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The Road to Poverty Reduction: Corporate Governance and Female Participation in MFIs.

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Doctoral Thesis

The Road to Poverty Reduction: Corporate Governance and Female Participation in MFIs

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The Road to Poverty Reduction: Corporate Governance and Female Participation in MFIs

Preface

This doctoral thesis titled "The Road to Poverty Reduction: Corporate Governance and Female Participation in MFIs" consists of three papers. The first is titled: "Microfinance Industry – Context of Analysis", the second: "Women in Microfinance Institutions: The Road to Poverty Reduction and Gender Equality?" and the final paper is named: "Women in Microfinance Institutions: Is There a Trade-Off Between Outreach and Sustainability?". While these papers collectively represent the doctoral thesis, they are also designed to stand individually as research papers.

This thesis is industry-focused, namely on the microfinance industry and should be viewed accordingly. The microfinance industry is unique, in the sense that the microfinance institutions (MFIs) are meant to simultaneously fulfill two different performances objectives. MFIs are meant to reach out to the poor and provide them with capital, how well they do this is found with a performance measure called 'outreach'. At the same time, the MFIs are also meant to achieve sound financial performance so that they can continue to make these loans accessible to the poor in the long-run. Performance in this area is usually referred to as 'sustainability' in microfinance literature.

There are two particularly important issues related to outreach and sustainability that needs to be clarified. First is that the primary goal of MFIs is outreach. It is with better outreach that the poor, who are stuck in poverty resulting from information asymmetry and lack of collateral, are helped out of poverty cycle (Armendáriz and Morduch, 2007). The second issue is that many MFIs are finding it challenging to perform well in both outreach and sustainability. Indeed, the trade-off between those two performance goals often takes place (Hermes and Lensink, 2011).

This thesis offers a solution to both of these issues. The second paper presented in the thesis (Women in Microfinance Institutions: The Road to Poverty Reduction and Gender Equality?)

explains how it may be possible to improve outreach. The third paper (Women in Microfinance Institutions: Is There a Trade-Off Between Outreach and Sustainability?) shows that it is possible to provide good outreach, while remaining simultaneously sustainable i.e. no trade-off between outreach and sustainability.

Both of the empirical papers in this thesis (named in the paragraph above) examine the corporate governance literature in relation to MFIs and explore the effects of the presence of women in these institutions. Empirical results, which are based on 226 MFIs in an original data set suggest that females in MFIs' managerial positions do improve outreach, while their presence does not worsen sustainability. There is, therefore, no trade-off between outreach and sustainability. However women´s presence on the board did not have any effects whatsoever.

The first paper, **"Microfinance Industry – Context of Analysis"** serves as an introduction to the microfinance industry, as a context of analysis, for the empirical settings and basis for building the theoretical arguments used in the thesis.

The second paper, **"Women in Microfinance Institutions: The Road to Poverty Reduction and Gender Equality?"** explores whether the presence of women in MFIs is associated with better outreach. Prior research works tend to argue that women tend to improve financial performance (sustainability) for MFIs. The theoretical argument is rooted in marriage matching theory presented by Becker (1973). This theory was brought into the microfinance literature by Ghatak (2000) and furthered by Mersland and Strom (2009) and Strom, D´Espallier and Mersland (2014). This version of the marriage matching theory is extended further in this paper by complementing it with another theory, the social role theory of gender differences and similarities presented by scholars such as Eagly (1987), Ickes *et al.,* (1986) and Eagly and Johnson (1990). This empirical paper uses original data set of 226 MFIs. It found that female CEOs, female managers and female loan officers were shown to be directly related to improved outreach while the same could not be shown for the presence of women on the MFIs board.

In the light of the finding that the presence of women in MFIs is associated with better outreach and knowing from literature (Mersland *et al.,* 2009 and Strom *et al.,* 2014) that female CEOs improve financial performance in MFIs, the third paper, **"Women in Microfinance Institutions: Is There a Trade-Off Between Outreach and Sustainability?"** had two goals. First, to extend the microfinance literature by arguing that having female managers, female loan

officers and female board members will improve MFIs' financial performance. If that is to be the case, it will be possible to argue that female presence in MFIs will lead to a negation of the standard trade-off between outreach and sustainability. In other words, it will be possible to attain outreach and sustainability by appointing females to the MFIs' managerial positions. This paper is an empirical one, using the same original data set of 226 MFIs. The result showed that female presence in MFIs' management did not worsen financial performance, but, in fact, slightly improved it. Hence there is no trade-off between outreach and sustainability when women are in managerial positions in MFIs. However, the same could not be concluded decisively when it came to female board members.

Both of the empirical papers in the thesis are contributions to the existing academic literature and they can also be applied to policy formulation. By introducing women into MFIs' management it may be possible to extend capital to the poor, bring them out of the poverty cycle, without making the MFIs suffer financially. At the same time, the action would also lead to greater female empowerment, both inside the MFIs, as well as to their clients.

My thesis is a product of more than three years of work at the University of Bologna. I have received a great help from my colleagues, family and friends (Hjördís, Guðjón, Charles, Guðrún, Jóna Bríet, Kári, Anton, Bylgja, Bríet and Steinn, just to mention few). I would, in particular, like to thank my supervisors Prof. Giuseppe Torluccio, Prof. Marco Corsino, Prof. Stefano Mengoli and Prof. Vincenza Odorici, for all their good advice, help, and support. I would also like to present my gratitude to the coordinators of the program, Prof. Rosa Grimaldi and Prof. Salavatore Torrisi and their assistants, Dr. Andi Duqi and Dr. Ruslan Galiakhmedov.

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Microfinance Industry – Context of Analysis.

Abstract.

This paper is an introduction to the microfinance industry. It serves as a context of analysis, for the empirical settings and basis for building the theoretical argument for the doctoral thesis titled "The Road to Poverty Reduction: Corporate Governance and Female Participation in MFIs".

Introduction

The paper begins with a description of the microfinance industry. A formal definition of microfinance is provided and it´s importance to address market failure, with group lending and peer monitoring, is stressed. The dual performance goal of the microfinance institutions (MFIs) is accounted for, namely MFIs are to provide good social performance called outreach as well as sufficient financial performance, called sustainability. A brief history of the industry is given, and then the location of MFIs and current stage is accounted for.

As the thesis addresses performance of MFIs, a closer look at outreach and sustainability is essential. MFIs are to solve a market failure eventually resulting in poverty reduction. Therefor particular importance is given to MFIs social performance, the outreach. A logical first look in order to examine MFIs social performance is with lenses of corporate governance, hence the literature thereof is reviewed. However the inconsistent finding in general and for microfinance in particular, calls for a more specific approach. MFIs performances are examined in relation to those who use these institutions, namely women. After the literature of MFIs and gender is attended to, the empirical setting for the thesis is briefly discussed.

Description of the microfinance industry

Definition of microfinance

Microfinance Institutions (MFIs) are entities established to solve a market failure where the loan asked by potential borrowers is too small for the MFIs to break even and the institutions do

not have the costly information of those who will repay i.e. information asymmetry. Furthermore, the borrowers are usually poor women, often without financial inclusion while lacking in collateral assets (Armendáriz and Morduch, 2007). By providing the poor with loans, the cycle of poverty can be broken while the poor can be brought into the formal economy, thereby increasing financial inclusion.

A formal definition of the term "microfinance" is provided by Karlan and Goldberg (2011): "Broadly speaking, microfinance for loans (i.e., microcredit) is the provision of small-scale financial service to people who lack access to traditional banking service. The term microfinance usually implies very small loans to low-income clients for self-employment, often with the simultaneous collection of small amount of savings." In addition they name key characteristics often associated with microfinance, such as small transactions, loans for entrepreneurial activity, loans without collateral, group lending, poor loan taker who are often women, simple application process, provision of services in underserved communities and market- level interest rates.

In addition to the above characterization, I shall add another unique characteristic of MFIs: the dual simultaneous performance goals. MFIs have a social performance goal where they are striving to provide the poor with loans, which is called outreach. At the same time, they must do so in a sustainable manner, hence they also have a financial goal called sustainability.

The history, current stage and location of the microfinance industry

Poverty is not only a humanitarian issue. It is also a threat to the society´s stability. Therefore addressing poverty in the aftermath of the Second World War was a priority. Development programs were created, often in the form of governmental or institutional subsidized loans to the poor. However, the low repayment rates, unprofitable investments and corruption led to somewhat disappointing results (Adams *et al.*, 1984).

A more successful attempt to address the people´s lack of access to capital came with the introduction of the microfinance phenomena in the 1970s. An early pioneer in the microfinance field was Muhammad Yunus, founder of the Garmeen Bank of Bangladesh and the 2006 Nobel Peace Prize Laureate. He began to lend small amounts of his own money to women so they could begin small-scale entrepreneurial activities. These women did not provide collateral (Yunus, 2007). In substitute for collateral, Yunus used the loan taker´s network connections to ensure

repayment i.e. group lending with joint liability. Garmeen's lending method also provided new dynamic incentives to encourage full repayment. If all of the borrowers repaid, they could get higher amount next time they required a loan. Furthermore, in order to minimize risk, a very frequent repayment system was introduced. The method was somewhat successful and allowed a certain number of poor women to work their way out of poverty, while repaying their loans.

From its emergence in the 1970s, the microfinance industry has grown rapidly, reaching more than thirteen million clients at the turn of the last century. Currently, it is estimated that more than 200 million borrowers are now involved in the system (Maes and Reed, 2012). More than half of all the borrowers are women and two thirds of all the microfinance borrowers are "very poor" i.e. living on a less than 1.25 USD per day. The poverty of the female borrowers is a pertinent issue since more than 80 percent of the "very poor" are women (Maes *et al.,* 2012). In other words, more than half of all the microfinance borrowers are women living on absolute poverty of less than 1.25 USD per day.

The microfinance industry is a growing industry. In some countries this industry is growing at more than 20 percent annually (Lascelles and Mendelson, 2011). However, despite this growth and coverage, currently only half of the world's seven billion people receive any kind of financial inclusions (World Bank, 2012).

Microfinance institutions are unequally distributed around the globe. More than 95 percent of all MFIs are in the developing world. A little less than half of all these institutions are in the Asia-Pacific region, roughly a quarter are in the Sub-Saharan region and a little less than 20 percent are located in Latin America (Maes *et al.,* 2012). Most of the biggest institutions are on the Indian subcontinent.

Boundary condition: Microfinance industry

The microfinance industry has a significant gender focus. It is therefore important to understand how and if women are in control of the MFIs, and whether they can make any unique contributions to the MFIs' performance. In this regard, the performance indicators of the MFIs, that is, outreach and sustainability, are unique to the microfinance industry. These specific features of gender and dual performance goals will now be discussed.

The dual performance goals - Outreach and sustainability

What distinguishes microfinance institutions from other financial institutions is their dual goal: outreach and sustainability. This dual goal differs significantly from the primary goal of banks – financial performance – as well as from the traditional development organizations since these institutions do not necessarily have to attain financial sustainability to survive (Armendáriz *et al.,* 2007).

While sustainability is usually assessed with classical financial performance indicators, such as Return On Assets (ROA), outreach is usually approached either as depth of outreach or breadth of outreach. Depth of outreach is the average loan balance per borrower divided by GNI per capita. The lower the outreach number, the deeper or better is the outreach. This measurement of outreach is common in microfinance literature, see for example Quayes (2012), Mersland and Strom (2009) and Hartarska (2005). Breadth of outreach is simply the number of MFIs taker. This measurement approach to outreach does not distinguish between the poverty level of the loan taker. In this thesis, when outreach is referred to, it is depth of outreach.

Although both outreach and sustainability are important for the MFIs, it is the outreach aspect that makes MFIs so unique. With better outreach, the needs of the poor are addressed, while they are brought out of the cycle of poverty stemming from imperfect market conditions. Arguably, therefore, outreach is the most important mission of MFIs (Strom *et al.,* 2014).

Since a deeper understanding of an organizational performance (usually in terms of financial performance) is tied with knowledge of the organization´s corporate governance, the next logical step is to examine how corporate governance shapes MFIs' performance. The starting point is a brief review of corporate governance literature, followed by how it has been applied within the context of the microfinance industry.

Corporate governance – Microfinance Industry

Literature on corporate governance can be traced back to Jensen and Meckling's (1976) seminal agency theory, where the agent does not act wholly in the interest of the owner, but also for his or herself. The agent may choose to focus on activities that may lead to the total value of

the firm becoming less than it would be if the manager is the sole owner of the firm. The agency cost is therefore existent – neither entirely optimal nor wasteful. Hence, the manager´s interest clashes with the owner's interest. In addition there is information asymmetry; the principal does not have all the information of what the agent is doing.

Despite these issues, the separation of ownership and control is economically efficient, as Eisenhardt (1985) explains. By monitoring, evaluating and rewarding the agent's performance, which can be done by keeping a well-structured and independent board, having independent external directors, separating the positions of board chair and CEO, imposing age and term limits to directors and creating incentives for managers, the agent is more likely to manage the organization in line with the owners´ objectives that should be maximization of the organization's value. Furthermore the board members can replace members of the management team if needed (Williamson, 1985).

While the traditional corporate governance literature is usually aimed towards institutions that have sole financial performance goals, according to Fama and Jensen (1983), institutions with social objectives can also benefit from this body of literature. While the non-profit organization may differ from for-profit organizations, in the sense that the former does not have risk bearer who worries about their profit maximization, yet the agency issue between the decision management and the risk bearer still remains (Fama *et al.*, 1983). In that sense, corporate governance mechanisms and principles should also be usable for organizations that have social goals, such as MFIs.

Although it may be possible to use traditional corporate governance ideology in order to account for both financial performance and social performance, there remain some challenges to be dealt with. The corporate governance literature in general is plagued with misconceptions. Corporate governance literature struggles to explain the reason behind performance for organizations in general and for MFIs in particular.

While the literature of corporate governance evolved in the late 1970s and further developed throughout the 1980s, the empirical results are all but consistent. In a meta-analysis carried out by Dalton *et al.,* (1998) the authors found no systematic relationship between the board´s independence and performance. In another meta-analysis, Daily, Dalton and Channella (2003) did not find any systematic relationship between independent board directors, the duality of the CEO

and the board, and the firm's financial performance. In fact, the authors state that alternative theories or models are needed in order to find what within corporate governance may possibly explain the firm's performance.

The reason why corporate governance fails to explain organizational performance may, according to Aguilera and Jackson (2003), lie in the shortcomings of the over emphasis on the agency theory, which fails to take a look at interdependencies among the stakeholders of the organization. Renneboog, Horst and Zhang (2008) argue along similar lines where they suggest corporate governance should be broader and be termed 'stakeholder governance'. This alternative governance would still include traditional corporate governance issues but would also take into account issues related to other stakeholders.

There exists additional literature on corporate governance and on organizations in general other than those mentioned above. However, since the thesis is focused on microfinance, the comprehensive discussion on the literature on corporate governance will be directed towards the microfinance industry and relevant researches.

A review of literature on corporate governance vis-à-vis the microfinance industry is provided below. As the review will demonstrate, the conclusions of the current literature are vague, inconsistent and mixed.

Campion (1998) undertook a survey where questionnaires were sent to several MFIs in order to collect data and draw conclusions, with the view of making suggestions for the improvement of corporate governance for these institutions. The findings suggested that the board and the management were, in general, working closely. However there were few board meetings and MFIs were often dependent on one key powerful person within the institutions, usually the managing director or the chairman of the board. Furthermore, the board member's selection was not formal and members were often untrained. There were also many internal board members, casting doubt on the independence of board members, especially when it came to matters of accountability, conflict of interest and innovation. Shortly thereafter, conscious of the MFIs' corporate governance shortcomings, Labie (2001) called for the improvement of the relationship between board and managers and raised the issue of lack of independence that often plagued MFIs.

Rock Otero and Saltzman (1998) presented a report, where the authors suggested that the traditional board structure with good corporate governance should be implemented in MFIs. These structures include the separation of the board chairman and the CEO, the role of the chairmen of the board in relation to other board members and the usage of board committees. Rock *et al.*, (1998) claimed that the microfinance industry worked along similar lines as other industries, and therefore traditional corporate governance should be directly applicable for MFIs. Campion (1998) concurred with this view, where he found that the governance practice of non-profit and for-profit MFIs had more similarities than differences.

The early microfinance literature on corporate governance, were to be followed with empirical literature undertaken particularly on corporate governance issues for the microfinance industry. The potential benefits from an independent board were addressed in one of the earliest research that examined the relationship between the corporate governance mechanism and performance for microfinance institutions. Hartarska (2005) found a trade-off between the two microfinance performances, outreach and sustainability, and that was directly related to stakeholders representation on the board, hence supporting an independent board but with a limited employee participation. Several research works followed that showed similar results. Notable works include research by Kyereboah-Coleman and Osei (2008), Bassem (2009) and Mersland and Strom (2009). Indeed, in a more recent research, which takes into account more recent data and is perhaps more accurate in relation to current stage of the microfinance industry, Hartarska and Mersland (2012) stress from their finding that MFIs with a board containing a larger proportion of insiders are considerably less efficient than those institutions that contain many independent board members.

Hartarksa *et al.,* (2012) emphasized that duality, i.e. the CEO and chairman being the same person, also caused less efficiency within MFIs. Kyereboah-Coleman *et al.,* (2008) found the same, earlier. While the effect of board independence and duality appears to be firmly established, such is not as obvious about the board size of microfinance institutions. Kyereboah-Coleman *et al.,* (2008) argued that board size to be positively related to financial performance, profitability but negatively related to the outreach. Hartarksa *et al.,* (2012) did, on the other hand, claim that boards with up to nine members can retain their efficiency, but thereafter declines.

There are also other issues in the MFIs' organizational framework within corporate governance that are shown to affect performance, notably managers' experience. As Hartarska

(2005) pointed out, experience is positively related to MFIs efficiency. But while the experience of managers may improve the MFIs' efficiency, such may not be the case if the power, the CEO or other managers is examined. Indeed, Galema, Lensink and Mersland (2012) showed that powerful CEOs with more decision-making powers, could make decisions which increases the MFIs' risk exposure. These risk-driven decisions were, according to the authors, causing worse financial performance.

Significantly, the finding appears to be particularly true for one type of MFIs or the non-governmental organization (NGOs). Mersland (2008) observed that most MFIs are either NGOs or cooperatives (COOPs) while policy papers do advocate for shareholder firms (SHFs). The authors propose that cost variables related to market contracting are favorable to NGOs and COOPs while the most cost variables related to the practice of ownership is favored by SHFs. Mersland and Strom (2008), found the difference between shareholder owned MFIs and NGOs to be very small and they argued that there was no logical reason to transform NGOs into shareholder firms. The authors published another paper where they addressed the effect of non-profit microfinance organizations and shareholder microfinance institutions and their effect on financial performance and on social performance. They found no difference (Mersland *et al.,* 2009).

Other researches have been carried out on different types of MFIs, for example Perilleux, Hudon and Bloy (2012) found MFIs allocating their surplus differently depending on the MFIs ownership structure. Both non-profit MFIs and shareholder MFIs kept their surplus within the institutions and used it for self-financing margin rather than to transfer it to employees or clients. Cooperatives on the other hand distributed their margin to their clients.

As for MFIs' performance in relation to the institution´s size, Hudon (2010) claimed that well-managed MFIs were often larger than other MFIs. However, Guierrez-Goiria and Goitisolo (2011) did not find any relationship between size, neither for profitability nor social performance.

The age of MFIs may also be a decisive factor for outreach depth, as Makame (2006) pointed out. However Hudon (2010) found that well-managed MFIs may not necessarily be older. It is important to note here that MFIs may have a very different goal for their institutions to undertake, for example some MFIs are only focused on reaching out to the very poor, some may be heavily subsidized and therefore their financial performance will not improve with their age, simply because it is not meant to be so.

Several other corporate governance issues in microfinance literature have been focused upon. Bonuses to managers have not shown better financial performance or better social performance, (Hartarksa, 2005; Bassem, 2009). Transparency has, on the other hand, had a good effect on MFIs performance as Augusine (2012) claim. The same is argued by Quayes (2012) who found that MFIs with a high level of public disclosures tend to perform better financially and socially.

To turn to external governance, external corporate governance issues such as the competition for the MFIs show mixed result. In an early research provided by Olivares-Polanco (2005), the authors claim that competition in the market tend to lead to larger loan sizes and shallower outreach. The author argues that in these cases, the poorest borrowers are simply dropped from the microfinance lending portfolio. These findings are contradicted, first by a finding from Hartarska *et al.,* (2012) who observed that competition had no effect on MFIs' performance and then by other researches who found completion to decrease (improve) outreach. D´Espallier and Vanroose (2013) found MFIs to reach more clients and were also more profitable in countries where the access to traditional financial system is limited. In contrast, in countries where there is already an established banking system, the existing banks are in competition with the microfinance institutions which pushes them down-market towards the poorest customers, hence deepening the outreach. In other words, greater competition pushes MFIs down towards the poorest and provides them with loans.

The findings of Assefa, Hermes and Meesters (2013) were similar. They discovered empirical evidence that competition among MFIs is negatively associated with their outreach performance, i.e. competition helped to deepen their outreach. Cull et al (2007) also stated that where there is competition in the market, MFIs are pushed toward the poorest borrowers and the outreach intensifies. This appears particularly true for microfinance banks that rely on commercial funding and those who use traditional bilateral lending contracts instead of group lending.

Regulation is another external corporate governance aspect that has been touched upon. The earliest research on regulations and their effect on MFIs performances, such as those conducted by Hartarska and Nadolnyak (2007) and Mersland *et al.,* (2009), show no effect. However, a more recent study by Hartarska *et al.,* (2012) hints that the relationship between regulation and performance may be more complicated. They found weak support for MFIs in countries with

mature regulatory environment to reach fewer clients but MFIs regulated by independent banking authority were providing better efficiency.

Internationalization may also play a role in MFIs performances. Vanroose (2008) argues that the microfinance sector is better placed in the "richer part" of the development world. Furthermore, the author argues that MFIs reaches more clients in countries where international support is present and strong. Ahlin, Lin and Maio (2011) also argued that country issues mater. For example countries that had stronger economic growth are better environment for MFIs to operate in terms of better repayment rate and also, countries with more developed financial system were better environment for MFIs in the sense that they had lower default rates, lower operating costs and were able to charge lower interest rates. However, countries that already had relatively developed manufacturing and higher workforce participation tended to have less growth in outreach. A noteworthy finding about internationalization is provided by Mersland *et al.*, (2011) where they found internationalization to directly affect MFIs social performance for the better.

Credit risk and credit rating is another factor that has been examined. Ayayi (2012) argued that low credit risk is a direct consequence of good implementation of corporate governance practices, while Beisland and Mersland (2012) argued that ratings of MFIs is mostly driven by these institutions' size, profitability and risk exposure.

It is however important to note that external corporate governance issues for microfinance institutions is challenging. Hartarska (2005) claims that external governance issues are unlikely to have a great effect on microfinance performances, both in terms of their financial and social objectives. Adams and Mehran (2003) also early claimed that since MFIs are very special institutions, with their dual performance goals of outreach and sustainability, their governance structure may as well appear to be very industry specific.

In short, corporate governance literature is mixed where MFIs are concerned, (Mersland, 2011). Hudon (2010) found that well-regulated MFIs performed well, but Hartarska *et al.*, (2012) found such institutions were unable to reach so many clients. Hartarska (2005) found a limited effect of regulation on performance, while Mersland *et al.*, (2009) found no effect whatsoever. As for duality where the chairman of the board is also the CEO, Hartarksa *et al.*, (2012) found such MFIs to be less efficient, but Kyereboah-Coleman *et al.*, (2008) found such MFIs to be more profitable. Mersland *et al.*, (2009) found MFIs with duality being able to reach to more borrowers.

Finally, managers' level of experience tend to have no effect on MFIs' performance according to Hudon (2010) but, according to Olivares-Polanco (2005), this factor has a positive effect. In fact, such is the diversity of conclusions that Mersland *et al.,* (2009) stated, in a relatively early paper on microfinance and corporate governance that the industry would require other approaches in order to explain corporate governance and performance in MFIs.

As shown from the literature reviewed above, the conclusions of the corporate governance literature of performance for organizations in general, and for MFIs in particular, is mixed. A different approach, therefore, has to be taken in order to account for the good performances in MFIs. Strom *et al.,* (2014) looked at another unique agenda in microfinance, namely gender. They argued that gender, most notably the presence of a female CEO, could explain some of MFIs' financial performance. Microfinance gender specific issues are noteworthy, particularly since the microfinance industry is female specific, as demonstrated earlier in this paper. The gender aspect in microfinance literature will be addressed in the light of how they could further advance the literature of how MFIs are governed.

Gender – Microfinance industry

The conclusion of the corporate governance literature and gender in general are, again, mixed (Bohren and Strom, 2010; Nielsen and Huse, 2010; and Dalton *et al.,* 1998). Carter, Simkins and Simpson (2003), Erhard, Werbel and Shrader (2003), and Campbell and Mínguez-Vera (2008) found that gender diversity in the board had a positive effect on organizational performance and Krishnan and Park (2005) and Shrader, Blackburn and Iles (1997) found so for management. On the other hand, Adams and Ferreira (2009) and Smith, Smith and Verner (2006) found negative relationship, while Capple and Humphrey (2014) found a weak negative relationship between gender diversity and organizational performance. Furthermore, Dwyer *et al.,* 2003 and Carter *et al.,* (2010) found no relationship whatsoever.

As for internal corporate governance issues in MFIs, Hartarska (2005) found that having female representatives on the board did not affect MFIs' performance, neither financial performance nor social performance. However, Bassem (2009) found that female representatives helped to deepen outreach. Yet, according to Mersland *et al.,* (2009) and Strom *et al.,* (2014), female CEOs appear to increase MFIs financial performance.

The size of microfinance loans to women is usually lower, D´Espellier *et al.,* (2013) observed, resulting in deeper outreach towards women. Agier and Szafarz (2013) argued that although loan approval rates were gender neutral, the loan size on the other hand was lower to female borrowers. Similar results were found earlier by Omri and Chkoundali (2011). Different microfinance types appear to play a role, as argued by D´Espallier, Guering and Mersland (2013), MFIs focusing on women are usually NGOs.

Furthermore, Hermes, Lensink and Meeters (2009) found MFIs with more women borrowers tend to be less efficient. D´Espallier *et al.,* (2013) found MFIs focusing on women to be more focused on group-lending methods and Agier *et al.,* (2012) blamed the loan officers for the smaller loans to women. Finally, focusing on women or the very poor did not result in higher loan default (Omri *et al.,* 2011).

As for external corporate governance issues of MFIs and gender, the increasing competition in the microfinance market pushes the MFIs to loan to poorer borrowers and more women, hence increasing competition deepens outreach and increases the number of female borrowers. Women are also associated with better repayment, particularly for NGOs, (D´Espallier *et al.,* 2013) and internationalization is associated with more female borrowers, (D´Espallier *et al.,* 2013). Finally MFIs receiving international subsidies tend to target female customers in larger number than other MFIs, (Mersland and Urgeghe, 2013).

As for social performance, outreach in particular, although Hartarska (2005) found in her seminal work that having women on MFIs' boards did not significantly affect either on outreach or sustainability, Bassem (2009) found that when there are a higher proportion of women on MFIs' boards, the outreach tend to be better. He believed the most likely explanation for his finding is that women are generally more independent as board members and independent board members tend to perform better (social performance in this case).

Women borrowers are also believed to be associated with better outreach, (Hermes *et al.*,, 2011). The external environment may also work towards women resulting in better outreach. Cull, Kunt and, Moduch (2013), found more banking competition to lead to more outreach, in particular to women.

Scholars engaged in microfinance literature such as Mersland and Labie (2011) and Hartarska *et al.*, (2012) have called for specific approaches for microfinance institutions. It is arguable this approach may have encouraged the integration of specific aspects of the microfinance industry, such as gender, into analyses and explanations of how the microfinance industry attain their performance goals. Therefore, instead of relying on traditional corporate governance approaches to performance, the particular gender issues of the microfinance industry will be used to explain the performance of the MFIs. Such pioneering work has already been carried out by Strom *et al.*, (2014) in order to show limited gender aspects towards financial performance. That can be extended further, towards social performance, outreach. As a consequence the result can contribute to the literature of trade-off between outreach and sustainability.

Empirical settings

Two combined sources of data were used in this thesis. The first one is data downloaded from Microfinance Information Exchange, MixMarket (or simply MIX). This data set was then matched with an original hand collected data resulting in a unique data set.

The Microfinance Information Exchange (MIX)

One of the data sets used in this research is from the Microfinance Information Exchange or MixMarket who provide data on their website (www.mixmarket.org). MIX provides data on financial as well as the social performance of approximately 2.000 MFIs around the world. Although the data from MIX have their disadvantages since they are self-reported it has been widely used in microfinance literature, such as by Cull et al (2007), Hartarska *et al.*, (2007), Ayayi (2012), Quayes (2012) and by D´Espallier *et al.*, (2012).

In the data from MixMarket one can easily divide the MFIs into the four categories, namely Microfinance Banks, Non-Governmental Organizations (NGO), Non-Banking and Financial Institutions (NBFI) and Cooperatives/Credit Unions (C/C). The thesis will work according to this division, which has precedent in several published literature such as by Périlleux *et al.*, (2013), Galema *et al.*, (2012), Bassem (2009), and Mersland *et al.*, (2008).

The first type of MFIs to be described is the Non-Governmental Organization (NGO). NGOs are usually registered as non-profit organizations and are usually not regulated by a banking supervisory agency. Their financial services are usually more restricted than other MFIs and they are rarely allowed to collect deposits. This particular limitation may affect their financial performance. According to Bassem (2009), NGOs are usually more focused on their social mission than on their financial performance.

The second microfinance institution to be described is the microfinance bank that is a licensed financial intermediary regulated by a state banking supervisory agency. Microfinance banks often provide several kinds of financial services such as deposits, lending and money transfer. Microfinance banks are perhaps the closest to traditional banks of all the microfinance institutions.

The third microfinance type mentioned is the Cooperative/Credit Union (C/C), a non-profit, member-based financial intermediary. These institutions are excluded from the data set because of their particular governance structure.

The fourth and final type of MFIs described here is the Non-Banking and Financial Institutions (NBFIs). NBFIs usually provide similar services to their customers as banks do. The main difference lies in their different capital requirements and limitations on certain financial service offerings.

The NGOs are normally the smallest of the entities while the Microfinance Banks are the largest. There are, however considerable exceptions, some of the largest MFIs in the world are NGOs. The NGOs also form the majority of all the institutions. Nevertheless, Microfinance Banks are larger in terms of gross loan portfolio.

Despite the great number of MFI organizations provided in the MIX, because of gender related variables, the data set was downsized considerably, from 1.317 down to 258. However, the sample of 258 is believed to be reasonably representative for the population, median and other statistical measurements are not very different (if extreme outliers are removed). Since many of the control variables were not provided by MIX, they had to be hand-collected and mixed with the data set, creating a unique data set.

Hand-collected data

Many of the variables of interest were not available at MixMarket platform. They had to be hand-collected and were then matched with the data from MixMarket. The majority of this hand-collected data were from financial statements, ratings reports and the MFIs' homepages. A little less than half of these information were in languages other than English (mostly in Spanish but sometimes in French and Portuguese). When sufficient information could not be obtained from these sources, further searches for the missing information had to be undertaken. Some could be found on the webpage "LinkedIn", such as information on the MFIs' CEOs. In addition, roughly 100 emails were sent out to MFIs mostly located in Latin America. Response to those emails were disappointing, however they still managed to give an insight into the microfinance industry.

From the initial 258 MFIs selected from MIX, we managed to collect additional data for 227 institutions. One further institution was eliminated from the data pool due to its exceptionally large outreach. 226 MFIs were therefore used as a base for the regression. The other papers presented in this thesis also utilize this data set.

It is hoped that this paper has managed to present clear and succinct information on the microfinance industry, the context on the theory development, as well as the empirical settings for the thesis. The thesis further includes the papers titled "Women in Microfinance Institutions: The road to poverty reduction and gender equality?" and Women in Microfinance Institutions: Is There a Trade-Off Between Outreach and Sustainability?"

University of Bologna, 6th March 2015.

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Women in Microfinance Institutions: The Road to Poverty Reduction and Gender Equality?

Abstract.

One of the unique aspects of microfinance institutions is their focus on outreach, i.e. their ability to reach the poor. This paper explores whether the presence of women in microfinance institutions is associated with improved outreach. Building on prior research that shows that women tend to improve financial performance and social responsibility, we examine an original dataset of 226 microfinance institutions. The empirical results suggest that the presence of a female CEO, female managers and female loan officers is directly related to improved outreach, while the presence of women board members is not.

Introduction

The newly emerged, yet growing microfinance industry (Lascelles and Mendelson, 2011) consists of microfinance institutions (MFIs) that aim simultaneously to reach out to the poor and provide them with capital, and to be sustainable. These simultaneous goals of outreach and sustainability set MFIs apart from both traditional non-profit organizations and profit seeking lending institutions such as banks. This makes microfinance industry a somewhat unique industry.

However it is the social performance, hereinafter called "outreach", that is the most important goal of the MFIs (Hartarska, Mersland and Sen, 2013; Mersland and Strom, 2009). Therefore knowing how to improve outreach and the factors that affect it is important. The loans requested by potential borrowers are too small for MFIs to break even and many institutions do not have the costly information on the risks of the borrowers. The MFIs borrowers are usually from a poor background, often without formal financial inclusion and lacking in collateral (Armendáriz and Morduch, 2007). In the MFIs' view, the cycle of poverty can be broken by reaching out to these people who are excluded from the formal financial system and providing them with loans to establish new businesses. In other words, market failure is solved with improved outreach.

Since outreach is a performance measure, it should be examined in the context of the literature of corporate governance and performance. First of all, although outreach is a social

performance measurement, it is carried out by MFIs that also have a sustainability goal to adhere to. Secondly, organizations that only serve as non-profit entities also face challenges that arise between their agents and donor. Although donors may not be concerned over repayment of their fund, the agents may still act out of line with the organizations' stated goals, (Fama and Jensen, 1983). Therefore, MFIs that have the characteristics of profit-seeking organizations (sustainability) and non-profit organizations (outreach) should be viewed through the lens of corporate governance and performance.

Nevertheless, there are problems in the literature on corporate governance and performance when it comes to MFIs. The conclusions of the literature in this area, both in general terms (Dalton *et al.*, 1998) and in studies where MFIs are focused upon (Mersland *et al.*, 2009), are mixed and inconsistent. A resolution to this inconsistency may lie in examining the role of women in the management and boards of MFIs.

While Strom, D'Espallier and Mersland (2014) found traditional corporate governance measures to be poor explanatory measurements for MFIs, they also illustrated that female CEOs and female board members were associated with an increase in the financial performance of MFIs. The next logical step is to see if that conclusion can also be applied to the MFIs' other performance goal i.e. outreach. According to the best of our knowledge, such research has yet to be undertaken.

Strom *et al.*, (2014) build their argument on the view that women understand the market where the MFIs operate. Since women are the vast majority of the MFI users (Armendáriz *et al.*, 2007) where Strom *et al.*, (2014) used the Becker (1973) model of the marriage market. The theory by Becker is therefore used for MFIs where gender in the MFIs' management and the board matches with the MFIs' users.

According to Ghatak (2000), the matching marriage model is valid among MFIs borrowers. Women borrowers pose less of than male borrowers and are more likely to group themselves with other less risky borrowers, who tend to be women. In other words, the marriage market matching works horizontally among MFIs borrowers. Since Thomas and Ramaswamy (1996) showed that the matching of leaders of companies that had a common trade and strategy, increases the firm's performance. Such vertically matching relationship should also work for female managers towards female borrowers. Therefore Strom *et al.*, (2014) were able to argue and show that female CEOs would result in better financial performance for MFIs.

This research will take the theoretical argument used by Strom *et al.,* (2014) further, where it will be argued that a female management team and female board members in MFIs will also match with the female borrowers, resulting in better social performance, outreach.

In order to show that outreach is also a result of women in management and the board of MFIs, this research will rely on an additional theory: the social role theory of gender differences and similarities. Eagly and Johnson (1990) demonstrated that women are more communal and more concerned with others than males. In addition, Billimoria (2000) illustrated that women were particularly successful when it came to company strategizing, resulting in better corporate social responsibility. Outreach is a social performance and it is intended to address the needs of others – i.e. the poor outside the formal financial system. Therefore outreach is expected to be better where women are in charge in MFIs. Just as Strom *et al.,* (2014) found female CEO in MFIs to improve financial performance, female CEOs, managers, and board members are expected to have an effect on outreach.

It seems logical that females in management positions and on the organizational board will result in good outreach. The current literature has shown that companies with a strong female presence in management positions (Krishnan and Park, 2005) and on its organizational boards (Carter, Simkins and Simpson, 2003), perform better financially. Moreover, Strom *et al.,* (2014) demonstrated the same for female CEOs. The next logical step is to argue that the same is likely to result for outreach. The literature on this issue will be reviewed in the next section.

The hypotheses will be tested with an original data set of 226 MFIs. The data set was created with on-line data from an organization called MIX, and then combined with hand-collected data.

The paper is structured as follows. The following section discusses the relevant literature and the hypotheses. After the estimation methods, the model and the data are presented. Finally, the discussion of the empirical results precedes the conclusion.

Women and outreach

In this section, the importance and nature of MFIs social performance, outreach will be explained, along with the inconsistent conclusions of the existing literature on traditional corporate governance and its struggle to explain organizational / MFIs performance. The following sub-

chapter discusses how the outreach may be explained by the presence of women in management and board positions in MFIs. The corporate governance literature of women will then be examined in detail, followed by a discussion of the hypothesis.

MFIs' social performance – Outreach

The microfinance phenomenon has received great attention in recent years. Relatively unknown in the late 1970s, the microfinance industry has since grown rapidly, from just a handful of borrowers in the beginning, to hundreds of millions of people in the developing world, the majority of them with poor social and economic backgrounds (Maes and Reed, 2012). Indeed, the microfinance industry continues to grow; in some countries by more than 20 percent on an annual basis (Lascelles *et al.*, 2011)

Unlike other organizations, the MFIs have dual performance goals: a social one called outreach, as well as a financial one called sustainability. The dual performance goal of sustainability and outreach builds on the argument that MFIs should be able to survive independently in the long term (sustainability), while providing the poor with capital (outreach). Outreach performance is generally accepted as the MFIs' main performance goal (Hartarska *et al.*, 2013; Mersland *et al.*, 2009) and that it is a necessary solution to a market failure that has resulted in the perpetuation of the poverty cycle.

The MFIs, in effect, exist to solve a market failure. Often, the loans requested by potential borrowers is too small for the MFIs to break even and the institution does not have the costly information of those who will repay i.e. information asymmetry. A further risk is the fact that borrowers often do not have any collateral (Armendáriz *et al.*, 2007). However, MFIs are usually aware of these limitations and choose to position themselves towards the poor in what can be called "the long tail of the Pareto´s 80/20 principle" (Serrano-Cinca and Suitérrez-Nieto, 2014). Failing to address those who are placed in the long tail, i.e. the poorest borrowers, by insisting on simultaneous profit, may leave many unbanked potential borrowers who are willing and able to repay, out in the cold.

Through reaching out to the poor by improving outreach, the needs of the unbanked poor will be addressed. They will have access to their first small loan from MFIs, despite their lack in collateral. The MFIs reduce their risk exposure through their unique group-lending methods and peer monitoring. What this means is that MFIs do not have to loan out small sums to each and every borrower and monitor it. Instead, they loan a larger sum to a group of people who are

collectively responsible for repayment. Their incentive to repay is that they may get a larger loan next time. On the other hand, if members fail to repay, none of the members of that group will be able to secure a loan next time. Thus, with group lending and peer monitoring, it is possible to reduce transaction costs and partly transfer the risk from the bank to borrowers, while simultaneously increasing their collective welfare (Stigliz, 1991).

Effectively, by receiving microfinance loans, the borrowers will become members of the formal financial sector. Eventually, borrowers will be able to secure larger, individual loans that will yield more profit to the lending institution. Furthermore, valuable information about the borrower's ability to pay back their loans is gathered. Thus, with better outreach the unbanked poor will eventually become a bankable member of the formal financial system and will no longer be trapped in the poverty cycle.

Outreach is an important performance measure for social purposes. Although outreach is one of the MFIs' main goal, (e.g. Hartarska, *et al.,* 2013; Mersland *et al.,* 2009) they also have to fulfill their sustainability goal. As mentioned earlier, since this goal is similar to traditional organizational profit maximization, MFIs can, therefore, be examined through the lens of corporate governance literature. There is also the additional problem between donors and agents that has been touched upon. The first logical step to see what can improve the outreach of MFIs is to examine the general literature on corporate governance, as well as those focused on the microfinance industry.

Literature on traditional corporate governance and MFIs

In the classic literature of corporate governance, the term corporate governance is generally defined as the system by which organizations are directed and controlled (Cadbury Report, 1992). Most corporate governance literature is based on the agency theory (Aguilera and Jackson, 2003; Johnson, Schnatterly and Hill, 2013). The theory of non-optimal and wasteful agency costs resulting from substandard managers that clashes with the objectives of the owner (Jensen and Meckling, 1976), relies on the assumption that both the owner and the managers are self-serving and opportunistic in nature (Daily, Dalton and Cannela, 2003). This assumption that the agency theory is based upon may be problematic when it comes to the more 'altruistic' MFIs, especially when the social performance goal is considered.

However, as Fama *et al.*, (1983) argued, corporate governance for non-profit organizations should still hold. Fama *et al*, (1983) distinguished between those who take on ratification and

monitoring (the organizational risk bearer, like board members) of an organization and those who carry out initiation and implementation (together called decision management) state that organizations do face agency issues regardless of the size and type. While the non-profit organization may differ for the organization aiming for financial performance in the sense that the former does not have a risk bearer who has to worry about their profit maximization, yet the agency issue between the decision management and the risk bearer still remains. In other words, although the donors of non-profit organizations are not calling for a return of the organizational net cash flow, the internal agent may still exploit the resources of the organization (Fama *et al.*, 1983).

Since the MFIs bear the characteristics of both traditional profit making organizations and that of not-for-profit organizations, the MFIs have also been addressed before in the literature on corporate governance. Furthermore, corporate governance theories have been used in microfinance literature. Indeed, a survey of microfinance participants discovered that the governance practices in non-profit and for-profit MFIs were remarkably similar (Campion, 1998). In addition, several research works have also been carried out in order to see which corporate governance factors are decisive for MFIs performance, such as the board directors, members of the management team, and outside issues such as the organizational size and country characteristics (e.g. Hartarska, 2005; Kyereboah-Coleman and Osei 2008; Mersland *et al.*, 2009; Hartarska and Mersland 2012).

There is, however a challenging issue. Corporate governance literature used to explain organizational performance, both financial performance as well as social performance, has its limitation. Although corporate governance may provide a sound theoretical explanation of organizational performance, the actual reality on the ground as seen in the results of empirical research is inconsistent.

In fact, corporate governance literature, regardless of its specialization, is plagued with inconsistent results, making it difficult to come to a firm conclusion on a causal relationship between certain aspects and the organizational outcome. In an early meta-analysis carried out by Dalton *et al.*, (1998), the authors found no systematic relationship between the board´s independence and performance. In another meta-analysis, Daily *et al.*, (2003) did not find any systematic relationship between the independent board directors nor the duality of the CEO and the board on the firm's financial performance. In fact the authors state that alternative theories or

models are needed in order to discover the factors within corporate governance that may possibly explain the firm's good or poor performance.

The reason why corporate governance fails to explain organizational performance may, according to Aguilera *et al.,* (2003), lie in the shortcomings in the over-emphasis on the agency theory which fails to take into account of the interdependencies among stakeholders of the organization. Renneboog, Horst, and Zhang (2008) argued along a similar line, where they suggest that corporate governance should be broader. This broader governance should be termed "stakeholder governance". It includes traditional corporate governance issues also takes into account issues related to other stakeholders.

The same mixed picture can be seen when it comes to corporate governance literature focused on MFIs' performance (Merlsand, 2011). For example, while Hudon (2010) found that well-regulated MFIs performed well financially, Hartarska *et al.,* (2012) found that these institutions failed in their outreach. In another research, Hartarska (2005) discovered the limited effects of regulation and performance, while Mersland *et al.,* (2009) found no effect whatsoever. As for the duality (cases where the chairman of the board is also the CEO) Hartarksa *et al.,* (2012) found such MFIs to be less efficient, Kyereboah-Coleman *et al.,*(2008) found them to deliver more profit and Mersland *et al.,* (2009) found these MFIs to be more effective in outreach. Finally, experience is said to have no effect on MFIs' performance according to Hudon (2010), but to have a positive effect according to Olivares-Polanco (2005).

In fact such is the diversity of views and conclusion in corporate governance literature on performance that Mersland *et al.,* (2009) state, in a relatively early paper on microfinance and corporate governance, that the industry would require alternative approaches in order to explain the relationship between corporate governance and performance in MFIs. Furthermore, Strom *et al.,* (2014) argued that traditional corporate governance approaches generally failed to explain MFIs' performance. It is arguable that one of the alternative approaches that should be taken relates to gender.

Women in MFIs management positions and boards: A theory of marriage and social role theory of gender differences and similarities

What makes the microfinance industry somewhat unique is that it is female-focused, (Armendáriz *et al.,* 2010), where they form around 70 percent of all borrowers (Reed, 2011). Therefore, it may appear relatively logical that women managers and board members should

connect better with the MFIs' borrowers. Previous researches have shown that female CEOs result in better financial performance (Strom *et al.*, 2014). With the extension of a theory of marriage and by introducing the social role theory of gender differences and similarities it will be argued that women in management and on the board will improve the MFIs' outreach.

Strom *et al.*, (2014) use Becker´s (1973) theory of marriage as their underlying theory and this research will follow suit. Becker (1973) states that people looking for a partner to marry will search and match with people who have similar characteristics, such as similar IQ, education, height, attractiveness, skin-color and ethnic origin. While Becker´s (1973) theory is aimed at explaining the matching in heterosexual marriages, the theory of marriages is extended here to MFIs. Since the microfinance industry is gender specific, and women in MFIs' management and the board have the "gender" factor as a similar trait with the borrowers, according to the theory, the result should be a "mutual attraction" between the women in management and on the board, and the borrowers. This partnership will then lead to a better performance.

The theory of marriage was first brought into the microfinance literature by Ghatak (1999), Ghatak and Guinnane (1999) and Ghatak (2000), who were able to show simultaneously that female borrowers are more likely to match with other female borrowers who, notably, tends to pose less of a risk seeking than male borrowers. Indeed, this observation is backed up by the supporting literature; women have been shown to be more risk averse than men in general (Sunden and Surette, 1998; Agnew, Balduzzi and Sunden, 2003; Khan and Vieito, 2013; Croson and Gneezy, 2009), particularly within the microfinance industry (D´Espallier, Guerin and Mersland, 2011).

Ghatak (1999) first refers to Akerlof´s (1970) lemon argument where risk taking borrowers push interest rates higher and drive the risk averse borrowers away from the market, due to lack of information about each loan taker. A bank or MFI faces auditing cost, moral hazard, adverse selection and lack of ways to enforce repayment. Furthermore, they are unable to collect on the collateral of the very poor, since they do not have any in the first place.

In contrast, borrowers in a group lending setting and peer monitoring program may know one another well. In some cases, they also assist in pushing their peers to repay their loans, due to joint liability (Ghatak *et al.*, 1999). In other words a fellow borrower may take on the "screening" and "enforcement" roles toward their peers. While everybody would like to have a "safe" repaying partner, when it comes to group lending and peer monitoring, the burden of the screening process

is passed onto the "safe" borrowers. Hence, the right match to someone of similar inclinations is of utmost importance (Ghatak, 2000).

Therefore Ghatak (2000) illustrated that the theory of marriage holds true at the "bottom" level of the microfinance industry i.e. among the female microfinance borrowers. Ghatak (2000) also addresses Akerlof´s (1970) lemon argument and states that with the joint liability of group lending programs in MFIs, those same less risky borrowers who tend to be women are matched together thereby resulting in a new market equilibrium. In other words, with group lending and peer monitoring, the less risky borrowers who are women are brought "back" into the market and a market failure is solved. In this way, female borrowers with their gender and risk avoidance do "match" with each other, as predicted in Beker´s (1973) theory of marriage. Hence, Ghatak's (2000) usage of the theory of marriages is particularly useful within microfinance literature since it not only shows that women match with other women, but also that these "marriages" or "matches" between less risky females also helps in solving the market failure faced by the poor. Mersland *et al.,* (2009) and later Strom *et al.,* (2014) also extended the theory further. In addition Storm *et al.,* (2014) used a finding from Thomas *et al.,* (1996) who showed that matching of leaders with specific traits and the firm´s strategy will result in the firm´s improved financial performance.

Strom *et al.,* (2014) were also able to use Becker's (1973) theory of marriages to show that the presence of female CEOs in MFIs resulted in better financial performance. This link had already been shown to be true for women borrowers (Ghatak, 2000) and to hold true for firm´s leaders, strategy and financial performance (Thomas *et al.,* 1996). Hence, the same theory should also hold for women in management of MFIs where they "match" with the women borrowers resulting in better financial performance.

In this research, the Becker´s (1973) matching marriage theory and its usage in the microfinance literature will be further developed. It will be argued that the theory will also work for females in management position and the boards vis-à-vis the MFIs' social performance, outreach. Such research has not been carried out previously according to the knowledge of the authors of this research.

As Strom *et al.,* (2014) rightly argued, the microfinance industry is female specific but in addition, the female borrowers of MFIs are usually among the poorest (D´Espallier and Vanroose, 2013). Aiger and Szarfaz (2013) found that although women got the same loan approval rate as

men, the size of the loan to women were generally much less. Mersland and Strom (2010) shared the same findings, but argued that women generally request smaller loans themselves.

Therefore, when the MFIs reached out to women, they also reached out to the poorest of those who take microfinance loans (D´Espallier *et al.*, 2013). This relationship between poverty, gender and outreach is well-documented in microfinance literature (Armendáriz, *et al.*, 2007) and deeper outreach is a social issue aimed and poverty reduction.

While Becker´s (1973) marriage matching theory has been well-used in microfinance literature to explain the MFIs' financial performance (Strom *et al.*, 2014), in order to show that the same applies also to social performance, outreach, another theory more aimed at explaining female social issue should be considered. In this context, the social role theory of gender differences and similarities is intended to complement, rather than act as a substitute for Becker´s (1973) marriage matching theory.

The social role theory of gender differences and similarities is presented by Eagly (1987), who argued that males and females behave in a "stereotypical" manner when they follow their social roles. Eagly, Wood, and Dieman (2000) defined these roles as shared beliefs of females or males that applies to them on their socially identified gender. These social roles are observed by each gender in their personal and professional environment. According to these roles, women were found to be more concerned with others, friendly, altruistic and emotionally expressive, while men were found to be more agentic, independent and competent (Eagly and Wood, 1991). Furthermore, women tend to be more considerate, helpful, friendly, open and concerned for the welfare of others, i.e. interpersonally oriented while men tend to be more task-oriented (Eagly, and Johannesen-Schmidt, 2001).

The social role theory can be traced back to early literature of gender, for example Bakan (1966) states that women appear to be inclined to carry out communal behavior but men are behaving in a more agentic manner. This result was also consistent with research by Ickes *et al.*, (1986), where they found women to be more empathetic than their male colleagues. Moreover, two meta-analyses by Eagly *et al.*, (1990) and by Eagly, Karau and Makhijani (1995) also confirmed this different social behavior or gender roles i.e. women are more communally-orientated, while men had a more independent outlook.

It is important to note that the social role theory does not imply that women behave differently because of their biological differences from men. Rather, as Eagly and Wood (1991) state, the difference in gender behavior is explained by the trend of the different genders to behave in accordance with their gender roles, which causes them to accumulate different skills and

attitudes that results in their different behavior. The female gender self-schemas that form their roles is based on female roles, norms, values and beliefs, which include the affiliation to others (Konrad *et al.,* 2000; Terjesen, Sealy and Singh, 2009).

The social role theory has been applied both directly and indirectly and has produced noteworthy explanations for organizational performance. An example is the study by Williams (2003), which found that female tasks were limited to certain specific areas of corporate governance, most notably the corporate social responsibility section. Nielsen and Huse, (2010) argued that women appeared to be more sensitive towards others when they implemented their firm's strategies. Furthermore, Billimoria (2000) argued that women's special affinity to considering the needs of others is reflected in the firm's strategy and results. In reality, these organizations do perform better in terms of their corporate social responsibility activities, as well as their environmental consideration.

Given the results of these studies that show that women are more concerned with welfare of others (Eagly *et al.,* 1990), combined with the idea that women are more likely to match with each other (e.g. Ghatack 2000; Strom *et al.,* 2014), it seems logical that the presence of women in managerial and board positions would lead to an improvement in outreach.

In sum, Becker´s (1973) theory of marriage matching that was introduced to the microfinance literature by Ghatak (2000), Strom *et al.,* (2014) managed to show that female CEOs affects MFIs' financial performance. By adding social role theory to the mix, as developed by scholars such as Bakan (1966), Ickes *et al.,* (1986) and Eagly *et al.,* (1990) it is possible to show that the females in MFIs management and females on the MFIs board will also be able to explain differences in social performance, outreach.

Women in corporate governance: Empirical literature review

The corporate governance literature that is particularly gender focused includes several research works that show women to have a positive effect on organizational and financial performance. Carter, Simkins and Simpson (2003), Erhard, Werbel and Shrader (2003), and Campbell and Mínguez-Vera (2007) found a positive relationship between gender diversity in the board and organizational performance. Similar conclusions were made by Krishnan *et al.,* (2005) and Shrader, Blackburn and Iles (1997) vis-à-vis the management team. Chapple and Humphrey

(2014) found a weak negative relationship between gender diversity and organizational performance.

While Dwyer, Richard and Ghadwick (2003), and Carter *et al.*, (2010) found no relationship whatsoever, few research works provide a negative result, such as Adams and Ferreira (2009) and Smith, Smith and Verner (2006).

It is important to note, however, that although the literature above may show mixed result when gender and financial performance is focused upon, the discrepancies can be explained by their reliance on different theories, data sets and methodologies.

The existing literature that focused on gender and MFIs in particular is very limited. Bassem (2009) found that women on the boards tend to lead to better outreach. On the other hand, Hermes, Lensin and Meeters (2009) argued that those MFIs that focused on women were less efficient. Kar, (2013) found larger and more experienced MFIs to provide fewer financial services to their women borrowers, with the exception of MFIs that were registered as NGOs (non-governmental organizations). D´Espallier, Guerin and Mersland (2013) found women to be more likely to repay their microfinance loans, but since they, on average, got much smaller loans than males, such loans, despite the high repayment rate, will not result in better financial performance for the MFIs. Indeed while loan approval rates appear to be gender neutral, the loan size is much smaller on average for women (Agier *et al*, 2013). Finally, Strom *et al.*, (2014) found female CEOs tend to lead to the MFIs' superior financial performance.

The literature of the effects of gender on MFIs' performances has been understudied and calls for further research. The Strom *et al.*, (2014) usage of Becker´s (1973) marriage matching theory will be extended in this research, by adding the social role theory of gender differences and similarities. Female participation in MFIs' management and MFIs' boards and how it affects MFIs outreach will next be explained in detail, along with the hypotheses.

Female CEOs, managers, loan officers and board members in MFIs and outreach

The literature that addresses the relationship between female CEO and financial performance provides mixed results. In a meta-analysis of women in leadership positions, Eagly, Johannesen-Schmidt, and van Engen (2003) found that women were associated with better organizational effectiveness. Catalyst (2004) found many women in top executive positions have significantly higher returns on equity and total returns to shareholders, when looking at companies on the Fortune 500 list. In contrast, Darmadi (2013) found female CEOs to be negatively related to

both returns on assets. These research works, however, differed in terms of data, methodology and theories.

Regarding the MFIs' social performance, although Mersland *et al.,* (2009) argued that having female CEOs should result in deeper outreach, they found to their surprise that this was not the case. The theoretical background in this research supports the theory that female CEOs will positively affect the MFIs' outreach. First of all, as Strom *et al.,* (2014) argued, MFIs operate in female-specific world. Therefore, female CEOs should "match" with female borrowers. Secondly, Strom *et al.,* (2014) have already shown that female CEO has an effect on MFIs' financial performance. Thirdly, as has been argued in this research with social role theory of gender, female leaders are more concerned with well-being of others (Terjesen *et al.,* 2009) and are oriented towards enhancing the self-worth of others, (Nielsen *et al.,* 2010). Those 'others' are, in this case, female borrowers hence the following hypothesis is stated.

Hypothesis 1: Female CEOs deepens MFIs' outreach.

As for managers and their effects on financial performance, Shrader *et al.,* (1997) found that female managers caused better financial results. Catalyst (2004) found the same for higher returns on equity, as well as on total return to shareholders. Powell (1990) and Rizzo and Mendez (1988) found women managers to cause positive results for their organization.

To the author's knowledge, there have been no similar findings found for MFIs and their social performance. However, there is a strong reason to believe that such is indeed the case. The answer is to be found in the literature that addresses this issue via use of the social role theory.

According to Eagly *et al.,* (2001), women are more communal in their leadership skills. Women also show more harmony than their male counterparts, (Hurst, Rust and White, 1989) and they have a "feeling" cognitive leadership style (Krishnan *et al.,* 2005). This is very much in line with the social role theory of gender that this research is based upon, where the females in the management team are focused on the needs of others because of their social characteristics. Therefore the following hypothesis is proposed.

Hypothesis 2: Female managers deepen MFIs' outreach.

It is important to go lower in the hierarchy of the management team to consider loan officers who are mid-level managers. Loan officers may have a decisive effect of how the organization strategy is carried out, which then results in performance.

Indeed, Fama *et al.,* (1983) argued that the decision management could be at work below the top level of the organization. Moreover Thomas *et al.*, (1996) argued that in order to improve the organization's performance, all layers of the management team had to be in the same line, not just the top management team. In addition Qi (2005) argued that mid-level managers are affected and will reflect both their demographic background and the support they get from their managers.

Little is known about loan officers and their potential effects on MFIs' social performance. The very limited literature does suggest that loan officers may have an effect on MFIs performance. Agier *et al.,* (2013) claim that female loan officers provide lower loans to female, which keeps them in poverty. Marr and Awaworyi (2012) argued that MFIs with more assets and higher ratios of loan per loan officers were able to perform better socially. Finally Beck, Behr and Guettler (2012) presented a noteworthy finding where they illustrated that female loan officers resulted in better financial performance than male loan officers.

While loan officers evidently affect MFIs' performance, as discussed above, a further argument is needed. By relying on the marriage matching theory, it has been argued in this research (Hypotheses 1 and 2) that women in the top management team i.e. female CEOs and managers can "match" with female borrowers because they share the common trait of their gender. Following on from this position, it can also be argued that women in the top management team (CEO and managers) can also "match" and affect female loan officers.

It has already been argued in literature that women who are in senior positions focus more on developing and mentoring their subordinates, encouraging them to reach their full potential (Eagly *et al.,* 2003). Females in the top management do therefore engender increased motivation for lower level managers. Such is in line with transformational leadership style where the leaders spot potential in their followers (Burns 1978). Indeed the female leadership style is characterized by cooperation, collaboration and collective problem-solving and decision-making (Jogulu and Wood, 2006; Mandell and Pherwani, 2003).

Furthermore, since the transformational leadership style that women often use is built around characteristics of caring and to be concerned for the need of others and nurturing (Jogulu and Wood, 2006) it reinforces the argument provided in this research, which is built on the social role theory of gender differences and similarities, where women are particularly concerned of the need of others (Eagly *et al.,* 2003).

It will therefore, be argued that female loan officers have a decisive effect on the organization´s social performance. This theory leads to the following hypothesis.

Hypothesis 3: Female loan officers deepen MFIs' outreach.

As for the board of directors, the issue has been studied but there are challenges. First of all, while Hartarska (2005) and Bassem (2009) both found female board directors to affect outreach, their data set only consists of countries from Eastern Europe and Mediterranean countries. The issue clearly deserves further attention with data from other countries. Secondly, as for female board directors and their effect on performance in general, results are mixed and inconsistent (Terjesen, *et al.,* 2009; Nielsen *et al.,* 2010).

While some researchers have found a positive relationship, (e.g. Luckerath-Rovers, 2013; Carter *et al.,* 2003; Erhardt *et al.,* 2003), others found a negative relationship (Adams and Ferrara, 2009), while yet another research work (Dwyer et al 2003; Rose, 2007) reported no discernable relationship whatsoever.

Kesner (1988) found that women board directors tend to come from more diverse background than men and Billimoria and Huse (1997) argued that female directors on organizational boards tend to offer great contributions to the organizations. Such claims have been supported empirically in some cases. For example, Krishnan and Park (2005) found a positive relationship between female board directors and financial performance. Campell and Minguez-Vera (2008) also found a positive relationship between gender diversity and financial performance via Tobin´s Q. According to Singh *et al.,* (2010) women directors are more likely to be positioned in bigger and more profitable firms. Campell and Minguez-Vera (2010) found that stock markets react positively when female board members were appointed to the organizational board, hence adding concrete value to the organization.

Other scholars have found a negative relationship, Smith *et al.*, (2006) found a negative relationship between gender diversity and financial performance. So did also Dobbin and Jung (2011) and Adams and Ferreira (2009).

Shrader *et al.,* (1997) found a negative significant relationship between the percentage of female board members and financial performance and sometimes they found no relationship whatsoever. Farrell and Herch (2005) did not find an increase of wealth for firms with female directors and nor did Nielsen *et al.,* (2010).

However, Harrigan (1981) pointed out that the distribution of female executives is industry-specific. Furthermore Nielsen *et al.,* (2010) argued that women directors may provide different functions on the board.

In fact, boards with women appears to be more active in promoting non-financial performance measures like employee satisfaction, customer satisfaction, innovation and social responsibility (Brown, Brown and Anastasopoulos, 2002). In addition, female board members bring knowledge of market segmentation (Daily *et al.*, 1999).

When the focus on the boards is narrowed down to certain tasks, a different and more comprehensive result is to be expected. Such was the finding of Eagly *et al.,* (1995) and Nielsen *et al.,* (2010) who found impact of women board members to depend on the different nature of the tasks they undertook on the board.

These specific tasks are socially-related tasks that seems most suited to female social characteristics. For example, Williams (2003) found women directors to differ from their male counterparts in relation to charitable support for the community. In similar line Brown *et al.,* (2002) found boards with female directors to be decisive towards ethically-related tasks, such as customer satisfaction, gender representation and corporate social responsibility. Konard *et al.,*(2008) found female board members to be particularly successful in steering organizations towards philanthropic issues, while Nielsen *et al.,* (2010) found that having females on boards help to strengthen sensitivity to others, which then shapes the organizational strategy and results in better social performance.

These findings are very much in line with the social role theory of gender that has previously been outlined. Therefore, although the literature of female board members provides very mixed result on organizational performance, such is not to be expected for organizations where female-specific social tasks and performance are focused upon. Therefore, the presence of female board members is expected to enhance MFIs social performance. The following hypothesis is stated.

Hypothesis 4: Female board members deepen MFIs' outreach.

Data and empirical model

The data set in this research is unique. It contains data from MixMarket.org, which is then matched with original, hand-collected data. The Mix, is a non-profit organization located in Washington DC and provides the platform for MixMarket.org where microfinance institutions

provide both social and financial information. Access to the MixMarket data platform is free of charge.

However, many of the variables of interest are not available on the MixMarket platform. Instead, they had to be hand-collected and then matched with the data from MixMarket. The hand-collected data were mostly collected from financial statements, rating reports and the MFIs' homepages. A little less than half of these information were not in English (mostly in Spanish but sometimes in French and Portuguese). When sufficient information could not be gathered from these sources, more extensive searches had to be undertaken. Some further information could be found on the webpage "Linkedin", such as information on the MFIs' CEOs. In addition, roughly 100 emails were sent out to MFIs mostly located in Latin America. Although responses to these emails were disappointing, nevertheless they still gave a very good insight to the microfinance industry.

The timespan for the data used in this research became an unexpected challenge. Although the data from MixMarket spans over a decade, the main independent variable of interest, that is the various proportions of female variables such as women board members, female loan officers and female managers, were only available in noticeable numbers from 2010 onwards. Since data reports for the year 2012 were still being sent to the data platform, the final collection of these data was postponed until early 2014 in order to have a data set spanning three years (2010, 2011 and 2012).

In total, 1.317 MFIs presented data for 2012, although many of these did not have information on gender issues. The threshold is kept at the variable that had the fewest observations or number of female board member. Only 737 of the MFIs included a statistic under "percent of female board members" and 717 also include outreach.

MFIs that did not have the following information were excluded, since they did not contain information on control variables that will be used in this research: Asset – down to 627; Legal status – down to 620; Country – down to 620; regulated MFIs – down to 582 and ROA – down to 551. The reason why MFIs with no ROA was excluded needs further explanation. Although this is not a variable of primary interest in this paper, these MFIs were excluded since the literature on microfinance frequently provide this variable and hence it should make it easier to compare the results from this research to other researches in the microfinance field.

The data set is driven further down, by including only those MFIs that have number of women board members for all of the years 2010, 2011 and 2012. After that, the data set contains 291 MFIs. Finally, since cooperative and credit unions have very different type of corporate

governance style i.e. one vote for one member, those institutions (totaling 33) are also excluded leaving the final number of the MFIs data set as to 258 MFIs.

The additional information needed for those 258 MFIs was hand-collected and, after extensive work, we managed to get the additional information for a total of 227 MFIs. One particular microfinance institution had to be dropped because of its extraordinary outreach size. Its outreach measurement hinted that the average loan balance for this institution was above fifty thousand dollars on the borrower, making it far away from anything close to a microfinance institution that usually only lends a few hundred dollars, hence the number of institutions came down to 226 MFIs.

The final sample of 226 MFIs is fairly representative of the total population of 1.317 MFIs. It is however challenging to compare the data set used with the population since only MFIs that had gender related variables were focused upon and additional variables were hand-collected. But for the dependent variable, the outreach, the mean is quite different, due to large outliers while the median is fairly similar, 0.30 for the population but 0.24 for the final data set. The main independent variables of interest, the gender variables, were very similar, that is the median. The percentage of female board members was 0.30 for the population but 0.27 for the final data set. The Percentage of female borrowers was 0.65 for the population but 0.66 for the final data set. The Percentage of female managers was 0.27 for the population but 0.25 for the final data set. Finally, the percent of female loan officers was 0.27 for the large data set but 0.29 for the final data set.

Despite these similarities, it is important to note that the population also contains cooperatives and credit unions. These institutions are not in the final data set and there are considerably more banks in the population. The final data set is, however, fairly representative if one looks at the mean of both the dependent variable and main independent variables of interest. The model will now be presented and expanded.

Insert Table 1 here.

Insert Table 2 here.

Data and methodological issues - The model.

The model is a single equation model and follows the model used by Molyneux, Lloyd-Williams and Thornton (1992), Hartarska (2005) and by Bassem (2009) and will therefore include same variables they used in order to be able to make a fair comparison. Differing from Hartarska (2005) neither random effect nor fixed effect was used, since the variable for outreach cannot take zero or negative values. Logit tobit regression model is therefore carried out. This model will also contain gender specific variables that are examined separately in each case along with the rest of the model. It is as follow:

$$\mathbf{Oijt = \alpha 0 + \beta 1Gijt + \beta 2Sijt + \beta 3Mijt + \beta 4Bijt + \beta 5EGijt{-}1 + \beta 6Mjt + \varepsilon ijt,}$$

Oijt = Outreach performance, for MFI i in country j at time t.
Gijt = Are gender specific variable, the main independent variable of interest.
Sijt = Are MFI-specific variables
Mijt = Are management-specific variables.
Bijt = Are board-specific variables
EGijt–1 = Are external governance mechanisms
Mjt = Are country specific macroeconomic variables.
eijt, = Error term.

The dependent variable, outreach is presented as outreach depth. The outreach depth is operationalized as average loan balance per borrower divided by GNI per capita. This variable cannot take negative values nor can it take the value zero. Each variable used in the model will now be explained.

Oijt = Outreach:

In microfinance literature, outreach is used to explain how well MFIs are able to cope with poverty. Two different proxies are generally used: depth and breadth of outreach. Depth of outreach is operationalized as Average loan balance per borrower / GNI per capita. If MFIs are lending a very small amount of money, they are more likely to be lending to poor people. Thus, when this number gets smaller and when it is negatively related to the independent variable, it means it is lower or deeper. Since the goal of MFIs is to reach out to the poor, a lower number for

proxy depth of outreach is preferable. The data for this variable can be found directly from MixMarket data set.

In some researches, another proxy for outreach is used called 'outreach breadth', which is simply number of microfinance borrowers, regardless how much they borrow. The main issue this measurement is not kept in this research is that it is not an effective describer of the poverty of the loan taker. However regressions were run with the outreach breadth, just in case, and it never showed any significant result towards any of the dependent variables. Therefore outreach breadth, because of its insignificant statistical result and more importantly, because of its inability to explain the power of poverty, the phenomena will not be discussed further and when outreach is mentioned in this research, it is meant to stand for depth of outreach.

Gijt = Gender specific variable, the main independent variable of interest.

"Female board members" is the percentage of female board members, as found directly from MixMarket data set.

"Female borrowers" is simply the percentage of total borrowers who are women, as found directly from the MixMarket data set.

"Female loan officers" is the proportion of loan officers that are females, as found directly from the MixMarket data set.

"Female managers" is the proportion of managers who are women. It is important that it not be confused with female CEOs. Female managers include all managers in all levels within a given microfinance institution. This variable is found directly from the MixMarket data set.

"Female CEOs" is a dummy variable, if the CEO of the MFIs is a female. This variable had to be mostly hand-collected. The information was found sometimes on the MFIs' webpage, in rating reports and in other webpages such as "LinkedIn".

Sijt = The specific MFIs variables are:

"MFI size" is the total asset of the MFIs, measured as the logarithm of total assets. This variable is available directly from MixMarket data set.

"MFI age" is simply measured as years since commencement. Although this variable was presented by MixMarket, it had to be hand-collected for each MFIs.

MFI type: NGOs, Microfinance Banks, Cooperatives/Credit Unions, Non-Banking and Financial Institution (NBFI): A separate regression was carried out for each of those MFIs type,

the coops and credit unions were excluded. MFIs classified as banks were only 23 institutions, it is therefore hard to make any conclusions from such a small number of institutions. The vast majority of MFIs focused in this research is either NGOs or NBFIs.

Individual/Group lending: A dummy variable that takes the value one if the MFI also uses individual lending method. Previous researches have indicated that there is indeed a difference in MFIs performance depending on whether they use group or individual lending methodology. These information, had to be hand-collected and could usually be found on the MFIs' webpage, financial statement or in an independent ratings report. Very few MFIs used in this research solely used the group lending method.

Mijt = The management specific variables:

Fixed-wage: A dummy for wages which is not based on performance. This variable was somewhat challenging to collect. If MFIs offered financial incentives to their managers, such information would most likely be mentioned in their financial statement under a chapter named something like "related parties' transactions" and then sometimes one could spot direct information if such bonuses were provided, but more frequently they were referred to as remuneration.

Experience: Is a proxy for the managers' quality and is measured as years of work experience. This was another variable that had to be hand-collected from the MFIs' webpages or from their rating reports. In some cases, "LinkedIn" became helpful to see managers' information about their work experience. In measuring years of experience, the main interest was in their experience in the microfinance field and/or in other type of financial institution or management positions in other business-related activities. A completely unrelated experience in different fields was not counted as experience.

Bijt = The board specific variables are:

Board size: Measured as number of board members. This variable is available from the MixMarket platform.

Independent board: Measured as the proportion of non-affiliated board members. This variable had to be hand-collected. Board members were only occasionally specifically labeled as independent in the rating reports and on MFIs' webpages. However, in non-profit organizations, board members were usually independent and comprised of outsiders, Hartarska (2005) and

O´Regan and Oster (2002). For those MFIs that did not provide information whether the board members were independent, the problem was solved by taking the average of NGOs that provide information on their board members' independence. A conservative estimate of MFIs that do not provide information about the proportion of independent board members is around 55%.

NB. The proportion of female board members is located with the gender variable of interest, mentioned above.

EGijt–1 = The external governance mechanism:

Regulation: dummy of one if the MFI was supervised by the central bank or other bank supervisory agency. This variable is provided by MixMarket.

Rated: dummy of one if MFI was subject to independent evaluation or rating by an outside organization. This variable was relatively easy to find from MixMarket but in order to keep this research in line with what has previously been done, the MFIs that only had rating reports labeled "social reports" were not considered as rated MFIs.

Audit: dummy of one if there was an audited financial statement in the year t-1. This information could be found from MixMarket. All the MFIs in this research were audited, apart from two institutions. Hartarska (2005) and Bassem (2009) kept the external governance mechanism as lagged for one year, since they claimed their impact was delayed. Hartarksa (2005) gives an example of MFIs that could ask for an audit if they had a good year but otherwise do not. However in this case, only two MFIs did not provide an audit report and the other two variables "regulation" and "rated" were consistent over the three years this research covers, hence keeping those variables lagged by one year does not a considerable difference.

Mjt = The country-specific macroeconomic control variables are:

Size of the economy, logarithm of the country´s GDP: found from The World Bank Development Indicators. These numbers were easily attainable. However, the numbers for East Timor and Palestine were not present.

The average inflation rate, measured as average consumer price index is easily attainable from The World Bank Development Indicators. Again, numbers for East Timor and Palestine were unavailable.

The error term:

It is always possible to add some variables of interest in order to expand the research further. Therefore the variables provided by MixMarket that were not used in this research are still kept in the data set.

Information collected from variables were placed in the model described above, regressions carried out and the results are next to be discussed.

Discussion of findings

The empirical part was carried out using the model and the variables discussed in the previous section. The 256 MFIs, were used as a base since these institutions had information for all variables for all years, taken from the MixMarket data platform. Information for further variables were collected by hand and, since it was not possible to reach all the information of all these variables for all years, the number was reduced to 226 MFIs.

Insert Table 3 here.

For the first hypothesis, the presence of the female CEO appears to result in better outreach, but the result is not very strong. There is significance for $p<0.1$ but not for $p<0.05$. However the rather weak statistical significance is sufficient and thus Hypothesis 1 is not rejected (table 4).

The finding is noteworthy, particularly since it has already been found that female CEOs in MFIs improve financial performance (Mersland *et al.,* 2009; Strom *et al.,* 2014). The next logical step for further research is to attend to the microfinance literature that deals with a potential trade-off between outreach and sustainability.

As for the control variables (table 4), MFIs-specific variables, the size of the MFIs, operationalized as the logarithm of MFIs assets, is strongly positively related to outreach, meaning larger MFIs do not reach out to the poorest. It is possible that the larger MFIs are more focused on profit rather than on outreach, Hudon (2010) did, for example, find larger MFIs to be better managed.

MFIs' age does not matter for the female CEO, Hartarska (2005) found the same to be true for her research, Bassem (2009) found a weak positive relationship, while Makame (2006) found that older MFIs tended to have better outreach.

If the MFIs provide only group lending methodology versus both group lending as well as individual methodology, it is important to bear in mind that only 16 MFIs in this data set only offered group lending methodology making it very hard to make any implications from the result. Hartarska (2005) and Bassem (2009) did not find this variable to be significant. But Mersland and Strom (2009) found outreach lower for individual lending. D´Espallier *et al.,* (2013) found that those MFIs that were focusing on women borrowers tended to provide loans with the group method.

As for the outcome of the management specific variables, here, it appears that bonuses to managers may be weakly positively related to outreach for NBFIs, which means that such institutions where managers receive bonuses will be less focused on the poor. This finding is unsurprising since one would expect those who receive bonuses to be rewarded if they deliver financial performance, rather than outreach. Both Hararska (2005) and Bassem (2009) did not find that bonuses affected outreach.

The experience of female CEOs does not appear to have any effect on outreach and that calls for further researches. The MFIs industry is a rather young industry and the average age of MFIs in the data set used in this research is only 14 years, while the average experience of CEOs is 13 years. It is possible that experience of CEO will eventually have an effect on MFIs outreach.

For the board specific variables, it appears that the number of female board members or the board size appears to be negatively related to the depth of outreach, i.e. more board members leads to deeper outreach, in line of what Kyereboah-Coleman and Osei (2008) found. The board independence is also strongly explanatory for deep outreach i.e. statistically negative. This finding clearly calls for further research in the future.

In relation to external governance mechanism, regulated NBFIs are slightly inversely related to outreach. Mersland *et al.,* (2009) and Hartarska and Nadolnyak (2007) did not find a relationship between regulation on MFIs and outreach. According to Cull, Demirgu-Kunt and Morduch (2011), regulating MFIs may bring cost to the organizations and those MFIs that are profit-oriented may cope with such cost by putting less stress on reaching out to the poor. Hence any such attempt should be carried out with care.

If the NBFIs are rated, it tends to have deeper outreach. Both of these results i.e. NGOs that are regulated or rated, are relatively weak. Whether the MFIs is audited or not does not imply anything since almost all of the MFIs in the sample are audited, in fact only two MFIs in the data set were not audited. This is in line of what both Bassem (2009) and Hartarska (2005) found.

Finally, as for external governance variables, economy size and inflation, the economy size is negatively related to outreach where a larger GDP results in deeper depth of outreach, similar to what Bassem (2009) discovered. Cull, Demirguc-Kunt and Morduch (2014) argued that more completion in the banking market would result in MFIs pushing harder toward deeper outreach, and to women in particular. It is therefore possible that in countries where the GDP is higher and have more competition in the banking sector will result in MFIs in these countries having better outreach. Inflation only shows significant result for outreach for the NGOs. This occurrence may simply be explained by the fact that such MFIs are located in countries with high inflation rate. All the statistical results discussed above, for the first hypothesis are listed in table 4.

Insert Table 4 here.

For Hypothesis 2, the data shows that female managers enhance outreach. The hypothesis is therefore not rejected, where the results are particularly strong for NBFIs. This gives the impression that female managers do, indeed, affect the MFIs in a positive manner when it comes to social performance and outreach (table 5).

While it has now been argued and shown that female managers affect outreach, it is noteworthy, that although female presence in MFIs has already been researched, such as by Hartarska (2005), Bassem (2009) and Strom *et al.*, (2014), no attempts have been made to see if female managers may have any effects on financial performance. Our finding does therefore call for an investigation to see if female managers may affect financial performance. Such research could contribute significantly to the microfinance literature, particularly the one that deals with a trade-off between outreach and sustainability.

The control variables are showing the very same results, as was explained for Hypothesis 1 with only a few exceptions. For the external governance mechanism, regulated NBFIs do not appear to be significant for Hypothesis 2. Further explanation of the control variables is to be

found in discussions for Hypothesis 1. All the statistical results discussed above, for the Hypothesis 2 are listed in Table 5.

Insert Table 5 here.

The third hypothesis, which argues that female loan officers will explain deep outreach, is not rejected but the statistical significance is rather weak (table 6). It is important to note that the loan officers are middle managers and are therefore not part of the highest level of the organization such as the CEO, managers or the board members. Therefore, although the loan officers are not strongly supportive for the MFIs' outreach, it is noteworthy that they do have some influence (table 6). As with female CEO and female managers, further research on the effect of having female loan officers on financial performance is suggested.

The control variables do not have to be discussed in more detail, since they show the same result as was presented and explained when the result of Hypothesis 1 was discussed. Furthermore, the statistical results are presented here in Table 6.

Insert Table 6 here.

Finally, the fourth hypothesis regarding the organization's system of control delivers no statistical significant result (table 7). Female board members appear to have no effect on outreach depth. It is therefore rejected (table 7).

Bassem (2009) argued and found that female board members delivered better outreach for Mediterranean countries, and so did Hartarska (2005) for Eastern European countries. The contradicting results from this research and from the existing literature calls for further attention and explanation.

The control variables presented for Hypothesis 4 showed the same result as they did for Hypothesis 1 where they are discussed in details. The statistical results are presented in table 7 below.

Insert Table 7 here.

Conclusion

Traditional corporate governance literature has struggled to provide consistent results and conclusions for the influences affecting the MFIs' financial and social performances. This paper provides an alternative gender-specific approach for assessing the role of female managers and board members to explain the MFIs' most important goal: the social performance or outreach. While such attempts have already been made in other works, in order to explain the MFIs' financial performance, the novelty of this research is to bring the literature and existing theoretical argument and extend it to apply to social performance, outreach as well.

The argument is well supported by the evidence for the management aspect. Female CEOs, female managers and female loan officers are influential for good i.e. deep outreach. However such is not the case for female board members.

For the research implication, since this research is a theoretical work supported with empirical evidence, it should be useful for both policy makers and microfinance participants. Introducing women to the MFIs' upper and mid-level management should serve the dual-purpose of improving female empowerment and addressing poverty.

As for further research, it has been pointed out that outreach is one of the main goals of the MFIs and should be treated as such. However, it would be interesting to see if the gender management / board would cause a trade-off between outreach and sustainability. Or it may be possible to have a good outreach as well as solid financial performance. Such result would further justify the focus on MFIs' main performance goal, the outreach.

Finally, this research has its limitations. Females in MFIs management and the board are still in minority as can be seen from the descriptive statistic in table 2, where the data used runs for three years only. Nevertheless, the theoretical base that this research has been built upon and the results presented is as solid as those used by other recent microfinance research works.

University of Bologna, 6th March 2015.

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Table 1.

VARIABLES	
DEPENDENT VARIABLE	
Outreach depth	Average loan balance per borrower divided by GNI per capita. A smaller amount indicates a poor borrower, as does negative relationship with independent variables.
GENDER VARIABLES	
Percentage of female board members	Proportion of women on board
Percentage of female loan officers	Proportion of loan officers who are women
Percentage of female managers	Proportion of managers who are women
Where CEO is female	Dummy, when there is female as CEO
SPECIFIC MFIs VARIABLES	
Size of MFIs (logAsset)	Size of MFIs is measured as the logarithm of total assets.
Age of MFIs (years)	MFIs age is measured of years since commencement.
MFIs type	Four types of MFIs, NGOs, NBFIs, Coops and Banks. Regression is carried out for MFIs as a whole (MFIs) and specially for NGOs and NBFIs, but not for the Coops and Banks.
MFIs ALSO lending to individuals	Dummy variable of one if MFIs use group and individual lending methods.
MANAGEMENT SPECIFIC VARIABLES	
Fixed salary (no bonus)	Dummy variable of one if MFIs does not provide bonus for financial performance to CEO
CEO experience (years)	A proxy for manager´s quality, measured as years of working experience in the field

BOARD SPECIFIC VARIABLES	
Number of board members	Board size, number of board members.
Independent board members	Proportion of non-affiliated board members.
EXTERNAL GOV. MECHANISM	
Regulated	Dummy variable of one if MFIs is supervised by the central bank.
Rated	Dummy variable of one if MFIs is subject to independent rating of outside organization
Audit	Dummy variable of one if MFIs is audited with financial statement.
COUNTRY SPECIFIC VARIABLES	
Economy size (logGDP)	Size of economy, logarithm of the country´s GDP
Average Inflation	Average inflation rate, consumer price index.

Table 2.

VARIABLES	N	Mean	SD	P50	Min	Max
Outreach depth	771	0.491	0.692	0.239	0.023	6.402
Percentage of female board members	771	0.304	0.247	0.273	0	1
Percentage of female loan officers	733	0.348	0.278	0.287	0	1
Percentage of female managers	736	0.323	0.290	0.250	0	1
Where CEO is female	771	0.209	0.497	0	0	1
Size of MFIs (logAsset)	770	16.313	1.743	16.220	12.254	21.642
Age of MFIs (years)	771	14.615	8.588	13	0	60
MFIs also lending to individuals	771	0.895	0.307	1	0	1
Fixed salary (no bonus)	771	0.696	0.460	1	0	1
CEO experience (years)	714	13.980	7.170	13	1	35
Number of board members	771	6.627	3.302	6	1	27
Independent board members	770	0.502	0.316	0.550	0	1
Regulated	771	0.553	0.498	1	0	1
Rated	771	0.553	0.498	1	0	1
Audit	771	0.988	0.107	1	0	1
Economy size (logGDP)	753	24.958	1.962	24.532	21.184	29.739
Average inflation	730	0.065	0.037	0.063	-0.009	0.473
Number of MFIID	226		226	226	226	226

Table 3.

Variables*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)	1																
(2)	-0.13*	1															
(3)	-0.15*	0.20*	1														
(4)	-0.10*	0.25*	0.46*	1													
(5)	-0.10*	0.37*	0.12	0.28*	1												
(6)	0.34*	-0.16*	-0.11*	-0.08*	-0.05	1											
(7)	0.03	0.04	0.05	0.02	0.04	0.23*	1										
(8)	0.09*	-0.06	-0.13*	0.04	-0.01	0.15*	0.13*	1									
(9)	0.00	0.03	0.02	-0.01	0.10*	-0.27*	0.11*	0.08*	1								
(10)	0.04	-0.05	-0.13*	-0.10*	-0.12*	0.19*	0.10*	-0.01	-0.09*	1							
(11)	0.01	-0.02	-0.02	-0.09*	-0.01	0.39*	0.27*	0.07	-0.10*	0.26*	1						
(12)	-0.14*	-0.03	0.01	0.02	-0.03	-0.12*	-0.14*	-0.03	-0.03	-0.01	-0.12*	1					
(13)	0.16	-0.08*	-0.13*	-0.11*	0.00	0.30*	-0.14*	-0.03	-0.37*	0.09*	0.09*	-0.09*	1				
(14)	-0.01	0.02	-0.06	-0.07	0.03	0.39*	0.11*	0.17*	-0.21*	-0.03	0.02	0.00	0.14*	1			
(15)	0.05	-0.07	-0.13*	-0.04	0.06	0.19*	0.10*	0.20*	0.16*	.	0.05	0.01	-0.02	0.14*	1		
(16)	-0.41*	-0.07	0.02	-0.09*	-0.05	0.04	-0.04	-0.20*	-0.09*	0.13*	0.06	-0.03	-0.07*	0.06	0.05	1	
(17)	-0.03	-0.02	-0.11	-0.13*	-0.04	0.01	-0.13*	-0.17*	-0.05	0.16	0.07	-0.03	0.20	-0.02	-0.20*	0.15*	1

* The variables are defined in Table1. Numbered here as follow: 1= Outreach depth, 2=Percentage of female board members, 3=Percentage of female loan officers, 4=Percentage of female managers, 5=CEO is female, 6=Size of MFIs (logAsset), 7=Age of MFIs (years), 8=MFIs also lending to individuals, 9=Fixed salary (no bonus), 10=CEO experience (years), 11=Number of board members, 12=Independent board members, 13=Regulated, 14=Rated, 15=Audit, 16=Economy size (logGDP), 17=Average inflation. 5% significance level.

Table 4.

VARIABLES	Outreach MFIs	Outreach NGOs	Outreach NBFIs
Woman CEO	-0.137*	-0.153*	-0.0693
	(0.0767)	(0.0856)	(0.0925)
Size of MFIs (logAsset)	0.130***	0.0505***	0.0998***
	(0.0197)	(0.0141)	(0.0257)
Age of MFIs (years)	-0.00518	0.00130	-0.00904
	(0.00415)	(0.00429)	(0.00733)
MFIs also lending to individuals	0.0680	0.0716	0.162
	(0.133)	(0.119)	(0.211)
Fixed salary (no bonus)	0.0516	0.211*	0.184*
	(0.0841)	(0.122)	(0.0973)
CEO experience (years)	0.00367	0.00325	0.000910
	(0.00454)	(0.00458)	(0.00588)
Number of board members	-0.0154**	-0.00137	-0.0144
	(0.00672)	(0.00347)	(0.0105)
Independent board members	-0.253***	-0.0634	-0.414***
	(0.0898)	(0.0577)	(0.127)
Regulated	0.0181	-0.102	0.229*
	(0.0773)	(0.0837)	(0.117)
Rated	-0.0523	0.0642	-0.197*
	(0.0770)	(0.0759)	(0.114)
Audit	-	-	-
Economy size (logGDP)	-0.139***	-0.0899***	-0.125***
	(0.0186)	(0.0212)	(0.0228)
Average inflation	-0.496	-0.546***	-0.300
	(0.331)	(0.145)	(0.447)
Constant	2.039***	1.554***	2.089***
	(0.578)	(0.557)	(0.740)
Observations	675	305	275
Number of MFIID	226	102	92

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.

VARIABLES	Outreach MFIs	Outreach NGOs	Outreach NBFIs
Percentage of female managers	-0.140**	-0.0130	-0.379***
	(0.0564)	(0.0213)	(0.0814)
Size of MFIs (logAsset)	0.137***	0.0534***	0.109***
	(0.0200)	(0.0149)	(0.0251)
Age of MFIs (years)	-0.00576	-0.000260	-0.00741
	(0.00415)	(0.00431)	(0.00722)
MFIs also lending to individuals	0.0939	0.0899	0.161
	(0.133)	(0.120)	(0.208)
Fixed salary (no bonus)	0.0414	0.192	0.160*
	(0.0839)	(0.123)	(0.0955)
CEO experience (years)	0.00413	0.00456	0.000798
	(0.00454)	(0.00460)	(0.00579)
Number of board members	-0.0164**	-0.00107	-0.0155
	(0.00690)	(0.00366)	(0.0103)
Independent board members	-0.269***	-0.0706	-0.432***
	(0.0915)	(0.0623)	(0.124)
Regulated	-0.00262	-0.118	0.165
	(0.0773)	(0.0847)	(0.116)
Rated	-0.0643	0.0807	-0.219**
	(0.0771)	(0.0765)	(0.112)
Audit	-	-	-
Economy size (logGDP)	-0.140***	-0.0918***	-0.138***
	(0.0186)	(0.0216)	(0.0225)
Average inflation	-0.451	-0.525***	-0.251
	(0.341)	(0.152)	(0.438)
Constant	1.974***	1.528***	2.444***
	(0.579)	(0.569)	(0.728)
Observations	650	288	267
Number of MFIID	226	102	92

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.

VARIABLES	Outreach MFIs	Outreach NGOs	Outreach NBFIs
Percentage of female loan officers	-0.117*	-0.0541	-0.133
	(0.0676)	(0.0392)	(0.0922)
Size of MFIs (logAsset)	0.123***	0.0548***	0.101***
	(0.0188)	(0.0149)	(0.0264)
Age of MFIs (years)	-0.00569	0.000115	-0.00955
	(0.00404)	(0.00430)	(0.00745)
MFIs also lending to individuals	0.0596	0.0865	0.152
	(0.131)	(0.120)	(0.211)
Fixed salary (no bonus)	0.0346	0.189	0.175*
	(0.0827)	(0.123)	(0.0971)
CEO experience (years)	0.00236	0.00399	0.00133
	(0.00444)	(0.00464)	(0.00595)
Number of board members	-0.0115*	-0.00101	-0.0153
	(0.00641)	(0.00359)	(0.0109)
Independent board members	-0.252***	-0.0714	-0.427***
	(0.0870)	(0.0617)	(0.128)
Regulated	0.0179	-0.113	0.202*
	(0.0760)	(0.0844)	(0.118)
Rated	-0.0285	0.0779	-0.205*
	(0.0758)	(0.0763)	(0.114)
Audit	-	-	-
Economy size (logGDP)	-0.141***	-0.0883***	-0.128***
	(0.0183)	(0.0218)	(0.0228)
Average inflation	-0.375	-0.589***	-0.334
	(0.323)	(0.170)	(0.490)
Constant	2.212***	1.444**	2.234***
	(0.565)	(0.577)	(0.748)
Observations	642	290	262
Number of MFIID	226	102	92

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7.

VARIABLES	Outreach MFIs	Outreach NGOs	Outreach NBFIs
Percentage of female board members	-0.0491	-0.000261	-0.0813
	(0.0659)	(0.0251)	(0.0986)
Size of MFIs (logAsset)	0.130***	0.0511***	0.0980***
	(0.0198)	(0.0142)	(0.0258)
Age of MFIs (years)	-0.00568	7.84e-06	-0.00904
	(0.00416)	(0.00429)	(0.00731)
MFIs also lending to individuals	0.0796	0.0901	0.174
	(0.134)	(0.120)	(0.209)
Fixed salary (no bonus)	0.0431	0.190	0.172*
	(0.0844)	(0.124)	(0.0964)
CEO experience (years)	0.00433	0.00461	0.00109
	(0.00454)	(0.00457)	(0.00585)
Number of board members	-0.0154**	-0.00127	-0.0144
	(0.00674)	(0.00349)	(0.0105)
Independent board members	-0.253***	-0.0615	-0.412***
	(0.0901)	(0.0581)	(0.127)
Regulated	0.00912	-0.113	0.219*
	(0.0776)	(0.0847)	(0.116)
Rated	-0.0518	0.0825	-0.208*
	(0.0775)	(0.0763)	(0.113)
Audit	-	-	-
Economy size (logGDP)	-0.137***	-0.0907***	-0.123***
	(0.0187)	(0.0215)	(0.0225)
Average inflation	-0.480	-0.544***	-0.325
	(0.331)	(0.147)	(0.448)
Constant	1.984***	1.524***	2.089***
	(0.581)	(0.564)	(0.737)
Observations	675	305	275
Number of MFIID	226	102	92

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Women in Microfinance Institutions: Is there a Trade-Off between Outreach and Sustainability?

Abstract.

This paper's contribution to the understanding of microfinance is two-fold. First, while it has been shown that female CEOs in MFIs increase financial performance, it will be argued that female managers, female loan officers and female board members will do the same. Secondly, having previously shown that having a female presence in management in MFIs improves social performance the outreach, it will be argued that having females in the MFIs' management will not lead to a trade-off between outreach and sustainability. These findings are based on an original data set of 226 MFIs. Statistical analysis demonstrates that a weak relationship between female managers and female loan officers vis-à-vis financial performance, but female board members do not. The trade-off between outreach and sustainability can be avoided with the appointment of females to the MFIs' management positions, but the same cannot be concluded for female board members.

Introduction

The microfinance institutions (MFIs) are vehicles designed to help the poor, who are stuck in the poverty cycle, resulting from information asymmetry and lack of collateral for standard loans, (Armendáriz and Morduch, 2007). MFIs essentially solves this market failure and provide the poor with loans. However, in all their activities, MFIs have to balance their social performance (also called 'outreach') and their financial performance, to ensure long-term financial viability.

Both Mersland and Strom (2009) and Strom, D´Espallier and Mersland (2014) have demonstrated that the presence of female CEOs has improved MFIs' financial performance but the same could not be concluded about the female board members, since the results varied. In this research, the potential affect of female board members on financial performance will be investigated. In addition, it will be argued that female managers and female loan officers will improve MFIs' financial performance. The extension of Strom *et al.*'s, (2014) theoretical argument is rooted in the marriage matching theory originally presented by Becker (1973).

The marriage matching theory by Becker (1973) states that people with similar traits will attract each other, ultimately resulting in marriage. Ghatak (2000) brought Becker´s marriage matching theory in to the microfinance literature and showed that female borrowers were more likely to group themselves with less risky borrowers who tended to be women. Ghatak (2000) therefore illustrated that female MFIs borrowers "matched" horizontally. By referring to Thomas and Ramaswamy (1996) research who argued that leaders guided their organizational strategy that ended up with the best financial performance, Strom *et al.,* (2014) argued that there is also a vertical relationship between the organizational management team and performance. Strom *et al.,* (2014) argues that the same trait in MFIs management and their borrowers is gender, i.e. women management and borrowers (who are usually women) will "match" with each other. The microfinance industry is indeed female specific and female focused (Armendáriz and Morduch 2007; Reed, 2011). Therefore Strom *et al.,* (2014) were able to show that female CEOs resulted in the MFIs' better financial performance. The next logical step is to show that the same is true for female managers, female loan officers and female board members.

In a paper titled "Women in Microfinance Institutions: The Road to Poverty Reduction and Gender Equality?" we argued that female CEOs, female managers, female loan officers and female board members did cause MFIs to deliver better outreach. The theoretical argument is an extension to the one used by Strom *et al.,* (2014) i.e. built on the marriage matching theory by Becker (1973) and brought into microfinance literature by Ghatak (2000) and further developed by Mersland *et al.,* (2009) and Strom *et al.,* (2014). The social role theory of gender was brought in as an addition that has shown that females are able to do well in certain tasks, focused on the well-being of others (Nielsen and Huse, 2010). Having female CEOs, female managers and female loan officers did result in better outreach, while the same could not be said about female board members.

Now that the presence of females in MFIs' management position has been shown to improve both the financial performance and the outreach, the "trade-off" literature in microfinance can be examined.

Ever since Morduch (2000) questioned that MFIs could reach out to a great number of the poor, while remaining financially sustainable, the vast literature on trade-off between outreach and sustainability has shown a trend where MFIs tend to do well in either one of their performance goals, but not both (Hermes and Lensink, 2011). In other words, there is a trade-off between outreach and financial sustainability.

However, recent findings suggest that it may be possible to do well in both the outreach and sustainability under certain circumstances, see for example Quayes (2012). It will be argued here that when women are present in organizational management, and on the board, it is possible to reach out to the poor while remaining sustainable. In other words, trade-off between outreach and sustainability is negated through the presence of female CEOs, female managers, female loan officers and female board members.

The results show that female managers and female loan officers improve MFIs' financial performance but the presence of female board members did not have an effect. We know from Strom *et al.*, (2014) that female CEOs increase financial performance. Since it has been shown in this thesis that female CEOs, female managers and female loan officers affects MFIs' outreach, it is possible to state that females in management of MFIs result in a negation of the trade-off between outreach and sustainability. The same could not be said about the female board members.

The paper is structured as follows: first the literature and theories the research is built upon will be reviewed and the hypotheses stated. The estimation method, the model and the data are then presented and finally the discussions of the empirical results are presented before the paper concludes.

Women in MFIs and the dual performance goal: A trade off?

The theoretical argument by Strom *et al.,* (2014) where they showed that MFIs with female CEOs tend to have better financial performance, will be extended. It will be argued here that female managers, female loan officers and female board members will also improve MFIs financial performance. Since it has already been shown in this thesis that female CEOs, female managers and female loan officers do lead to better outreach, the trade-off argument between outreach and sustainability will be attended to. It will be argued that having females in MFIs' management and board will result in the simultaneous attainment of the MFIs' dual goals: financial sustainability and outreach, with no trade-off between the two.

Females in MFIs' management and board - Financial performance

When Mersland *et al.,* (2009) and again Strom *et al.,* (2014) showed that having female CEOs led to better financial performance in MFIs, they built their theoretical argument on Becker´s (1973) theory of marriage matching. Originally, this theory was aimed at explaining the reasons why people chose the marriage partners that they did. Becker (1973) found people to "match" with partners who had similar traits. These traits could be the person´s IQ, ethnic background, physical features and other various forms of basic similarities.

Strom *et al.,* (2014) were not the first to apply Becker´s (1973) marriage matching theory into the microfinance literature. Chatak (2000) also used it to explain how microfinance borrowers "matched" with each other in groups – in cases where the borrowers are held to be collectively responsible for repayments. People with similar traits grouped together. Women were much more likely to group with each other because they tended to be more risk-averse than their male counterparts. In other words, their risk-aversion and gender were the shared traits and, therefore, they "matched" each other. This horizontal relationship between female borrowers resulted in the MFIs' better performance (Chatak, 2000).

Mersland and Strom (2009) were aware of the Chatak´s (2000) usage of marriage matching theory in microfinance literature. They were also aware of the Thomas and Ramaswamy's (1996) findings, which state that leaders with specific traits does result in a more coherent strategy, and ultimately better performance. Furthermore, since the microfinance industry is female specific, indeed, 70 percent of all MFIs borrowers are women (Reed, 2011), Mersland and Strom (2009) argued that female CEOs would "match" with the MFIs' female borrowers, who had gender as their same trait, which would ultimately lead to better financial performance.

Indeed, Mersland and Strom (2009) showed that female CEOs increased the MFIs' financial performance. In another research, Strom *et al.,* (2014) were able to extend the theoretical background and found, just like Mersland and Strom (2009), that female CEOs did increase the MFIs' financial performance. Furthermore, the same results could also be seen if the chairman of the board was also a woman (Strom *et al.,* 2014).

The next logical step is, therefore, to extend the ongoing theoretical argument, build on marriage matching theory by Becker (1973) that was applied to microfinance literature by Chatak (2000), Mersland and Strom (2009) and Strom *et al.,* (2014) and show that appointing female managers, female loan officers and female board members will also lead to the MFIs' better financial performance.

Women managers may behave somewhat differently from their male counterparts. According to Eagly and Johnson (1990), women are more likely to lead in a more democratic way. Furthermore, according to Daily *et al.,* (1999) women tend to have different life experiences from their male counterparts. Hence, women will have better insights into the organizational strategy, particularly towards female clients, who in the case of the microfinance industry represent the majority of the 'clients' i.e. borrowers (Reed, 2011).

Women have, according to Rosener (1995) been under-utilized as managers, resulting in an inefficient use of corporate human resources. Shrader, Blackburn and Iles (1997) argued that if firms could utilize these resources in a more effective way, it would lead to a better overall performance. Krishnan and Park (2005) agreed, arguing that the same theory should apply to the top-level management team. Shrader *et al.,* (1997) argued that a high percentage of female managers is economically vital for organizations. Dalton *et al.,* (1998) argued that females did bring value to the organization via the female market segmentation.

Billimoria (2000) stated that female presence in organization sends a signal to younger women in the organization and further encouraged them. Appold, Siengthai and Kasarda (1998) found that the presence of women improved work environment and eventually performance. Eagly, Johannesen-Schmidt, and van Engen (2003) also agreed where they found women in senior managerial position were better at helping and mentoring their subordinates to help them reach their full potential, which positively affects the firm's performance. Furthermore, empirical results have shown female managers to improve the organizational performance (e.g. Adams and Ferreira 2009; Krishnan *et al.*, 2005; Cordeiro and Stites-Doe, 1997 and Catalyst 2004).

Therefore, as discussed above, since females have a better insight into the female market (Daily *et al.,* 1999), while organizations that can draw on the pool of under-utilized female managers perform better (Rosener, 1995 and Krishnan and Park, 2005), and that the presence of females result in a better and more encouraging work environment, which results in a better performance (Bilimoria, 2000), while several research works have proven that female managers have a positive effect on financial performance (Adams and Ferreira 2009; Krishnan *et al.*, 2005) it is therefore only logical that the same should go for managers within MFIs. Although female managers and their effect on MFIs' financial performance has not been studied, Strom *et al.,* (2014) employed similar arguments for female CEOs who had, indeed, a positive effect on financial performance.

In the light of these previous findings, this paper, therefore, wishes to posit the following hypotheses:

H1: Female managers increase MFIs' financial performance.

Loan officers are in close contact to the end users - i.e. the borrowers. Fama and Jensen (1983) stated that decision management can also be at work below the top level of the organization.

The most convincing argument that loan officers will have an effect on organizational performance comes from Dezsö and Ross (2012) who examined female loan officers in relation to female managers (who, this paper argues in Hypothesis 1, have a positive effect on financial performance). Dezsö and Ross (2012) build their argument on Eagly, Johannesen-Schmidt and van Engen's (2003) findings, who argued that women in upper managerial positions were more likely to mentor, reward and encourage their subordinates, which leads to better performance. These lower-level managers are, in this research, the loan officers.

Furthermore, Dezsö and Ross (2012) argued that it is even enough for female lower level managers, such as loan officers, to know that the managers are females, because they send a positive signal towards the female loan officers. The argument is based on empirical results of research conducted by Ely (1995) who found females to be more positive towards their female senior managers. In other words, if female loan officers know that there are female managers, they behave in a more positive manner, leading to better performance.

Utilizing Dezsö and Ross's (2012) argument is tempting, particularly since the microfinance industry is female specific (Reed, 2011). In this research, it will be argued that female managers will positively affect financial performance (see hypothesis one). It has been shown that female CEOs do affect MFIs' financial performance (Strom *et al.*, 2014) and now the female loan officers are expected to affect financial performance positively, hence the second hypothesis is stated as follows:

H2: Female loan officers increase MFIs' financial performance.

Board members have two main goals, according to Finkelstein and Hambrick (1996). First, they are to influence the strategic decision-making within the organization. Secondly, they are to

serve as supervisors since they represent the company´s owners. By implementing these two goals, board members can affect organizational performance (Finkelstein *et al.*, 1996).

Since board members affect organizational performance, organizations should strive to find suitable candidates for the job. Brammer *et al.,* (2007) argue that the organization should acknowledge that board members are not evenly distributed among different demographic groups. Therefore leaving females out from the board would systematically deny the organization access to qualities and experiences that are inherent in women.

Indeed, women's special qualities manifest in a different managerial style from their male counterparts (Eagly and Johnson, 1990). Women may be more willing to discuss alarming issues than males and generally they enrich discussions at board meetings (Bilimoria and Huse, 1997). Women also tend to have better meeting attendance records than men (Adams and Ferreira, 2009).

However, the empirical research on female presence on boards and their effects on financial performance is inconsistent. Several scholars have found gender diversity to have a positive effect on financial performance (e.g. Rosenstein and Wyatt, 1990; Singh, Vinnicombe and Johnson, 2001; Carter *et al.,* 2003; Erhardt *et al.,* 2003; Catalyst, 2004; Campell and Minguez-Vera, 2008; Bart and McQueen, 2013). Others (e.g. Adams and Ferreira, 2009; Smith, Smith and Verner, 2006) found that gender diversity had a negative effect, while yet another group of scholars (e.g. Shrader, Blackburn, and Iles 1997; Dwyer *et al.,* 2003; Miller *et al.,* 2009) found no relationship whatsoever.

The inconclusive results clearly need a further investigation. The reason may however lie in that all these researches listed above were carried out with different data sets, taking place in different countries, with a variety of methodology. Furthermore, these researches are driven forward with different theoretical background such as the resource dependence theory, human capital theory and agency theory (Carter *et al., 2010).*

There is also another aspect that needs to be examined. The presence of women on boards and their effect on financial performance may depend on the industry (Harrigan, 1981). In fact, Brammer *et al.,* (2007) did argue that women on boards of firms that had close proximity to their final consumers, tended to be firms such as the media, retailing and notably banking. The microfinance industry, being a mixture of developing institutions and banks, is also very female specific (Reets, 2012). Furthermore, since women board members may bring valuable knowledge of the female market (Daily *et al.,* 1999), the following hypothesis is suggested:

H3: Female board members increase MFIs' financial performance.

Female in management and social performance, outreach

The question of whether the female management and board members affect the MFIs' social performance, the outreach, has already been answered in another chapter in this thesis titled "Women in Microfinance Institutions: The Road to Poverty Reduction and Gender Equality?" There, the theoretical argument by Strom *et al.,* (2014) of that female CEO will "match" with female board members resulting in better financial performance, was extended to be valid also for MFIs' social performance, outreach. The root of the argument was the same, that is, Becker´s (1973) theory of matching marriages but in addition, social role theory of gender was also applied to demonstrate the reasons behind the MFIs' better outreach or lack thereof.

Indeed, an early literature focused on gender provides evidence that women may differ from their male counterparts in their behavior due to their social roles. This was the basis of the social role theory of gender, see for example Bakan (1966), Ickes et al (1986) and Eagly and Johnson (1990). Williams (2003) and Nielsen *et al.,* (2010) bring social role theory further into the organization and argue that female social behavior does affect organizations for certain tasks undertaken by women. With the social role theory of gender, complemented by Beker´s (1973) marriage matching theory, it was possible to show that female CEOs, female managers and female loan officers did affect MFIs' social performance (Gudjonsson *et al.,* 2015). However, the presence of women board members did not have a significant effect.

Is it possible to reach out to the poor and provide them with loans, and gain financially at the same time? Are there any circumstances where there is not a trade-off between outreach and financial sustainability? Under what conditions will this trade-off be negated? These are questions are still un-answered to the knowledge of the authors of this paper.

It will be argued that under certain circumstances it may be possible for MFIs to provide good outreach while remaining sustainable by thinking about gender issues i.e. with women in the management team and the board, it will be possible to run an MFI in a sustainable manner while maintaining a good depth of outreach. Such research has not been carried out to the knowledge of the authors.

Having shown that females affect financial performance, and since such has been shown to be the case for social performance (Gudjonsson *et al., 2015)*, where female presence in MFIs' management, female CEOs, female managers and female loan officers did indeed improve outreach. It will be possible to refute the trade-off between outreach and sustainability under these specific conditions.

Trade-off between outreach and sustainability

The MFIs were originally set up to address poverty, where the lack of access to loans was seen to be the main cause for people to be trapped in poverty (Armendáriz and Morduch, 2007). The MFIs' aim, therefore, is to resolve this market failure and break the cycle of poverty.

In order to do this, MFIs could either, as argued by the poverty lending approach, reduce poverty by providing loans with subsidized interest rate, or by the financial system approach where the free market should determine the interest rate on the microfinance loan provided (Robinson, 2001). The debate between these two schools has been settled in favor of the financial system approach (Hermes and Lensink, 2011). According to the financial system approach, MFIs have a dual goal, a social one called outreach as well as financial one, called sustainability. MFIs aiming at outreach and sustainability are both to provide the poor with loans (outreach) while being operated in a sustainable manner at the same time. A deeper outreach is preferable, which indicates that poorer people are provided with capital, while higher financial sustainability is preferable in order to keep the MFIs profitable and therefore able to survive in the long-term.

MFIs that are sustainable in the long-run should be economically better off, which again would make them better able to reach out to the poor and provide them with loans and eventually outperform the subsidized MFIs. This argument became a base for the "win-win strategy", critically addressed by Morduch (2000). According to Morduch, the "win-win strategy" of being self-sustainable, as well as being able to score best in terms of social performance, the outreach, did lack logical explanation of who were being served as well as empirical evidence. The empirical research works to follow did indeed neglect the "win-win strategy" by showing that the MFIs often did well only on either of the performance goals, i.e. there was a trade-off between outreach and sustainability, see for example, Copestake (2002), Cull *et al*, (2007) and Mersland and Strom (2010).

In fact, scholars began to question the "win-win strategy" even earlier. A trade-off between the two may occur (Von Pischke, 1996), which may eventually result in a mission drift where the MFIs stop focusing on poverty reduction and instead focus on improving financial performance (Dichter, 1996). Copestake (1998), argued that strong focus on financial sustainability may result in less focus on poverty reduction, hence MFIs may fail to cope with their original goal: to reduce poverty.

An early empirical research work showed a trade-off between outreach and sustainability (Conning, 1999) and other researches followed such as by Olivares and Polanco (2005), who found a trade-off to take place because of competition between MFIs. Hermes *et al.,* (2011), found MFIs outreach to be negatively related to efficiency and, Hartarska, Shen and Mersland (2013), further emphasized the trade-off between outreach and sustainability. A comprehensive literature review was presented by Hermes and Lensink (2011), who presented results from several notable researches supporting that there is indeed a trade-off between outreach and sustainability. Further information is available in Table 7.

The trade-off between outreach and sustainability appears to be particularly strong for MFIs focusing on the poorest borrowers (Conning, 1999). Reaching the poorest of the poor is simply more costly than reaching out to other segments of the market even when there are no fixed lending cost. Cull, *et al.,* (2007), even argued that a trade-off between outreach and sustainability were particularly evident among cases involving the "poorest of the poor". More details on this finding can be found in Table 7.

However while the literature discussed above shows a trade-off between outreach and sustainability, another branch of findings does exist. Rock *et al.*, (1998), argued early on that it is possible to get good profitability and outreach to the very poor if a good corporate governance strategy via the corporate board is exercised correctly. So did Conning and Morduch (2011) where they argued that outreach and sustainability could complement each other if MFIs' corporate governance would be carried out properly. Some recent researches showed no, or even the opposite result for a trade-off between outreach and sustainability. Gutiérrez-Nieto, Serrano-Cina and Molinero (2009), found low positive correlation between social efficiency and financial efficiency. Quayes (2012) showed empirically that there is indeed a positive relationship between outreach and sustainability, particularly so for high disclosure MFIs, i.e. more transparent MFIs,

and finally, Louis, Seret, Baesens (2013), got similar results. More details on these findings can be found in Table 8.

If it is possible to get good outreach and provide poor borrowers with capital without negatively affecting the MFIs' financial performance, an ultimate situation takes place where the poor will have access to loans and improve their wealth, while the MFIs do not incur financial losses. This ideal situation would be truly a "win-win" situation for both the borrowers and the lenders.

Since we do know that having a female management significantly affects outreach (Gudjonsson *et al.,* 2014) it is sufficient to find "no-relationship" between female management and financial performance in order to conclude that there is not a trade-off between outreach and sustainability.

The theoretical framework used by Strom *et al.,* (2014) rooted in Becker's (1973) marriage matching theory, has in this research been extended to work also for female managers and female loan officers. In other words female CEOs, female managers and female loan officers affect MFIs financial performance. The theoretical argument, used by Strom *et al.,* (2014) and build on Becker´s (1973) marriage matching theory, was, with addition of social role theory for gender, extended by Gudjonsson *et al.,* (2015) in this thesis, to work for female CEO, female managers and female loan officers for outreach. Therefore, the theoretical framework can be extended further and explain that with female management in MFIs, i.e. female CEO, female managers and female loan officers, it is possible to reach out to the microfinance borrowers while remaining simultaneously sustainable. The following hypothesis is stated.

H4a: Female presence in management team, female CEOs, female managers and female loan officers result in no trade-off between outreach and sustainability.

The hypothesis is divided on the one hand into the management team of the MFIs, i.e. female CEOs, female managers and female loan officers and into the MFIs controller on the other, i.e. female board members.

H4b: Female presence on boards result in no trade-off between outreach and sustainability.

The theoretical model and it´s variables are next presented.

Data and empirical model

The data set in the research is unique and it is the same as was used in the thesis to analyse gender management and board's effects on MFIs' outreach (Gudjonsson *et al., 2015).* The data set contains data from a non-profit organization called MIX and can be found at MixMarket.org. This data were then matched with original, hand-collected data.

The hand-collected data were mostly collected from financial statements, rating reports and the MFIs' own homepages. When insufficient information were supplied from these sources, the missing information had to be collected from external sources, such as from the webpage "LinkedIn", where information on the MFIs' CEOs was sometimes provided. Around one hundred emails were also sent out to MFIs. The response rate was rather low, yet most information were available by conducting an intense search over the Internet.

The time span for the data used in this research is only three years due to the fact that the main independent variable of interest, which contains various gender-related parameters, were only available from 2010 onwards. Hence 2010, 2011 and 2012 are the years which the dataset spawns.

A total of 1.317 MFIs were present in 2012. Many of these did not have information on gender issues, it was decided to keep the threshold at the variable that had the fewest observations or number of female board member. Only 737 of the MFIs did include "percent of female board members" and 717 also include outreach, which is the dependent variable in another empirical paper in this thesis by Gudjonsson *et al.,* (2015) titled "Women in Microfinance Institutions: The Road to Poverty Reduction and Gender Equality?"

MFIs that did not have the following information were excluded since they did not contain information on control variables that will be used in this research: Asset – down to 627; Legal status – down to 620; Country – down to 620; Regulated MFIs – down to 582 and ROA down to 551. The data set is driven further down by including only those MFIs that have number of women board members for all of the years 2010, 2011 and 2012. After that, the data set contains 291 MFIs. Finally, since cooperative and credit unions have very different type of corporate governance style i.e. one vote - one member, those institutions (a total of 33) were also excluded, leaving the final number of the MFIs data set as to 258 MFIs. The additional information needed for those 258 MFIs was hand-collected and, after extensive work, it became possible to get the additional information of 227 MFIs in total. One particular microfinance institution had to be dropped because of its extraordinary outreach size.

The final sample of 226 MFIs are fairly representative to the total population of 1.317 MFIs. It is however challenging to compare the data set used with the "population" since only MFIs that had gender related variables were focused upon and additional variables had to be hand-collected. However, the variables that are available for both the "population" and the data set used can be compared. As for the dependent variable, the return on assets (ROA), although the mean is different, due to large outliers, the median, is fairly similar, 0.024 for the "population" but 0.019 for the final data set. The main independent variables of interest, the gender variables, were very similar, that is the median. Percent of female board members was 0.30 for the "population" but 0.27 for the final data set. Percent of female managers was 0.27 for the "population" but 0.25 for the final data set and finally percent of female loan officers was 0.27 for the "population" but 0.29 for the final data set. The numbers for the data set are presented in Table 2.

Despite these similarities it is important to note that the "population" contains cooperative and credit unions, these institutions are not in the final data set and there are considerable more banks in the "population" while they are vast minority, only 23 institutions for the final data set. The final data set is, however, fairly representative if one looks at the median of both the dependent variable and main independent variables of interest. The model will now be presented and expanded.

Insert Table 1 here.

Insert Table 2 here.

Data and methodological issues - The model

The model used in this research is the same used to find MFIs' social performance, outreach. It was used by Molyneux, Lloyd-Williams and Thornton (1992) and by Hartarska (2005) and by Bassem (2009) who uses this model to find both financial performance, as well as social performance, the outreach. Strom *et al.,* (2014) have also used similar models. The variables are more or less the same but further gender specific variables are added. A random effect is used. The model is as follows:

Fijt = α0 + β1Gijt + β2Sijt + β3Mijt + β4Bijt + β5EGijt–1 + β6Mjt + εijt,

Fijt = Financial performance, for MFI i in country j at time t.
Gijt = Are gender specific variable, the main independent variable of interest.
Sijt = Are specific MFI variables.
Mijt = Are management specific variables.
Bijt = Are board specific variables.
EGijt–1 = Are external governance mechanisms.
Mjt = Are country specific macro economic variables.
eijt, = Error term.

A random effect is suggested since the impact of time invariant explanatory variables i.e. MFIs type, regulatory status and lending technology is not expected to change over the three years covered in this research. The Hausman test was carried out Prob>chi2 = 0,0000 which would suggest random effect. Each variable used in the model are presented in Table 1 and will now be explained.

Fijt = Financial performance:

Financial performance is measured as the Return on Asset (ROA). This particular variable is available from the MixMarket data set and can be downloaded from mixmarket.org. This is a commonly used proxy to measure MFIs' financial performance and while it is usually used in financial literature aiming for maximization of profit, in microfinance literature it is used as a proxy for sustainability. The financial performance goal of MFIs is sustainability rather than pure profit maximization.

Gijt = Gender specific variable, the main independent variable of interest:

Female board members is found as the percentage of female board members, female borrowers is the percentage of total borrowers who are women, female loan officers is the proportion of loan officers that are females and female managers is the proportion of managers who are women. All these variables are found, directly from the MixMarket data set.

Female CEO, a dummy variable if the CEO of the MFIs is a female. This variable had to be hand-collected, found sometimes at the MFIs webpage, sometimes in rating reports and sometimes in other webpages such as "LinkedIn".

Sijt = The specific MFIs variables are:

MFI size is found as the total asset of the MFIs, measured as the logarithm of total assets while MFIs age is measured as years since commencement. The variables are from MixMarket, but MFIs had to be hand collected for each MFIs.

MFI type: NGOs, Microfinance Banks, Cooperatives/Credit Unions, Non Banking and Financial Institution (NBFI): Most of the MFIs focused in this research are either NGOs or NBFIs.

Individual/Group lending: A dummy variable that takes one if the MFI does also use individual lending technology. These information, were hand-collected from the MFIs' own webpages, financial statements or in an independent rating reports. Very few MFIs used in this research only used the group lending method.

Mijt = The management specific variables:

Fixed-wage – a dummy for wages, which is not based on performance and experience. The variable that is a proxy for managers' quality is measured as years of work experience. Both these variables had to be hand-collected from the MFIs' own webpages or from their rating reports. In some cases "LinkedIn" became helpful to see managers' information about their work experience.

Bijt = The board specific variables are:

Board size: Measured as number of board members. This variable is available from the MixMarket platform.

Independent board: Measured as the proportion of non-affiliated board members. This variable had to be hand-collected. Only sometimes were the board members specifically labeled as independent in the rating reports and on MFIs webpages. This variable was challenging to collect and careful estimation was made for those MFIs that did not provide such information. Most MFIs and other non-profit organizations include independent board members (Hartarska, 2005), therefore the proportion of 55% is a very conservative estimate.

EGijt–1 = The external governance mechanism:

Regulation, dummy of one if the MFI was supervised by the central bank or other bank supervisory agency. Rated, dummy of one if MFI was subject to independent evaluation or rating by an outside organization. Audit, dummy of one if there was an audited financial statement (since only two MFIs were not audited this variable is close to meaningless). All these variables could be found from MixMarket.

Mjt = The country specific macro economic control variables are:

Size of the economy, logarithm of the country´s GDP. Found from The World Bank Development Indicators. The average inflation rate, measured as average consumer price index. These variables were taken form The World Bank Development Indicators.

The error term:

There is an error term for this model. Regressions were carried out and the results are next to be discussed.

Discussion of findings

The results of the empirical analysis on the 226 MFIs will now be discussed. Table 1 lists the variables used in the model, Table 2 lists the descriptive statistic and Table 3 is a correlation matrix for the variables. Now the results from the regressions will be discussed.

Insert Table 3 here.

The first hypothesis sates that female managers increases ROA. It is not statistically significant, but falls short of it. It is clearly not significant for NBFIs but is weakly statistically significant for NGOs. With these weak results, the hypothesis is not rejected outright. It is therefore tempting to argue that female managers, results in positive financial performance.

Most of the control variables did not appear to have affect on ROA. The size of the MFIs is an exception, larger MFIs appear to deliver better financial performance. A possible reason may

simply be that the large MFIs may enjoy from the return of scale, however the microfinance literature would benefit from further researches on the matter. The experience of managers appears to be negatively related to ROA, particularly true for NBIFs while not for NGOs. This rather surprising result is in contradiction to current literature, for example Hartarksa (2005) found CEO experience to enhance MFIs' financial performance.

Whether the MFIs is regulated appear to have negative affect on ROA, that again is true for NBFIs but not so for NGOs. Here the literature provides mixed result. While Hudon (2010) found positive relationship, Bassem (2009) as well as Hartarska and Nadolnyak (2007) found no relationship whatsoever.

Other control variables were insignificant, such as the MFIs' age and weather MFIs provided only individual loans and not group loans. However this particular variable and whether the MFIs was audited contain few institutions. Bonuses did not have any discernible effect, in line of what Hartarska (2005) and Bassem (2009) found.

Board specific variables did not affect ROA, neither number of board members nor if the board members were independent. These variables have been found to be significant in other researches. Both Hartarska and Mersland (2012) and Kyereboah-Coleman and Osei (2008) found board size to be positively affective towards financial performance. Hartarska *et al.,* (2012), Bassem (2009) and Kyereboah-Coleman *et al.,* (2008) found independent board members to affect financial performance positively. However, Strom *et al.,* (2014) did not find board specific variables to affect ROA. The not consistent finding of corporate governance variables such as board numbers and board independence are challenging to account for. However early on in microfinance literature Mersland *et al.,* (2009) argued that MFIs performances should be examined with different approaches than with traditional corporate governance measures.

As for the country specific variables, average inflation appears to matter while the size of the economy does not, except in the case of the NGOs. While Hartarska (2005) argues that external corporate governance has limited affect on MFIs performance, Vanroose (2008) points out that MFIs appear to be doing better in countries that are "the richer" countries of the developing world. It is not unlikely that these "richer" countries in the developing world have larger GDP and therefore we see countries with larger GDP to be associated with better ROA. The results are presented in Table 4.

Insert Table 4 here.

The second hypothesis which states that female loan officers increases the MFIs financial performance (ROA) is weakly positively significant, in particular for NGOs (but not for NBFIs). The hypothesis is therefore not rejected. Although loan officers are not members of the highest level of the top-level management team, their power and effect, may to an extent, affect the internal organizational strategy and hence financial performance. The control variables did show the same result as they did for Hypothesis 1. The results are presented in Table 5.

Insert Table 5 here.

The third hypothesis which states that female board members increase the MFIs' financial performance (ROA) is insignificant. It will therefore be rejected. That is true for NGOs and NBFIs. Bassem (2009) found female board members to have a positive effect on financial performance. The control variables show the same results as they did for Hypotheses 1 and 2. The results are presented in Table 6.

Insert Table 6 here.

Hypothesis 4 (a) states that female presence in top-level management results in a negation of the trade-off between outreach and sustainability. Since it has been found in this thesis that female CEOs, managers and loan officers do significantly affect outreach (Gudjonsson *et al., 2015),* in order to not reject this hypothesis, Hypotheses 1 and 2 do need to be either positively significant or not significant. Hypothesis 1 was positively significant for NGOs and Hypothesis 2 was positively significant and particularly so for NGO, hence the Hypothesis 4 (a) is not rejected. With this result and knowing from previously conducted research in this thesis that the same managerial position held by women did enhance outreach, it is therefore stated that the presence of female in MFIs management position, as CEOs, managers and loan officers can work as a tool to decrease poverty while not harming financial performance. In other words, female presence in management position in MFIs decreases poverty while at the same time, their presence does not cause a trade-off between outreach and sustainability. In this particular case, the trade-off between outreach and sustainability is refuted.

As for the female board members, the hypothesis 4 (b) will have to be rejected. First of all, according to Hypothesis 3, it was not possible to show the presence of female board members affected the financial performance (ROA). Furthermore, from the previous study in this thesis it was not possible to demonstrate that female board members had an effect on the MFIs' social performance, the outreach. With neither of these claimed points statistically supported it is not feasible to state that it is possible to reach out to poor while remaining financially sustainable via the female board members of the organization.

Conclusion

Earlier in this paper the question was asked if it was possible that MFIs could provide good outreach, while remaining financially sustainable under certain circumstances. The answer is yes, by implementing on gender-conscious policies, i.e. with women in the management team, it is possible to run MFIs in a sustainable manner, while keeping the outreach at an optimum depth. Here is truly a "win-win" situation, both for the borrowers and the MFIs. In other words, it is possible to show that for management in MFIs, there is no trade-off between outreach and sustainability in the particular case of gender presence. It was however not possible to show such a relationship vis-à-vis the female board members.

This research provides new contribution to the academic world of microfinance. Not only do female CEOs have an effect on MFIs' financial performance, but so do female managers and female loan officers. Secondly, this research work has contributed further evidence to the literature on trade-off between outreach and sustainability – that it is possible to perform well in both areas, under certain circumstances.

The outcomes of this research may also be of use for policy makers interested in either poverty issues or female empowerments (or both). Female presence enhances social performance, the outreach (Gudjonsson *et al.,* 2015) while doing so in sustainable manner. It is possible to use female participation in management of MFIs to reach out to the poor, improve their welfare while not causing financial damage to the MFIs. By appointing women to managerial positions in MFIs, it may also be possible to both enhance female empowerment inside and outside the organization and simultaneously decrease poverty.

The research has its limitations. It addresses very specific conditions of female presence in management of very certain type of organizations (MFIs). Most organizations are of a very different sort than MFIs and may have no, or very limited social performance goals. What was argued here may therefore be specifically true only for the microfinance industry. It is however hoped that this research will spur further research on gender and poverty, simultaneously or separately.

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Table 1.

VARIABLES	
DEPENDENT VARIABLE	
Return on assets. (ROA).	Return on assets or ROA is provided by MixMarket data set and is found as: Net operating income, less taxes divided by average assets.
GENDER VARIABLES	
Percentage of female board members	Proportion of women on board
Percentage of female loan officers	Proportion of loan officers who are women
Percentage of female managers	Proportion of managers who are women
Where CEO is female	Dummy, when there is female as CEO
SPECIFIC MFIs VARIABLES	
Size of MFIs (logAsset)	Size of MFIs is measured as the logarithm of total assets.
Age of MFIs (years)	MFIs age is measured of years since commencement.
MFIs type	Four types of MFIs, NGOs, NBFIs, Coops and Banks. Regression is carried out for MFIs as a whole (MFIs) and specially for NGOs and NBFIs, but not for the Coops and Banks.
MFIs ALSO lending to individuals	Dummy variable of one if MFIs use group and individual lending methods.
MANAGEMENT SPECIFIC VARIABLES	
Fixed salary (no bonus)	Dummy variable of one if MFIs does not provide bonus for financial performance to CEO
CEO experience (years)	A proxy for manager´s quality, measured as years of working experience in the field

BOARD SPECIFIC VARIABLES	
Number of board members	Board size, number of board members.
Independent board members	Proportion of non-affiliated board members.
EXTERNAL GOV. MECHANISM	
Regulated	Dummy variable of one if MFIs is supervised by the central bank.
Rated	Dummy variable of one if MFIs is subject to independent rating of outside organization
Audit	Dummy variable of one if MFIs is audited with financial statement.
COUNTRY SPECIFIC VARIABLES	
Economy size (logGDP)	Size of economy, logarithm of the country´s GDP
Average Inflation	Average inflation rate, consumer price index.

Table 2.

VARIABLES	N	Mean	SD	P50	Min	Max
Return on assets (ROA)	771	0.018	0.091	0.024	-0.688	0.367
Percent of female board members	771	0.304	0.247	0.273	0	1
Percent of female loan officers	733	0.348	0.278	0.287	0	1
Percent of female managers	736	0.323	0.290	0.250	0	1
Where CEO is female	771	0.209	0.497	0	0	1
Size of MFIs (logAsset)	770	16.313	1.743	16.220	12.254	21.642
Age of MFIs (years)	771	14.615	8.588	13	0	60
MFIs also lending to individuals	771	0.895	0.307	1	0	1
Fixed salary (no bonus)	771	0.696	0.460	1	0	1
CEO experience (years)	714	13.980	7.170	13	1	35
Number of board members	771	6.627	3.302	6	1	27
Independent board members	770	0.502	0.316	0.550	0	1
Regulated	771	0.553	0.498	1	0	1
Rated	771	0.553	0.498	1	0	1
Audit	771	0.988	0.107	1	0	1
Economy size (LogGDP)	753	24.958	1.962	24.532	21.184	29.739
Average inflation	730	0.065	0.037	0.063	-0.009	0.473
Number of MFIID	226		226	226	226	226

Table 3.

Variables*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)	1																
(2)	0.09*	1															
(3)	0.08*	0.20*	1														
(4)	0.12*	0.24*	0.46*	1													
(5)	0.04	0.37*	0.12	0.28*	1												
(6)	0.14*	-0.16*	-0.11*	-0.08*	-0.05	1											
(7)	0.11*	0.04	0.05	0.02	0.04	0.23*	1										
(8)	0.12*	-0.06	-0.13*	0.04	-0.01	0.15*	0.13*	1									
(9)	0.03	0.03	0.02	-0.01	0.10*	-0.27*	0.11*	0.08*	1								
(10)	-0.07	-0.05	-0.13*	-0.10*	-0.12*	0.19*	0.10*	-0.01	-0.09*	1							
(11)	0.05	-0.02	-0.02	-0.09*	-0.01	0.39*	0.27*	0.07	-0.10*	0.26*	1						
(12)	-0.05	-0.03	0.01	0.02	-0.03	-0.12*	-0.14*	-0.03	-0.03	-0.01	-0.12*	1					
(13)	-0.05	-0.08*	-0.13*	-0.11*	0.00	0.30*	-0.14*	-0.03	-0.37*	0.09*	0.09*	-0.09*	1				
(14)	0.18*	0.02	-0.06	-0.07	0.03	0.39*	0.11*	0.17*	-0.21*	-0.03	0.02	0.00	0.14*	1			
(15)	0.13*	-0.07	-0.13*	-0.04	0.06	0.19*	0.10*	0.20*	0.16*	.	0.05	0.01	-0.02	0.14*	1		
(16)	0.01	-0.07	0.02	-0.09*	-0.05	0.04	-0.04	-0.20*	-0.09*	0.13*	0.06	-0.03	-0.07*	0.06	0.05	1	
(17)	-0.09*	-0.02	-0.11*	-0.13*	-0.04	0.01	-0.13*	-0.17*	-0.05	0.16*	0.07	-0.03	0.20*	-0.02	-0.20*	0.15*	1

* The variables are defined in detail in Table 1. Numbered here as follow: 1= Return on assets (ROA), 2=Percent of female board members, 3=Percent of female loan officers, 4=Percent of female managers, 5=CEO is female, 6=Size of MFIs (LogAsset), 7=Age of MFIs (years), 8=MFIs also lending to individuals, 9=Fixed salary (no bonus), 10=CEO experience (years), 11=Number of board members, 12=Independent board members, 13=Regulated, 14=Rated, 15=Audit, 16=Economy size (LogGDP), 17=Average inflation.
5% significance level.

Table 4.

VARIABLES	ROA MFIs	ROA NGOs	ROA NBFIs
Percent of female managers	0.0205	0.0236*	0.0152
	(0.0130)	(0.0139)	(0.0275)
Size of MFIs (LogAsset)	0.0111***	0.00677	0.0228***
	(0.00319)	(0.00458)	(0.00680)
Age of MFIs (years)	0.000701	0.000915	-0.000909
	(0.000583)	(0.000786)	(0.00167)
MFIs also lending to individuals	0.0235	0.0268	0.0443
	(0.0173)	(0.0177)	(0.0402)
Fixed salary (no bonus)	0.00691	-0.0167	0.00643
	(0.0110)	(0.0188)	(0.0184)
CEO experience (years)	-0.00195***	-0.000398	-0.00426***
	(0.000630)	(0.000805)	(0.00118)
Number of board members	-0.000440	-0.00212	-0.00290
	(0.00132)	(0.00160)	(0.00301)
Independent board members	-0.00984	-0.00878	-0.0118
	(0.0136)	(0.0165)	(0.0282)
Regulated	-0.0349***	-0.0116	-0.0536**
	(0.0103)	(0.0128)	(0.0229)
Rated	0.0148	0.0128	0.0256
	(0.0102)	(0.0122)	(0.0219)
Audit	-	-	-
Economy size (LogGDP)	0.00281	0.0118***	-0.00343
	(0.00245)	(0.00333)	(0.00457)
Average inflation	0.181*	0.102	0.221
	(0.0940)	(0.125)	(0.178)
Constant	-0.243***	-0.392***	-0.235
	(0.0824)	(0.107)	(0.160)
Observations	650	288	267
Number of MFIID	226	102	92

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.

VARIABLES	ROA MFIs	ROA NGOs	ROA NBFIs
Percent of female loan officers	0.0242*	0.0291*	0.0203
	(0.0143)	(0.0172)	(0.0282)
Size of MFIs (LogAsset)	0.00996***	0.00644	0.0211***
	(0.00312)	(0.00437)	(0.00676)
Age of MFIs (years)	0.000706	0.000733	-0.00121
	(0.000570)	(0.000751)	(0.00162)
MFIs also lending to individuals	0.0248	0.0249	0.0459
	(0.0169)	(0.0169)	(0.0388)
Fixed salary (no bonus)	0.00708	-0.0140	0.00695
	(0.0107)	(0.0179)	(0.0180)
CEO experience (years)	-0.00198***	-0.000291	-0.00441***
	(0.000621)	(0.000802)	(0.00118)
Number of board members	-0.000138	-0.00205	-0.00173
	(0.00130)	(0.00153)	(0.00301)
Independent board members	-0.00584	-0.00561	-0.00183
	(0.0133)	(0.0157)	(0.0284)
Regulated	-0.0309***	-0.00887	-0.0469**
	(0.0100)	(0.0121)	(0.0225)
Rated	0.0135	0.0112	0.0248
	(0.00994)	(0.0116)	(0.0216)
Audit	-	-	-
Economy size (LogGDP)	0.00191	0.0104***	-0.00453
	(0.00240)	(0.00324)	(0.00442)
Average inflation	0.182*	0.0414	0.258
	(0.0982)	(0.131)	(0.185)
Constant	-0.208***	-0.352***	-0.195
	(0.0804)	(0.103)	(0.152)
Observations	642	290	262
Number of MFIID	226	102	92

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.

VARIABLES	ROA MFIs	ROA NGOs	ROA NBFIs
Percent of female board members	-0.00135	0.0142	-0.0395
	(0.0151)	(0.0167)	(0.0309)
Size of MFIs (LogAsset)	0.0114***	0.00634	0.0232***
	(0.00321)	(0.00457)	(0.00676)
Age of MFIs (years)	0.000776	0.000887	-0.000620
	(0.000584)	(0.000782)	(0.00164)
MFIs also lending to individuals	0.0253	0.0315*	0.0411
	(0.0173)	(0.0177)	(0.0398)
Fixed salary (no bonus)	0.00575	-0.0185	0.00294
	(0.0110)	(0.0188)	(0.0184)
CEO experience (years)	-0.00200***	-0.000463	-0.00431***
	(0.000630)	(0.000804)	(0.00118)
Number of board members	-0.000677	-0.00231	-0.00335
	(0.00131)	(0.00156)	(0.00297)
Independent board members	-0.0108	-0.0106	-0.0129
	(0.0135)	(0.0163)	(0.0280)
Regulated	-0.0363***	-0.0115	-0.0599***
	(0.0102)	(0.0127)	(0.0225)
Rated	0.0132	0.0123	0.0250
	(0.0102)	(0.0122)	(0.0219)
Audit	-	-	-
Economy size (LogGDP)	0.00232	0.0118***	-0.00494
	(0.00246)	(0.00334)	(0.00444)
Average inflation	0.183**	0.0859	0.230
	(0.0922)	(0.122)	(0.173)
Constant	-0.225***	-0.380***	-0.178
	(0.0833)	(0.107)	(0.156)
Observations	675	305	275
Number of MFIID	226	102	92

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7.

Researches Showing Trade Off Between Outreach and Sustainability.

Authors	Sample	Dependent Variable	Other Variables	Method	Key Findings
Conning J. (1999).	72 MFIs from Microbanking Bulletin Zambia.	Financial sustainability Outreach (average loan balance).	N/A	Model based on financial intermediation	Trade off between outreach and sustainability. MFIs targeting poor must ask higher interest.
Oliver-Polanco F. (2005).	MIX, 26 MFIs from Latin America.	Outreach (average loan pr. borrower / GNI per capita (20% lowest).	Institution type, age, ROA, # clients, gender, credit method,	OLS	Competition between MFIs leads to larger loan size, hence larger loan size, hence worse outreach. There is trade off.
Hartarska V. (2005).	3 surveys in Central Eastern Europe and the Newly independent states.	Sustainability (ROA, OSS). Outreach: Breath: no. loan takers. And depth; Average outstanding loan balance pr. borrower / GNI pr. capita (in short: (AOL / GNIPC).	Wage, experience, board (members, indep, size, gender), donor, finance, business men, client external governance, industry specific variables, age.	OLS	Trade off depending on MFIs board size, bonus not affects performance, lower wage lead to worse outreach, managers experience improves outreach. External governance play´s limited role.
Cull et al., (2007).	124 MFIs of 49 counties, from	Financial self-sufficiency Operational self-suff.	yield, capital cost/asset, labor cost/asset,	OLS	Not trade off for outreach and sustainability apart from

	MIX.	ROA	Village banks, age, size, loan/asset, countries.		when "poorest of the poor" are served.
Bassem B. (2009).	From survey in Mediterranean, 42 MFIs in 21 countries and from MIX.	Sustainability (ROA,OSS) Outreach: Breath no. of borrowers. And Depth: AOL/GNIPC.	Wage, experience, board (members, indep, size, gender), int.board auditor, external governance industry specific variables, age.	OLS	Bonus of managers not affects performance, trade off depends on larger board size, and on high proportion of unaffiliated directors. More women on board, better outreach. External mechanism better sustainability
Mersland R, Strom R. (2010).	379 MFIs from 74 counties from www.ratingfund.org	Outreach: Average loan.	Average profit average cost, RaR30 MFIs age, assets	Panel data (GMMs)	Av. loan size, individual loans, urban customer not increased. No mission drift for MFIs focusing on "rich" poor.
Hermes N, et al. (2011).	435 MFIs of 11 years from MIX.	A)Total cost of MFI, B Outreach as av. loan per borrower, % loans below US$300, % women borrowers, av. saving balance per saver in US$,	A)Salary, interest rate per unit of deposits, gross loan portfolio, MFI type, year. B) Outreach treated as one of	SFA- BC model.	Outreach negatively related to efficiency of MFIs. MFIs that have lower average loan balance are less efficient. MFIs with more women borrowers are less efficient.

		clients in bottom half of the population.	"other variables", woman, loan type, age.		
Hermes N, et al. (2011).	435 MFIs, 1.318 obsv. from MIX.	Outreach: Depth (Av. loan balance pr. Borrower), cost.	Salary, interest, gross loan portfolio, MFI type, year.	Stochastic frontier analysis	MFIs outreach negatively related to efficiency, MFIs with good outreach and MFIs with more women borrowers had lower efficiency.
Hartarska, et al. (2013).	Data of 989 MFIs. www.ratingfund.org	Total cost.	Deposit, no of borrowers, no. of savers, labor, capital, loans overdue, legal env, risk, compet., regulation, MFIs type, loan groups, individual.	Structural approach,	Trade off between outreach and sustainability. Improvement in efficiency can come from the growth or consolidations of MFIs.

Table 8.

Researches Showing Non- or Opposite Relationship between Outreach and Sustainability.

Authors	Sample	Dependent Variable	Other Variables	Method	Key Findings
Bauchet J, Morduch, J. (2009).	Data of 2.072 observ. from MIX and from Microcredit Summit Campaign.	N/A	N/A	Descriptive analysis.	Trade off between outreach and sustainability varies since different researches use various data set.
Gutiérrez-Nieto B, et al. (2009).	Data of 89 MFIs from MIX.	N/A	N/A	Descriptive analysis.	No obvious trade off between outreach / sustainability, low positive correlation.
Quayes, S. (2012).	702 MFIs from 83 countries from MIX.	Outreach (av. loan pr borrower.	Gross loan portf. equity, debt/equity, expense, cost pr.loan no. women borrowers, self-sufficiency.	Logit model	Positive complementary relationship between financial sustainability and depth of outreach – Not trade off.
Kar, K. (2013).	409 MFIs from 71 countries, panel data 4-6 years, from MIX.	Outreach: Depth, (AOL/GNIPC)	ROA, FSS, Yield, solidarity, regulatory status, MFIs type, counties.	Panel data	If mission drift is defined as a trade off between increased profit motivation and depth of outreach then no trade of .

Louis Et al (2013).	650 MFIs from 88 countries, from MIX.	Outreach: i) no of women ii)Breath, no of borrower iii)Depth, (AOL/GNIPC)	Yield on gross portfolio, profit, loan/asset, cost pr.loan, portf. at risk, depth/equity, region, MFI type, legal status, age, scale.	Self-organizing map method-ology.	No trade off – The opposite, positive relationship.
Piot-Lepetit, et al. (2013).	52 institutions in Cameroon.	Sustainability: ROA, ROE FSS. Outreach: Worth, cost, length, scope, breath and depth.	Yield on gross loan portf, provision exp. Write off, OSS OER, cost pr client, personnel cost/average loan.	Multi DEA approach.	Large part of the institutions did not show any trade off.