players in the fast growing microfinance industry. As the case of the univariate analysis was, we observe that the international shareholder variable is not significantly related to group lending methodology, regulation by banking authorities and targeting of female clients.

6.3 International shareholder and overall financial performance and operating cost

We turn to present the results for Random effects and pooled OLS multiple regression analysis for the overall financial performance and for operating cost in order to answer the second research question. We first present the results for the overall assessment of financial performance. As noted in the earlier, we assess overall financial performance in terms of efficiency and profitability. Ratio of cost to income and ROE are the proxies for efficiency and profitability respectively.

Table 6.5 presents the results of the overall assessment of financial performance. From the results displayed in the table, the international shareholder variable has a significant positive effect on the ratio of cost to income. This is consistent with the results of the t-test and hence suggesting that MFIs that have international shareholders sell their services and generate their incomes at a higher cost. This finding is in line with hypothesis H_{5b}. This finding means that presence of international shareholders in MFIs results in inefficiencies. From the table, the relationship is significant at 99% confidence level for both pooled OLS and RE estimation methods. The results relating to ROE indicate that the international shareholder variable has a significant negative influence on overall profitability. This finding confirms the t-test results and also lends support to hypothesis H_{5b}. This

result is significant at 99% and 95% in pooled OLS and RE estimation methods respectively. This means that MFIs that have international shareholders have poor profitability in terms of ROE as compared to their counterparts that have only domestic ownership. Here we extend our argument from the univariate analysis that international equity investors in the microfinance industry earn very low, negative or no financial returns on their investments.

Table 6.5: Effect of international shareholding on overall financial performance

	Cost_income	Cost_income	ROE	ROE
Int_shareholder	0.132	0.152	-0.111	-0.111
	(4.02)***	(2.71)***	(3.14)***	(2.51)**
Age	0.004	0.002	0.007	0.007
	(0.84)	(0.32)	(1.68)	(1.30)
Size	-0.178	-0.185	0.052	0.066
	(10.49)***	(5.75)***	(1.51)	(1.33)
PaR30	-0.383	-0.326	-0.263	-0.265
	(3.11)***	(2.70)***	(1.77)	(1.32)
Debt_Equity	-0.050	-0.008	-0.022	-0.088
	(1.12)	(0.11)	(0.14)	(0.37)
GDP/capita	0.058	0.004	-0.019	-0.021
	(1.66)	(0.08)	(0.60)	(0.47)
Heritage	-0.003	0.003	-0.001	0.001
	(0.91)	(0.54)	(0.15)	(0.15)
GDP_growth	-0.008	-0.005	0.009	0.008
	(1.70)	(1.17)	(2.52)**	(2.31)**
Inflation	-0.011	-0.006	0.004	0.003
	(4.30)***	(3.26)***	(2.16)**	(1.61)
Current_account	0.003	0.004	0.000	-0.001
	(0.85)	(1.23)	(0.06)	(0.22)
ECA	-0.235	-0.136	0.031	0.031
	(2.94)***	(1.01)	(0.60)	(0.42)
LAC	-0.035	0.073	0.090	0.082
	(0.55)	(0.76)	(1.77)	(1.10)
MENA	0.090	0.204	-0.294	-0.263
	(0.92)	(1.75)	(1.08)	(1.08)
SSA	0.301	0.338	-0.189	-0.207
	(5.79)***	(3.96)***	(3.58)***	(2.68)***
_cons	2.187	2.196	-0.515	-0.692
	(4.58)***	(3.44)***	(1.15)	(1.11)
R^2	0.44	0.42	0.15	0.14
F/Wald χ^2 statistic	17.64***	172.89***	7.67***	51.05***
N	497	497	491	491
Method	OLS	RE	OLS	RE

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

In all, our analysis indicates that the presence of international shareholders negatively affects overall financial performance. Other control variables that have significant negative relationships with the international shareholder variable in the regression for cost to income are size, portfolio at risk and inflation. GDP growth is also significant in the regression for ROE. Next, we regress the operating cost on the international shareholder variable. The results are shown in table 6.6.

Table 6.6: Result for the effect of International shareholding on operating cost

	Operexp_assets	Operexp_assets
Int_shareholder	0.211	0.245
	(4.65)***	(2.88)***
Age	0.001	0.012
	(0.27)	(2.26)**
Size	-0.187	-0.215
	(9.64)***	(5.75)***
PaR30	-0.796	-0.330
	(5.59)***	(2.11)**
Debt_Equity	-0.081	-0.100
	(1.85)	(2.63)***
GDP/capita	0.191	0.064
	(3.86)***	(0.85)
Heritage	0.016	-0.000
	(2.89)***	(0.03)
GDP_growth	-0.009	-0.002
	(1.42)	(0.38)
Inflation	-0.002	0.003
	(0.58)	(1.64)
Current_account	0.003	0.004
	(0.67)	(1.05)
ECA	-0.526	-0.232
	(5.27)***	(1.42)
LAC	-0.091	0.271
	(1.05)	(2.01)**
MENA	-0.203	0.326
	(1.73)	(1.30)
SSA	0.150	0.129
	(2.04)**	(0.96)
_cons	-1.033	1.012
	(1.92)	(1.37)
R^2	0.32	0.24
F/Wald χ^2 statistic	15.41***	95.90***
N	441	441
Method	OLS	RE

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

From the table above there is a high significant positive relationship between the international shareholder variable and the operating cost ratio in both pooled OLS and the RE estimation methods.[4] This confirms the result of the univariate analysis and lends support to hypothesis H_{6b}. This finding suggests that the presence of international shareholders in shareholder MFIs leads to significantly high operating costs. In both pooled OLS and RE estimation methods, the relationship is significant at 99% confidence level. This result is closely related to the finding observed for the influence of international shareholder on ratio of cost to income. The finding therefore calls for further probing. On this note, we ask the following legitimate question: what type of cost is incurred when an MFI has international shareholders? Could this be administrative cost, personnel cost or both? Answers to these questions would provide a useful insight into how the presence of international shareholders influence operating cost. Answering these questions, we perform further analysis to investigate the particular component of operating cost that is driven up by the presence of international shareholders. Stated differently, we examine the nature or type of cost that is highly influenced by presence of international shareholders in MFIs. We focus on the two main sub-categories of operating cost, administrative and personnel costs. We carry out this investigation by regressing these components of operating cost on the international shareholder variable. The results are shown in table 6.7 below.

[4] We performed a similar regression analysis (unreported) using ratio of operating cost to portfolio as a proxy for operating cost (Mersland & Strøm, 2012b). The same results are obtained.

Table 6.7: Further analyses of effect of international shareholder on operating cost

	Admincost_assets	Admincost_assets	Perscost_assets	Perscost_assets
Int_shareholder	0.282	0.271	0.125	0.202
	(5.50)***	(2.94)***	(2.66)***	(2.22)**
Age	0.003	0.008	-0.001	0.008
	(0.55)	(0.80)	(0.16)	(0.54)
Size	-0.235	-0.262	-0.136	-0.180
	(8.63)***	(6.50)***	(5.91)***	(4.23)***
PaR30	-0.343	-0.041	-0.773	-0.243
	(2.14)**	(0.20)	(4.58)***	(1.32)
Debt_Equity	-0.054	-0.041	-0.141	-0.120
	(0.69)	(0.42)	(2.29)**	(2.59)***
GDP/capita	0.220	0.208	0.082	0.134
	(3.90)***	(2.70)***	(1.56)	(2.33)**
Heritage	0.017	0.014	0.018	0.005
	(2.68)***	(1.51)	(2.77)***	(0.58)
GDP_growth	-0.015	-0.007	-0.009	-0.009
	(2.02)**	(1.31)	(1.56)	(2.57)**
Inflation	-0.004	-0.001	-0.002	0.002
	(1.13)	(0.57)	(0.41)	(0.81)
Current_account	-0.002	0.001	0.004	0.008
	(0.42)	(0.31)	(0.82)	(2.48)**
ECA	-0.587	-0.370	-0.490	-0.316
	(5.72)***	(2.25)**	(4.53)***	(1.78)
LAC	-0.224	-0.043	0.053	0.196
	(2.36)**	(0.27)	(0.53)	(1.15)
MENA	-0.451	-0.203	0.104	0.468
	(3.51)***	(1.08)	(0.78)	(1.60)
SSA	0.220	0.322	0.017	0.142
	(2.50)**	(2.25)**	(0.19)	(0.89)
_cons	-1.696	-1.257	-1.730	-1.057
	(2.72)***	(1.61)	(2.93)***	(1.18)
R^2	0.32	0.30	0.27	0.22
F/Wald χ^2 statistic	15.24***	102.84***	12.65***	86.15***
N	452	452	452	452
Method	OLS	RE	OLS	RE

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

From the table above, the international shareholder variable has a positive significant relationship with both administrative cost and personnel cost. Both pooled OLS and RE estimation methods produce significant relationships. That is, the presence of international shareholders in an MFI leads to high operating cost in the form of administrative and personnel cost. But is the high

operating cost driven by the mere presence of international shareholders or by some other factors such as lending methodology or nature of the loans contracted by MFIs that have international shareholders. In view of this, we further investigate whether the higher operating cost in MFIs that have international shareholders is driven by the mere presence of the international shareholders or by nature of the operations and other significant firm specific characteristics. Previous studies find that operating cost in MFIs is driven by the nature and type of loans offered by MFIs (D'espallier et al., 2011). For example, Mersland & Strøm (2012a) posit that offering of smaller loans is a typical characteristic of MFIs and the same is the major reason for high operating cost in MFIs since smaller loans are costly to manage. In this regard, we perform additional regression analysis and control for the nature of loans contracted by MFIs. In line with literature (D'espallier et al., 2011), we employ average loan outstanding as a proxy for nature of loan. In this further regression, we control for other MFI characteristics (revealed by the univariate and logit regression analysis) that show significant differences between MFIs that have international shareholders and those that do not have international shareholders. These include lending methodology and international orientation. The result of the further regression analysis is presented in table 6.8 below.

Table 6.8: Further regression analysis

	Operexp_assets	Operexp_assets
Int_shareholder	0.121	0.247
	(2.16)**	(2.31)**
Av_Loan_out	-0.077	-0.048
	(2.28)**	(1.25)
DM_village_bank	0.131	0.007
	(1.81)	(0.07)
Int_CEO	0.298	0.156
	(3.24)***	(1.94)
Age	0.001	0.014
	(0.24)	(2.14)**
Size	-0.144	-0.196
	(6.36)***	(4.59)***
PaR30	-0.634	-0.286
	(3.89)***	(1.58)
Debt_Equity	-0.096	-0.141
	(2.01)**	(3.75)***
GDP/capita	0.207	0.072
	(3.63)***	(0.81)
Heritage	0.014	-0.004

	(2.33)**	(0.52)
GDP_growth	-0.014	-0.002
	(1.93)	(0.37)
Inflation	-0.004	0.003
	(0.81)	(1.83)
Current_account	0.001	0.004
	(0.33)	(1.01)
ECA	-0.342	-0.130
	(3.21)***	(0.76)
LAC	-0.013	0.362
	(0.16)	(2.60)***
MENA	-0.116	0.368
	(0.95)	(1.36)
SSA	0.216	0.155
	(2.54)**	(1.02)
_cons	-1.285	1.149
	(2.17)**	(1.37)
R^2	0.35	0.23
F/Wald χ^2 statistic	14.09***	161.64***
N	381	381
Method	OLS	RE

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

After controlling for the effects of nature of loan, lending methodology and international orientation, the international shareholder variable still has a positive significant influence on operating cost in both pooled OLS and the RE estimation methods' results. In both estimation models also, other MFI characteristics that significantly relate to high operating cost are capital structure, age and size of the MFI. Contrary to the findings of D'espallier et al. (2011), we conclude that the high operating cost in MFIs that have international shareholders is not due to the nature of loans these MFI offer to their clients but by the presence of international shareholders. As revealed by the result, additional possible explanations could be capital structure, age and size of the MFIs.

6.4 Check for robustness of the results

As stated in section 5.8, we check for robustness of the results using instrumental variable approach. The instrument used for this regression is the lagged values of the explanatory variable (international shareholder). To begin, we check for the robustness of the results relating to the influence of the international shareholder variable on overall financial performance. Using both OLS and random effects estimation methods, the results are shown in the table presented in

appendix V (a). From the result, there is significant positive relationship between the international shareholder variable and the ratio of cost to income. The confidence levels are 99% and 95% for the pooled OLS and Random effects estimation methods respectively. This is consistent with the earlier univariate and multivariate analysis and hence confirms our observation that the presence of international shareholders leads to inefficiency in MFIs. We also observe that the international shareholder variable has no significant impact on ROE in the random effects estimation method but regarding the pooled OLS method, the international shareholder variable negatively affects ROE at 95% confidence level. The results of the pooled OLS estimation method is in line with our earlier observations and conclusions drawn but that of the random effect method is not. Howbeit, we observe that the sign of the coefficient is negative as before. Also, the p-value is 0.086 (not reported) which is not too far from significance at 90% confidence level.

Next, we focus on checking the robustness of the results relating to the effect of the international shareholder variable on operating cost. The results of the regression analysis using pooled OLS and Random effect estimation methods are presented in the table presented in appendix V (b).

From the result, both pooled OLS and random effects estimation methods again reveal that the presence of international shareholder in MFIs significantly drives up operating costs. This result confirms our earlier analysis in both the univariate and the multivariate settings. In view of the results we have obtained from the alternative methodology (instrumental variable approach), we are persuaded that our findings are robust.

6.5 Chapter summary

We presented the findings in this chapter. We find that MFIs that have international shareholders have high international orientation, often use village banking lending methodology and serve more credit clients and a large proportion of urban markets. These findings still hold even after controlling for regional differences and MFI specific characteristics. These findings are largely according to our expectation. On financial performance, we find that having an international shareholder has a negative impact on overall financial performance of MFIs in terms of profitability and efficiency. Also MFIs that have international shareholders have higher operating cost compared to their counterparts with total local ownership. This high operating cost is in the form of administrative and personnel costs.

CHAPTER SEVEN

DISCUSSION OF FINDINGS

7.0 Introduction

In this chapter, we discuss the findings presented in the previous chapter. We make reference to the core theories and previous empirical findings in this detailed discussion.

7.1 International shareholding and MFI characteristics

The results of the univariate analysis as well as the logit regression analysis reveal that having an international shareholder in an MFI is statistically related to five characteristics. Two of these relate to international orientation, one relates to lending methodology and the remaining two are characteristics relating to social set-up. We discuss these as follows.

Firstly, shareholder MFIs that have international shareholders have a high international orientation. The results show that these MFIs often have international CEOs and belong to international networks. Being members of international networks is highly supported by the resource based theory as international shareholders may play a role in securing such affiliations. Again, from a resource based view perspective, an international CEO could serve as an important resource due to the thin nature of the market for qualified CEOs in the microfinance industry. Further univariate analysis (results shown in appendix III) also show that presence of international shareholders is significantly related to international directorship and international initiator variables. This agrees with the finding of Berger et al. (2009) that international shareholders usually agitate to secure board representation. This finding has a phenomenal governance implication. For example, it would be relatively easy for these MFIs to successfully adopt improved governance structures and align their governance structures to international standards (Oxelheim & Randøy 2003). Generally, good corporate governance seems not to be common in the microfinance industry (Hartarska, 2005) perhaps because MFIs operate in developing countries which are often plagued with poor governance. In this regard, internationalization of board and top management positions (E.g. CEO) could facilitate the move towards governance reforms in the industry. As an example, internationalization of board enhances board independence (Gulamhussen & Guerreiro, 2009) which is an essential fabric for good governance in the microfinance industry (Hartarska, 2005) and reduction of the agency problem. Previous research findings also suggest that having an

international initiator and belonging to an international network enhances social performance of MFIs (Mersland et al, 2011).

Secondly, shareholder MFIs that have international shareholders more often use village banking lending methodology. This lending methodology is instrumental in reaching out to poorer clients and households (D'espallier et al., 2011; Cull, Demirgüç-Kunt & Morduch, 2008). This suggests that MFIs that have international shareholders have higher outreach and could be more socially inclined. In literature, collective lending methods such as village banking is related to high repayments and hence lower default costs (D'espallier et al., 2011).

Finally, the MFIs that have international shareholders usually serve urban markets and have higher number of credit clients. The larger client base could be the result of the village banking methodology as such collective lending methodology enhances outreach. This implies that these MFIs are able to offer many smaller loans to poorer people (D'espallier et al., 2011; Cull et al., 2008). Since the female bias variable is not significant in both univariate and multivariate setting, these smaller loans are offered to both men and women alike.

In the light of these findings relating to MFI characteristics that relate to the presence of international shareholders, we accept hypotheses H_1, H_3 and H_4.

7.2 International shareholders and overall financial performance

We measure overall financial performance in terms of profitability and efficiency. The results of both the univariate and multivariate analysis show that the presence of international shareholders has a negative effect on profitability of MFIs in terms of ROE. This finding is consistent with the main findings of Lensink & Naaborg (2007) but contrary to findings of Yoshikawa & Phan (2003), Berger et al., (2009) and Lin & Zhang (2009). The finding also suggest that international shareholders earn little or no returns and sometimes even negative returns on their investment.

There is however positive significant relationship between the international shareholder variable and the ratio of cost to operating income. Stated differently, MFIs that have international shareholders are inefficient as they generate their incomes at a higher cost. This relationship is consistent in both the univariate and multivariate analysis. This finding is highly supported by previous research in the banking industry (Lensink & Naaborg 2007; Berger et al. 2005; Lensink

et al. 2008). The findings of Lin & Zhang (2009) however suggest otherwise. Various reasons could be responsible for the inefficiencies in MFIs that have international shareholders. A possible explanation could be the high governance related cost from agency theory perspective. The result of our analysis show that having an international shareholder is significantly related to international director and international CEO variables. Meanwhile in microfinance literature, international directorship does not enhance financial performance in often cases (Mersland, & Strøm, 2009; Mersland et al, 2011; Masulis et al., 2012). Whiles international directors and CEOs are likely to be awarded higher remuneration, the ill effect of liability of foreignness could be a possible explanation for the inefficiencies. As evident in previous studies, these international variables (international shareholder, director and CEO) may represent a cost factor as they are likely to bring on board a costly culture (Mersland & Strøm, 2009; Mersland et al., 2011). Being relatively younger MFIs in the industry, the high cost consequences of liability of foreignness can be severe (Lu & Beamish, 2001; Lu & Beamish, 2004; Zaheer 1995). But since these firms are young in a fast growing industry, the performance benefits of having international shareholders may be realized in future years (Williams & Nguyen 2005).

Altogether, we observe that the presence of international shareholders negatively influences overall financial performance and hence we reject hypothesis H_{5a} and accept the alternative hypothesis H_{5b}. Perhaps just as international commercial debt and general internationalization of MFIs, presence of international shareholders may relate to social performance and not financial performance (Mersland et al., 2011; Mori et al., 2013). Also, international actors in the microfinance industry may be social rather than financially inclined. In the next section, we proceed to reflect on the findings related to operating cost.

7.3 International shareholder and operating cost

We also find that having an international shareholder is significantly related to high operating costs. In other words, MFIs that have international shareholders have high operating cost compared to their counterparts that have no international shareholders. This is consistent throughout the univariate analysis and the different multivariate estimation methods (pooled OLS, random effects and instrumental variable methods). Further regression analysis reveals that the high operating cost is in the form of administrative and personnel cost. Even after controlling for the nature of loan,

lending methodology, international orientation and other MFI-specific characteristics, the international shareholder variable still significantly drives up operating cost. The high operating cost observed here buttresses the finding related to the ratio of cost to income since high operating cost is a reason for inefficiency. This finding is consistent with previous findings in the banking industry (Unite & Sullivan, 2003; Lensink & Naaborg, 2007). We however contradict the findings of Gulamhussen & Guerreiro (2009). We opine that such high cost could be related to governance costs that may have emanated from the ill effects of liability of foreignness. More essentially, the findings may imply that international equity investors have the tendency to install the culture of incurring higher operating costs and inefficiency in MFIs in which they invest. On the basis of these findings, we reject hypothesis H_{6a} and accept the alternative hypothesis H_{6b}. Mersland & Strøm (2012a) however assert that high operating cost in MFIs could mean that these MFIs have the willingness to serve the poor. These authors also opine that operating cost could be low in later years due to learning effects.

The findings discussed in this chapter are robust and empirically supported. In terms of international shareholders and MFI characteristics, we find the findings to be robust as three estimation methods (t-test, χ^2-test and logit regression) produced same results. Similar is the findings relating to the relationship between international shareholding and MFI performance. Here also, the results are largely consistent across the univariate and multivariate techniques employed (t-test, pooled OLS and random effect). In addition, we observe similar results when we checked for the robustness of the results with an alternative methodology (instrumental variable approach) in section 6.4.

7.4 Chapter summary

MFIs that have international shareholders are less profitable and less efficient and often incur higher operating cost in the form administrative and personnel costs. These findings are theoretically and empirically supported.

CHAPTER EIGHT

SUMMARY OF FINDINGS, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

8.0 Introduction

The microfinance industry is experiencing rapid growth and financing this growth is a legitimate concern. During the past decade, international commercial funding in the form of international debt and equity has played a remarkable role in this regard. Projections by industry experts affirm the role of international funding in the coming years. Until now, microfinance research that focus on the performance implications of international funding of MFIs is inadequate even though the microfinance literature is voluminous. Our study focuses on the presence of international shareholders in microfinance institutions. We answer two research questions that concern the characteristics of shareholder MFIs that have international shareholders and an assessment of the influence of international equity on the overall financial performance of MFIs as well as on operating cost. We fill literature gap and provide empirical evidence on the characteristics of MFIs that have international shareholders and the influence of international equity on the overall financial performance of MFIs and operating cost. We employed both univariate and multivariate analysis methods to analyze the data.

8.1 Summary of findings and conclusion

We find that shareholder MFIs that have international shareholders are highly internationally oriented as these MFIs more often are affiliated to international networks, have internationalized boards, international CEOs and are initiated by international actors. These MFIs also serve more urban markets, often use village banking methodology and have a higher outreach in terms of number of credit clients. Shareholder MFIs that have international shareholders and those that do not have international shareholders have other organizational characteristics in common such as focus on women and regulation by banking authorities. We also find that MFIs that have international shareholders are less profitable and less efficient in terms of ROE and ratio of cost to income respectively. We therefore conclude that the presence of international shareholders has a negative influence on overall financial performance of MFIs. In addition, we find that MFIs that

have international shareholders have higher operating cost profiles in the form of administrative and personnel cost. Our findings are robust and as well, they are empirically and theoretically supported.

8.2 Implications

Our findings have important policy and practical implications for policy makers and international equity investors in the microfinance industry. Firstly, MFIs must be aware of the inefficiency and high operating cost that may results from having international shareholders. In the same vein, international owners in the microfinance industry must be aware and wary of the tendency to install the culture of inefficiency and high operating cost in MFIs in which they invest. Secondly, the findings also imply that, MFIs could reap benefits from having international shareholders such as high international exposure and higher outreach in terms of number of credit clients. However, these benefits come at significant cost. This has strong implications for corporate managers to find workable schemes to forestall the rising costs. Finally, there is market for social investors and this is the microfinance industry. The microfinance industry therefore seems to be a specialized industry in which foreign actors do not primarily seek financial returns (which is unlike the traditional industries). In effect, it is important for the microfinance industry to be seen and perceived differently from traditional ones.

8.3 Limitations of the study

Our study is not without limitations. The MFIs in our dataset are averagely young in the fast growing industry. Our findings should therefore be generalized with caution as performance improvements that result from having international shareholders may take time to realize as literature suggests. Also the negative effects of liability of foreignness could be less severe in later years.

Secondly, we use only the dummy for international shareholders as the main variable of the study. An additional variable such as percentage holding by international shareholding could have revealed other influences of international shareholding on MFIs' financial performance and cost. For example international shareholders may be able to exert significant influence only if they possess significant percentage of shares.

8.4 Recommendations for future studies

A similar study that introduces an additional explanatory variable, percentage of shares held by international shareholders, would be worthwhile. This is because, increasing or decreasing the stake of international shareholders in an MFI may have different effects on performance as evident in the banking literature.

It would also be worthy for future research to investigate the effect of having an international shareholder on the governance mechanisms of MFIs such as CEO characteristics, board membership, executive compensation and auditing related issues. This would provide interesting academic and practical insights into how international shareholders impact governance of MFIs.

The MFIs in the dataset used for this paper are banks and Non-Bank Financial institutions (NBFIs). Future research could repeat our study for only banks or NBFIs. The effect of international shareholder in the separate charter types could differ. This may perhaps be the case because banks are more regulated by banking authorities than NBFIs and hence international shareholders influence in banks could be less significant.

Finally, we recommend future studies to investigate the influence of other ownership types (such as large shareholders and public owners) on MFIs' performance. These studies have been carried out in other industries but not the microfinance industry.

8.5 Chapter summary

In this chapter, we presented the summary of the findings and drew conclusions. We also documented the implications of the findings to policy makers and other stakeholders in the microfinance industry. Finally, the limitations of the study and recommendations for future research were presented.

REFERENCES

Abbink, K., Irlenbusch, B., & Renner, E. (2006). Group size and social ties in microfinance institutions. *Economic Inquiry*, *44*(4), 614-628.

Ahmadjian, C. (2007). Foreign investors and corporate governance in Japan.*Corporate governance in Japan: Institutional change and organizational diversity*, 125-150.

Armendáriz, B., & Morduch, J. (2010). *The economics of microfinance.* MIT press.

Baik, B., Kang, J. K., Kim, J. M., & Lee, J. (2013). The liability of foreignness in international equity investments: Evidence from the US stock market. *Journal of International Business Studies, 44(4),* 391-411.

Baltagi, B. (2008). *Econometric analysis of panel data*. John Wiley & Sons.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management, 17(1),* 99-120.

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management,27(6),* 643-650.

Bell, R. G., Filatotchev, I., & Rasheed, A. A. (2012). The liability of foreignness in capital markets: Sources and remedies. *Journal of International Business Studies*, *43*(2), 107-122.

Berger, A. N., Clarke, G. R., Cull, R., Klapper, L., & Udell, G. F. (2005). Corporate governance and bank performance: A joint analysis of the static, selection, and dynamic effects of domestic, foreign, and state ownership. *Journal of Banking & Finance, 29(8),* 2179-2221.

Berger, A. N., Hasan, I., & Zhou, M. (2009). Bank ownership and efficiency in China: What will happen in the world's largest nation?. *Journal of Banking & Finance, 33(1),* 113-130.

Bogan, V. L. (2008). Microfinance institutions: does capital structure matter?. *Available at SSRN 1144762.*

Bonin, J. P., Hasan, I., & Wachtel, P. (2005). Bank performance, efficiency and ownership in transition countries. *Journal of banking & finance*, *29(1),* 31-53.

Breusch, T. S., & Pagan, A. R. (1980). The Lagrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies*, *47*(1), 239-253.

Calhoun, M. A. (2002). Unpacking liability of foreignness: identifying culturally driven external and internal sources of liability for the foreign subsidiary. *Journal of International Management, 8(3),* 301-321.

Cameron, A. C., & Trivedi, P. K. (2005). *Microeconometrics: methods and applications*. Cambridge university press.

Chen, H., Griffith, D. A., & Hu, M. Y. (2006). The influence of liability of foreignness on market entry strategies: An illustration of market entry in China. *International Marketing Review, 23(6),* 636-649.

Choi, S., & Hasan, I. (2005). Ownership, governance, and bank performance: Korean experience. *Financial Markets, Institutions & Instruments, 14(4),* 215-242.

Claessens, S., & Djankov, S. (1999). Ownership concentration and corporate performance in the Czech Republic. *Journal of comparative economics,27(3),* 498-513.

Crystal, J. S., Dages, B. G., & Goldberg, L. S. (2002). Has foreign bank entry led to sounder banks in Latin America?. *Current Issues in Economics and Finance, 8(1),* 1.

Crystal, J., Dages, B. G., & Goldberg, L. S. (2001). Does foreign ownership contribute to sounder banks in emerging markets? *The Latin American experience. The Latin American Experience (September 2001). FRB of New York Staff Report, (137).*

Cull, R., Demirgüç-Kunt, A., & Morduch, J. (2008). Microfinance meets the market. *World Bank Policy Research Working Paper Series, Vol*.

D'espallier, B., Guérin, I., & Mersland, R. (2011). Women and repayment in microfinance: A global analysis. *World Development, 39*(5), 758-772.

Dieckmann, R., Speyer, B., Ebling, M., & Walter, N. (2007). Microfinance: An emerging investment opportunity. *Deutsche Bank Research. Current Issues. Frankfurt.*

Fama, E. F., & Jensen, M. C. (1983a). Separation of ownership and control. *The Journal of Law & Economics*, 26(2), 301-325.

Fama, E. F., & Jensen, M. C. (1983b). Agency problems and residual claims. *The journal of law & Economics*, 26(2), 327-349.

Fisher, M. J., & Marshall, A. P. (2009). Understanding descriptive statistics. *Australian Critical Care*, *22*(2), 93-97.

Galema, R., Lensink, R., & Mersland, R. (2012). Do powerful CEOs determine microfinance performance?. *Journal of Management Studies,49(4),* 718-742.

García-Herrero, A., & Santabárbara, D. (2008). Does the Chinese banking system benefit from foreign investors?

Gillan, S., & Starks, L. T. (1998). A survey of shareholder activism: Motivation and empirical evidence. *Available at SSRN 663523.*

Greene, W. H. (2003). *Econometric analysis*. Pearson Education India.

Gujarati, D. N. (2003). *Basic Econometrics*. 4th. New York: McGraw-Hill.

Gulamhussen, M. A., & Guerreiro, L. (2009). The influence of foreign equity and board membership on corporate strategy and internal cost management in Portuguese banks. *Management Accounting Research*, *20*(1), 6-17.

Hair, J. F. J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis Seventh Edition Prentice Hall.

Hall, R. (1992). The strategic analysis of intangible resources. *Strategic management journal*, *13*(2), 135-144.

Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of management review*, 20(4), 986-1014.

Hartarska, V. (2005). Governance and performance of microfinance institutions in Central and Eastern Europe and the newly independent states. *World development*, 33(10), 1627-1643.

Hartarska, V., & Mersland, R. (2012). Which governance mechanisms promote efficiency in reaching poor clients? Evidence from rated microfinance institutions. *European Financial Management*, 18(2), 218-239.

Hartarska, V., & Nadolnyak, D. (2007). Do regulated microfinance institutions achieve better sustainability and outreach? Cross-country evidence. *Applied economics*, 39(10), 1207-1222.

Heugens, P. P., Van Essen, M., & van Oosterhout, J. H. (2009). Meta-analyzing ownership concentration and firm performance in Asia: Towards a more fine-grained understanding. *Asia Pacific Journal of Management, 26(3),* 481-512.

Hill, C. W., & Jones, T. M. (1992). Stakeholder-agency theory. *Journal of management studies, 29(2),* 131-154.

Hsiao, C. (2014). *Analysis of panel data* (No. 54). Cambridge university press.

Hymer, S. H. (1976). *The international operations of national firms: A study of direct foreign investment* (Vol. 14, pp. 139-155). Cambridge, MA: MIT press.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics, 3(4),* 305-360.

Johnson, S., Boone, P., Breach, A., & Friedman, E. (2000). Corporate governance in the Asian financial crisis. *Journal of financial Economics,58(1),* 141-186.

Kang, S. H., & Sivaramakrishnan, K. (1995). Issues in testing earnings management and an instrumental variable approach. *Journal of accounting Research*, 353-367.

Khanna, T., & Palepu, K. (1999). *Emerging market business groups, foreign investors, and corporate governance* (No. w6955). National Bureau of Economic Research.

Labie, M., & Mersland, R. (2011). Corporate governance challenges in microfinance. *The Handbook of Microfinance*, 283-300.

Ledgerwood, J. (2014). *Microfinance handbook: an institutional and financial perspective*. World Bank Publications.

Lee, S. W. (2014). The Impact of Outward-Oriented Economic Reform on Income Inequality in China: 1978–2007. In *Urban China in the New Era* (pp. 1-23). Springer Berlin Heidelberg.

Lensink, R., & Naaborg, I. (2007). Does foreign ownership foster bank performance?. *Applied Financial Economics, 17(11),* 881-885.

Lensink, R., Meesters, A., & Naaborg, I. (2008). Bank efficiency and foreign ownership: Do good institutions matter?. *Journal of Banking & Finance,32(5),* 834-844.

Lin, X., & Zhang, Y. (2009). Bank ownership reform and bank performance in China. *Journal of Banking & Finance, 33(1),* 20-29.

Lu, J. W., & Beamish, P. W. (2001). The internationalization and performance of SMEs. *Strategic management journal, 22(6-7),* 565-586.

Lu, J. W., & Beamish, P. W. (2004). International diversification and firm performance: The S-curve hypothesis. *Academy of management journal,47(4),* 598-609.

Lützenkirchen, C., Weistroffer, C., Speyer, B., & AG, D. B. (2012). Microfinance in evolution. An industry between crisis and advancement,,,*Deutsche Bank Research* ", September, 13.

Masulis, R. W., Wang, C., & Xie, F. (2012). Globalizing the boardroom—The effects of foreign directors on corporate governance and firm performance.*Journal of Accounting and Economics, 53(3),* 527-554.

McConnell, J. J., & Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial economics, 27(2),* 595-612.

Mersland, R., & Strøm, R. Ø. (2008). Performance and trade-offs in Microfinance Organisations—Does ownership matter?. *Journal of International Development, 20(5),* 598-612.

Mersland, R., & Strøm, R. Ø. (2009). Performance and governance in microfinance institutions. *Journal of Banking & Finance, 33(4),* 662-669.

Mersland, R., & Strøm, R. Ø. (2012a). Microfinance: Costs, lending rates, and profitability. *The Encyclopedia of Financial Globalization. Oxford, UK: Elsevier*.

Mersland, R., & Strøm, R. Ø. (2012b). The past and future of innovations in microfinance. *The Oxford handbook of entrepreneurial finance,* 859-891.

Mersland, R., & Urgeghe, L. (2013). International debt financing and performance of microfinance institutions. *Strategic Change, 22(1-2),* 17-29.

Mersland, R., Randøy, T., & Strøm, R. Ø. (2011). The impact of international influence on microbanks' performance: A global survey. *International Business Review, 20(2),* 163-176.

Mezias, J. M. (2002). How to identify liabilities of foreignness and assess their effects on multinational corporations. *Journal of International Management, 8(3),* 265-282.

Mezias, S. J., Chen, Y. R., Murphy, P., Biaggio, A., Chuawanlee, W., Hui, H., & Starr, S. (2002). National cultural distance as liability of foreignness: the issue of level of analysis. *Journal of International Management, 8(4),* 407-421.

Miller, S. R., & Parkhe, A. (2002). Is there a liability of foreignness in global banking? An empirical test of banks' X-efficiency. *Strategic Management Journal, 23(1),* 55-75.

Mori, N., Golesorkhi, S., Randøy, T., & Hermes, N. (2015). Board composition and outreach performance of microfinance institutions: evidence from East Africa. *Strategic Change, 24(1),* 99-113.

Mori, N., Randøy, T., & Golesorkhi, S. (2013). Determinants of board structure in microfinance institutions: Evidence from East Africa. *Journal of Emerging Market Finance, 12(3),* 323-365.

Norell, D., Emory-Smith, G., & Bruett, T. (2003). How Do International Networks Manage Grants, Investments, and Loans to Their Partners and Affiliates?.*SEEP Focus Note,* (1).

Owen, A. L., & Yu, B. Y. (2008). Regional differences in wage inequality across industries in China. *Applied Economics Letters*, *15*(2), 113-116.

Oxelheim, L., & Randøy, T. (2003). The impact of foreign board membership on firm value. *Journal of Banking & Finance, 27(12),* 2369-2392.

Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic management journal, 14(3)*, 179-191.

Petersen, B., & Pedersen, T. (2002). Coping with liability of foreignness: Different learning engagements of entrant firms. *Journal of International Management, 8(3)*, 339-350.

Pivovarsky, A. (2003). Ownership concentration and performance in Ukraine's privatized enterprises. *IMF Staff Papers*, 10-42.

Reed, L. R. (2015). State of the microcredit summit campaign report 2015.*Microcredit Summit Campaign. Washington DC*. Retrieved 14.01.2016, from https://stateofthecampaign.org/read-the-full-2015-report/

ResponsAbility (2016). Microfinance market outlook: developments, forecasts and trends. Retrieved 17.01.2016, from http://www.responsability.com/funding/data/docs/en/17813/Microfinance-Outlook-2016-EN.pdf

Sarstedt, M., & Mooi, E. (2014). *A concise guide to market research: the process, data, and methods using IBM SPSS statistics*. Springer.

Sekaran, U., & Bougie, R. (2013). *Research Methods for Business*. United Kingdom: John Wiley & Sons Ltd.

Shapiro, S. P. (2005). Agency theory. *Annual review of sociology*, 263-284.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The journal of finance, 52(2)*, 737-783.

Smith, A., & Garnier, M. (1838). *An Inquiry into the Nature and Causes of the Wealth of Nations*. T. Nelson.

Sturm, J. E., & Williams, B. (2004). Foreign bank entry, deregulation and bank efficiency: Lessons from the Australian experience. *Journal of Banking & Finance, 28(7)*, 1775-1799.

Swanson, B. (2007). The role of international capital markets in microfinance. *Developing world markets*.

Tallman, S., & Li, J. (1996). Effects of international diversity and product diversity on the performance of multinational firms. *Academy of Management journal, 39(1)*, 179-196.

Tchakoute-Tchuigoua, H. (2010). Is there a difference in performance by the legal status of microfinance institutions?. *The quarterly review of economics and finance, 50(4)*, 436-442.

Thomsen, S. (2008). *An introduction to corporate governance*. Djøf/Jurist-og Økonomforbundet.

Unite, A. A., & Sullivan, M. J. (2003). The effect of foreign entry and ownership structure on the Philippine domestic banking market. *Journal of Banking & Finance*, *27(12)*, 2323-2345.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal, 5(2),* 171-180.

Wiesner, S., & Quien, D. (2010). *Can "Bad" Microfinance Practices Be the Consequence of Too Much Funding Chasing Too Few Microfinance Institutions?* (No. 2). ADA Discussion Paper.

Williams, J., & Nguyen, N. (2005). Financial liberalisation, crisis, and restructuring: A comparative study of bank performance and bank governance in South East Asia. *Journal of Banking & Finance, 29(8),* 2119-2154.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.

Yoshikawa, T., & Phan, P. H. (2001). Alternative corporate governance systems in Japanese firms: Implications for a shift to stockholder-centered corporate governance. *Asia Pacific Journal of Management, 18(2),* 183-205.

Yoshikawa, T., & Phan, P. H. (2003). The performance implications of ownership-driven governance reform. *European Management Journal, 21(6),* 698-706.

Zaheer, S. (1995). Overcoming the liability of foreignness. *Academy of Management journal, 38(2),* 341-363.

Zaheer, S., & Mosakowski, E. (1997). The dynamics of the liability of foreignness: A global study of survival in financial services. *Strategic management journal, 18(6),* 439-463.

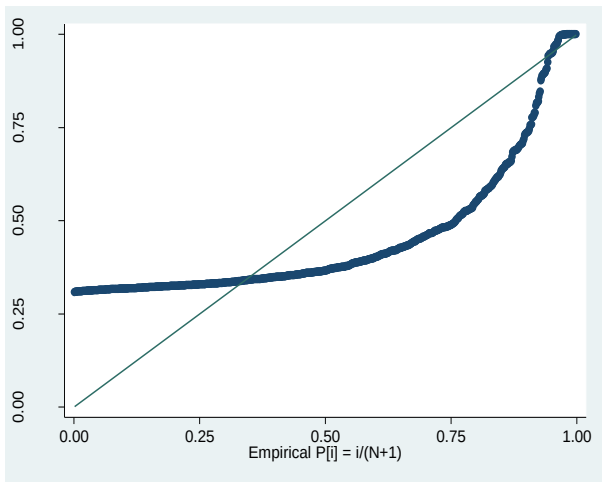
Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2012). *Business research methods*. Cengage Learning.

APPENDICES

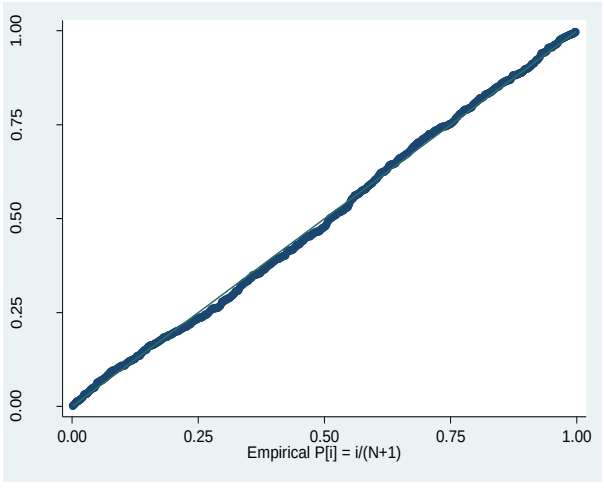
Appendix I: VIF result

Variable	VIF	Tolerance
Int_shareholder	1.11	0.8991
Age	1.28	0.7828
Size	1.59	0.6271
PaR30	1.17	0.8558
Debt_Equity	1.28	0.7814
GDP/capita	4.15	0.2410
Heritage	1.83	0.5467
Current_account	1.27	0.7901
GDP_growth	1.17	0.8582
Inflation	1.27	0.7890
ECA	2.13	0.4696
LAC	3.65	0.2738
MENA	1.69	0.5934
SSA	2.88	0.3466
Mean VIF	**1.89**	

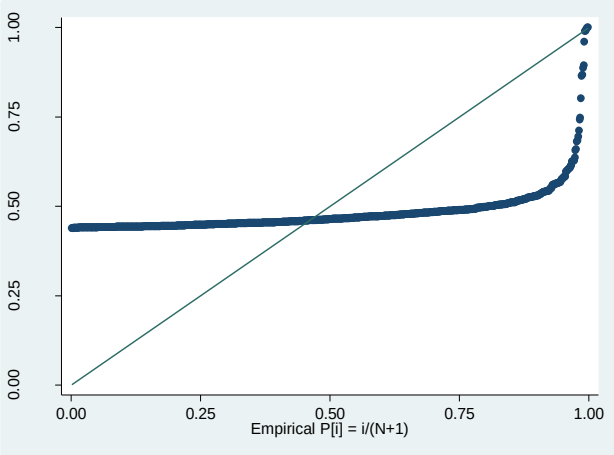
Appendix II: Transformation of variables



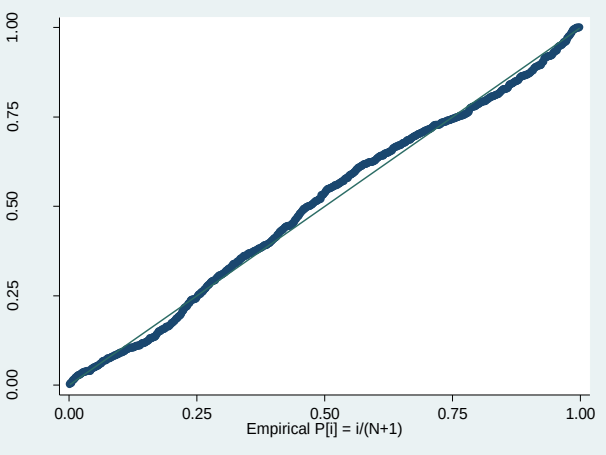
Assets_total before transformation



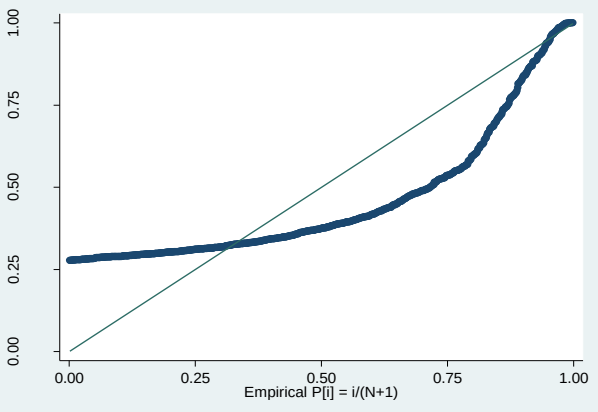
Assets_total after transformation



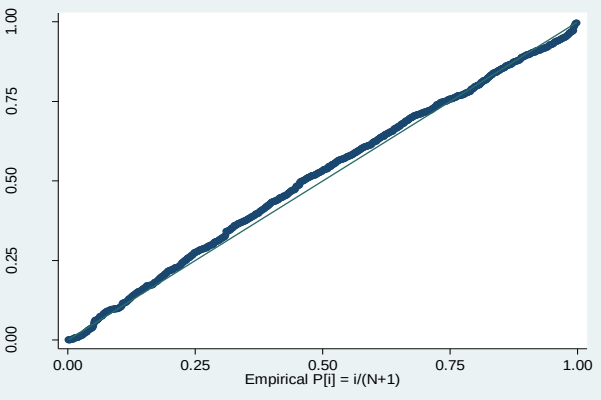
Av_loan_out before transformation



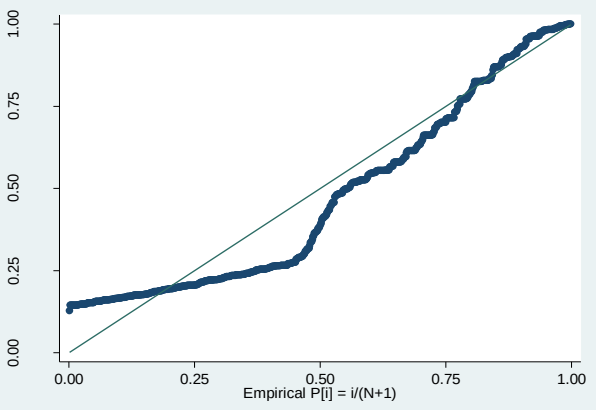
Av_loan_out after transformation



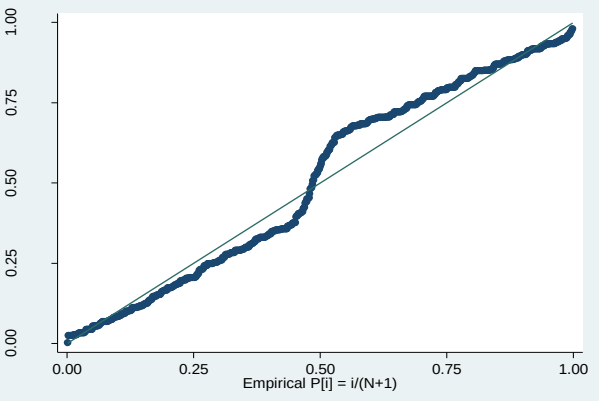
Cr_clients before transformation



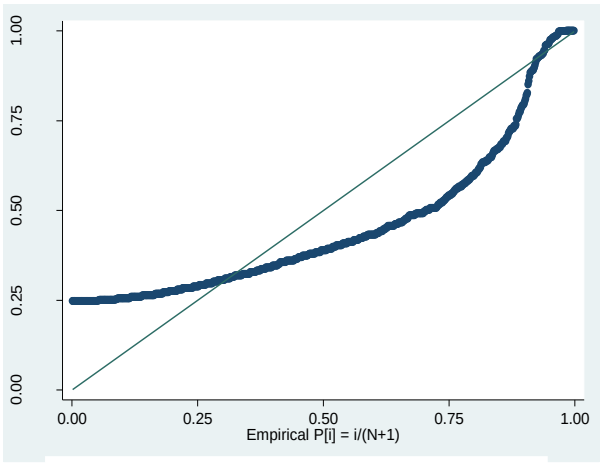
Cr_clients after transformation



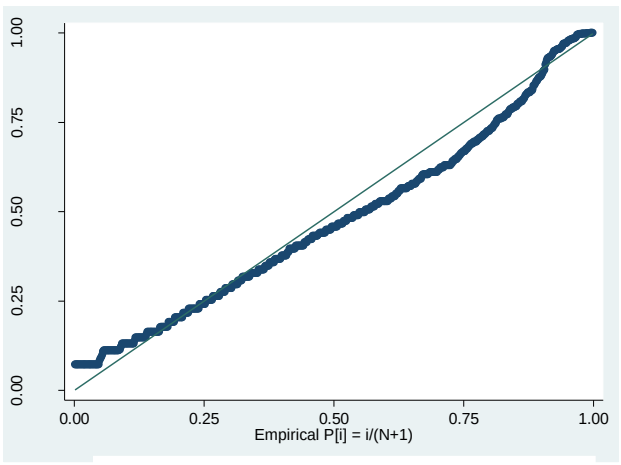
GDP per capita before transformation



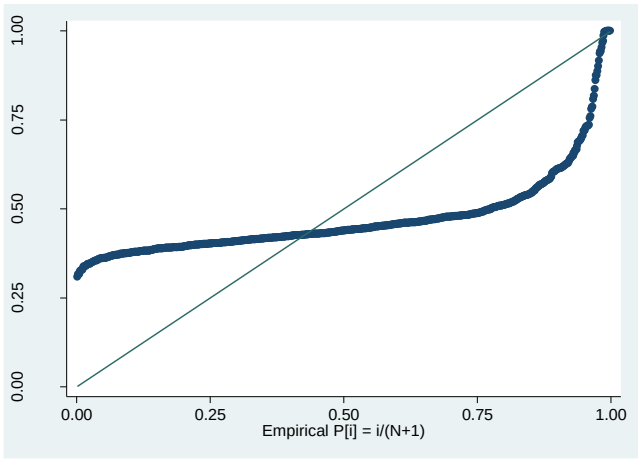
GDP per capita after transformation



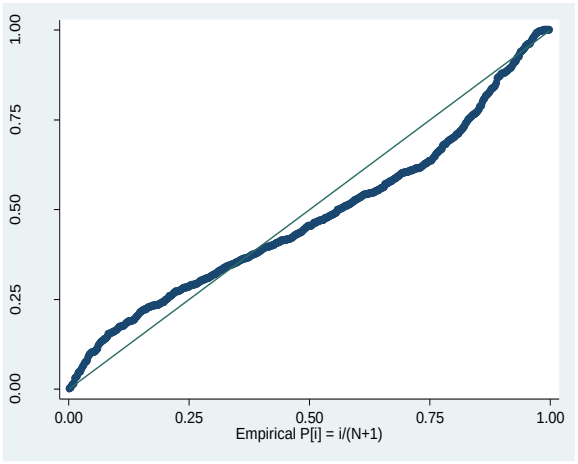
PaR30 before transformation



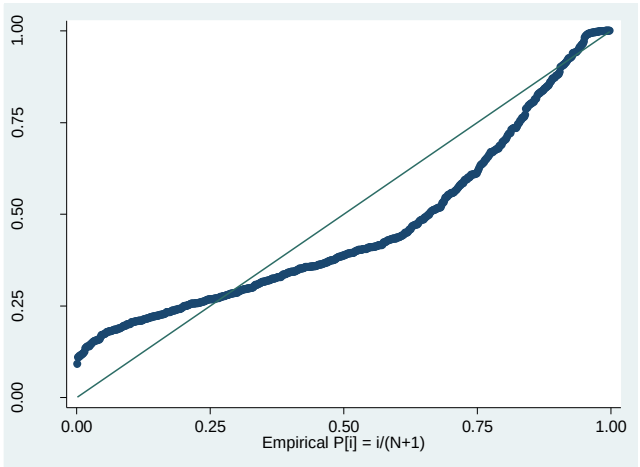
PaR30 after transformation



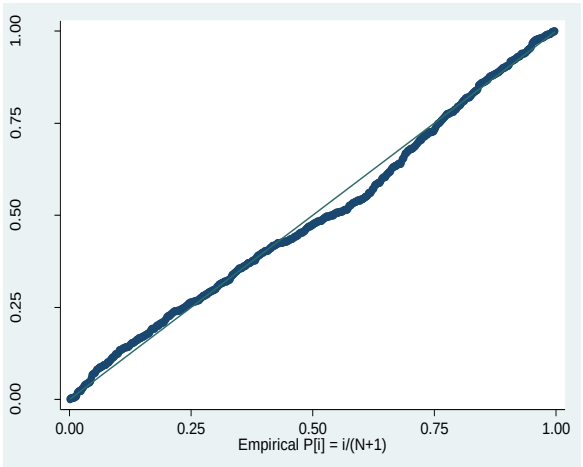
Cost_Income before transformation



Cost_Income after transformation



Operexp_assets before transformation



Operexp_assets after transformation

Appendix III: Additional t-test result

	Means			
Variable	Yes	No	t-statistic	p-value
Int_Initiator	0.6366	0.1735	-13.7339	0.0000***
Int_Dir	0.9400	0.0432	-41.1629	0.0000***
Par30	0.1710	0.2077	3.5112	0.0005***

Appendix IV Correlation matrix of independent variables in regression equation (i)

	Int_CEO	Int_ne~r	DM_ban~l	Grp_lend	urban_~t	DM_vil~k	Cr_cli~s
Int_CEO	1.0000						
Int_netw_m~r	0.0576	1.0000					
DM_bank_re~l	0.0078	-0.0517	1.0000				
Grp_lend	0.0769	0.0894	-0.1534	1.0000			
urban_mkt	0.0701	-0.0214	0.0626	-0.3125	1.0000		
DM_village~k	-0.0427	0.0219	-0.0674	0.0281	-0.2564	1.0000	
Cr_clients	-0.0139	0.1275	0.1980	0.1178	-0.1156	0.1102	1.0000
Female_bias	-0.1145	0.2184	-0.1849	0.0859	-0.0289	0.2080	0.1769
Age	-0.1253	0.0677	0.1162	0.0944	-0.1851	0.1181	0.4972
Size	-0.0266	0.0753	0.2855	-0.1816	0.0823	-0.1658	0.6590
ECA	0.2519	0.1662	-0.0617	0.1097	-0.1248	-0.2198	-0.2912
LAC	-0.1581	-0.1965	-0.0108	-0.3516	0.1207	-0.1277	0.0378
MENA	-0.0836	0.2830	-0.1865	0.0041	0.3148	-0.1024	0.0245
SSA	-0.1011	-0.1255	-0.0062	0.2174	-0.0130	0.2020	0.1106

	Female~s	Age	Size	ECA	LAC	MENA	SSA
Female_bias	1.0000						
Age	0.1109	1.0000					
Size	-0.0924	0.4552	1.0000				
ECA	-0.1774	-0.1392	-0.0497	1.0000			
LAC	-0.0891	0.0553	0.2399	-0.3116	1.0000		
MENA	0.2710	-0.0310	-0.0126	-0.1057	-0.1310	1.0000	
SSA	0.0730	0.0130	-0.2336	-0.3460	-0.4288	-0.1454	1.0000

.

Corresponding VIF results (equation (i))

Variable	VIF	Tolerance
Int_CEO	1.22	0.8215
Int_netw_member	1.31	0.7635
DM_bank_regul	1.30	0.7677
Grp_lend	1.38	0.7269
urban_mkt	1.73	0.5780
DM_village_bank	1.38	0.7272
Cr_clients	3.00	0.3328
Female_bias	1.40	0.7134
Age	1.30	0.7682
Size	3.03	0.3298
ECA	2.58	0.3870
LAC	2.82	0.3552
MENA	2.02	0.4945
SSA	2.42	0.4133
Mean VIF	**1.92**	

Note: Model (**i**) is the regression equation for answering the first research question

Appendix V: Results of robustness checks

Robustness check: international shareholder and overall financial performance

	Cost_income	Cost_income	ROE	ROE
Int_shareholder	0.120	0.151	-0.054	-0.051
	(3.59)***	(2.50)**	(2.16)**	(1.72)
Age	0.010	0.012	0.007	0.006
	(3.05)***	(2.00)**	(2.21)**	(1.67)
Size	-0.170	-0.177	0.002	0.011
	(10.46)***	(6.18)***	(0.10)	(0.35)
PaR30	-0.318	-0.269	-0.365	-0.322
	(2.46)**	(2.21)**	(2.25)**	(1.39)
Debt_Equity	-0.045	-0.031	0.174	0.137
	(0.85)	(0.58)	(1.39)	(0.81)
GDP_capita	0.058	-0.031	-0.022	-0.033
	(1.68)	(0.67)	(0.87)	(1.12)
Heritage	-0.002	0.002	-0.001	0.003
	(0.68)	(0.39)	(0.21)	(0.90)
GDP_growth	-0.008	-0.004	0.007	0.007
	(1.55)	(1.09)	(1.93)	(2.29)**
Inflation	-0.011	-0.005	0.005	0.004
	(4.09)***	(2.98)***	(2.28)**	(2.34)**
Current_account	0.002	0.004	0.002	0.001
	(0.62)	(1.13)	(0.65)	(0.37)
ECA	-0.248	-0.117	-0.002	-0.003
	(3.01)***	(0.88)	(0.04)	(0.05)
LAC	-0.026	0.121	0.080	0.066
	(0.41)	(1.33)	(1.88)	(1.15)
MENA	0.073	0.248	-0.014	-0.008
	(0.77)	(2.23)**	(0.11)	(0.06)
SSA	0.288	0.280	-0.164	-0.183
	(5.47)***	(3.39)***	(3.59)***	(2.80)***
_cons	1.920	2.315	0.053	-0.170
	(4.44)***	(4.01)***	(0.13)	(0.36)
R^2	0.44	0.42	0.23	0.22
Wald χ^2 statistic	274.71***	163.78***	117.29***	84.06***
N	414	414	406	406
Method	OLS	RE	OLS	RE

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Instrumented: Int_shareholder

Instruments: lagged int_shareholder

Robustness check: International shareholder and operating cost

	Operexp_assets	Operexp_assets
Int_shareholder	0.208	0.269
	(4.57)***	(2.85)***
Age	-0.002	0.024
	(0.39)	(2.89)***
Size	-0.194	-0.243
	(10.30)***	(6.01)***
PaR30	-0.820	-0.380
	(5.95)***	(2.25)**
Debt_Equity	-0.075	-0.085
	(1.74)	(2.30)**
GDP_capita	0.234	-0.005
	(4.80)***	(0.04)
Heritage	0.018	0.006
	(3.31)***	(1.00)
GDP_growth	-0.007	0.000
	(1.14)	(0.06)
Inflation	-0.003	0.001
	(0.84)	(0.98)
Current_account	0.004	0.005
	(0.95)	(1.47)
ECA	-0.584	-0.123
	(5.87)***	(0.65)
LAC	-0.130	0.328
	(1.50)	(2.37)**
MENA	-0.262	0.437
	(2.28)**	(1.50)
SSA	0.189	0.109
	(2.63)***	(0.76)
_cons	-1.392	1.456
	(2.81)***	(1.65)
R^2	0.36	0.23
Wald χ^2 statistic	242.58***	99.03***
N	402	402
Method	OLS	RE

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Instrumented: Int_shareholder

Instruments: lagged int_shareholder

APPENDIX VI

REFLECTIVE NOTE

1.0 Introduction

In this reflective note, we first present the findings of this thesis. After, we touch on three issues relating to three themes: internationalization, innovation and responsibility.

2.0 Summary of thesis findings

The general theme of our thesis is the influence of international equity finance on the financial performance of microfinance institutions (MFIs). In the thesis, we also investigated the particular characteristics of MFIS that relate to the presence of international shareholders. After subjecting the data to both univariate and multivariate analysis, we found that international ownership in MFIs negatively influences overall financial performance in terms of both profitability and efficiency. Another striking revelation was that international ownership in MFIs drives up operating cost (in terms of both personnel and administrative costs) significantly. Our analysis also reveals that MFIs that have international shareholders have high international orientation, they often employ village banking lending methodology, have higher outreach in terms of number of credit clients and usually serve urban markets. Putting our findings together, we conclude that presence of international shareholders worsen the financial performance of MFIs. Also, they may install the culture of higher operating cost and other inefficiencies in MFIs in which they invest.

3.0 Internationalization

In the current global economy, developing countries and charitable concerns are faced with competition for donor funds. Stated differently, donations from government, donor organizations and philanthropic individuals are highly competed for. The microfinance industry that still somehow depends on donations for the financing of their activities is not exception to this competition. In the future years, as the microfinance industry grows (in size and number of MFIs), demand for international funding including donations would rise since domestics funding sources for growth are sometimes inadequate or even unavailable. With increased competition for donor funds, MFIs should envisage new expectations from international donors such as increased

transparency, efficiency, among others. In this atmosphere, MFIs that are able to distinguish themselves in being innovative, creating value for money, operating efficiently and sustainably as well as scoring high on transparency would win donor funds. As it has already started, this would force many MFIs to turn to the private sector for commercial funding solutions. The impact could be an increase in funding cost as commercial funds are not "free". In our opinion, for MFIs to continue to enjoy donor support or attract other cheaper sources of international funding, they must operate sustainably and efficiently and be transparent as mentioned before. This could be done by embracing the opportunities offered by technology. Our research findings and those of previous studies have identified higher operating cost to be a problem of most MFIs especially due to the smaller loans they offer to their clients. As evident in the traditional banking industry, employment of technological approaches offers enormous opportunities to manage customers in efficient ways. Apart from managing customers, internet presence could be a useful tool for harnessing funds from lenders. It must be admitted that, adopting contemporary technology by MFIs could be a challenging and financial straining task. However, with committed efforts, MFIs would get there. Finally, if MFIs lend themselves to auditing by reputable accounting firms, transparency would be enhanced to boost investor and donor confidence in the future.

4.0 Innovation

Microfinance institutions grant smaller loans to poor people (who constitute almost half of the world's population) across the globe. As the findings of our thesis and those of prior studies suggest, high operating cost is a problem for most MFIs and a general explanation for this is the smaller loans they offer to their customers. Since it is part of their core mandate, MFIs cannot stop serving the poor and micro-entrepreneurs with smaller loans. Therefore, innovative means of dealing with the high cost would be pragmatic. In our opinion, embracing technology in their operations would be an innovative way to arrest the situation. To be more specific, we propose internet banking. This has proved successful in the traditional banking industry hence we opine that MFIs have more benefits to tap from the same. Of a truth, MFIs focus on the poor who may live in remote areas that may not have a good access to electricity than to think about internet connectivity. However, not all clients and potential customers are in this situation. Our findings even provide evidence that MFIs that have international shareholders often serve urban markets. Urban areas usually have good access to electricity and internet. Also, nearly all telecom

companies in emerging and developing countries offer internet services to their clients. MFIs could therefore clearly segment their market geographically into urban and rural clients. With such segmentation, internet banking could be made available to urban clients. This can foster efficiency of operations and make MFIs more sustainable.

5.0 Responsibility

MFIs have been gravely criticized for exploiting the poor. This is due the high interest charged by MFIs on loans. It may be unethical to burden poor borrowers with high interests since this increases their indebtedness or financial burden and may even make them poorer if they are unable to service the loans. In fact, survival of the businesses of micro-entrepreneurs can be threatened by high interest rate. It is for these reasons that some view the operations of MFIs as exploitative. Meanwhile the reason MFIs charge high interest rates may be due to the problem we mentioned in the previous section, high operating cost. The high interest rate may be necessary to cover the high operating costs and other costs. In our opinion, if MFIs are able to decrease their operating costs significantly, lending rate to their clients would reduce too. A reduction in the lending rate presents several advantages to MFIs as well their clients. For example, for MFIs, they would be able to attract more clients and reduce risk of default risk. On the other hand, clients would be able to service their debts. For these to be possible, operating cost of MFIs would have to be reduced first through innovative ways such as the one we have proposed in the previous section.