Abstract

This paper evaluates how governance mechanisms affect the financial and social performance of microfinance institutions (MFIs) in Sub-Saharan Africa. Because of the dual mission inherent in microfinance, with the goals of running an MFI efficiently while also providing depth of outreach, we have looked at which governance mechanisms help an MFI do both. We define financial performance as operational self-sufficiency, and social performance is gauged by assessing the percentage of female borrowers. We explore the significant impact of both internal and external governance mechanisms on performance and find that while legal status plays a role in both financial and social performance, the legal status of a non-governmental organization is associated with better social performance and the legal status of a bank is associated with better financial performance.

Additionally, the percentage of female board members has a positive effect on the percentage of female borrowers, thus improving social performance in our model. Our study has found no governance mechanism that has a positive effect on both financial and social performance.

Introduction

Microfinance is the provision of financial services designed for the underserved low-income, poor and very poor. Microfinance has been experiencing impressive growth and has reached 150 million of the world’s poor in four decades. Microfinance is present in more than 100 developing countries and reached an aggregate outstanding loan portfolio of about 45 to 60 billion USD (Adler & Waldschmidt, 2013).

The idea of a double bottom-line, requires microfinance institutions (hereafter MFIs) to focus not only on creating sustainable and strong financial institutions, but also on fulfilling the social mission of providing financial products that meet the needs of the world’s poor (Mersland & Strom 2010; McKee 2012).

The evolution of the microfinance industry away from subsidization first brought to light the importance of corporate governance (CGAP, 1997; Lapenu & Pierret, 2006). Further, the relatively recent spotlight on social returns and microfinance recipient outcomes have brought into question the role that corporate governance plays in both financial and social performance (Armendariz & Labie, 2011; McKee, 2013).

Nowhere in the world are the excluded poor better represented than in Sub-Saharan Africa (hereafter SSA), as according to the 2014 Global Findex report, only 25% of the poorest in SSA have access to formal financial services (Demirguc-Kunt, Klapper, Singer & Van Oudheusden, 2015) . Additionally, this region’s MFIs have been identified as having some of the weakest corporate governance structures, creating great risk for

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1 According to the Global Findex Database 2014 only 25% adults of the poorest households in SSA have banking account, that is almost 25% less than analogical indicator in South Asia.
the industry (Lascelles, Mendelson & Rozas, 2014). And yet, very few have chosen to research the role of governance in MFI performance in SSA (Tchakoute Tchuigoua, 2011; Barry & Tcheng, 2014).

Using data from the Microfinance Information Exchange (MIX), this paper aims to analyze the link between internal and external governance mechanisms and financial and social performance of MFIs, as measured by operational self-sufficiency and percentage of female borrowers, throughout SSA to determine which factors help MFIs fulfill the dual mission inherent in microfinance.

**Why Governance?**

Good corporate governance can enable organizations to manage risks, ensure the organizations' long-term survival, and contributes to building sustainable microfinance institutions, and allows ongoing provision of financial services to a larger number of poor clients (Rock, Otero & Saltzman, 1998; Labie & Mersland, 2011). In recent years, several negative reports about the microfinance industry and MFI failures have led many to call for stronger governance in the microfinance industry (Bakker, Schaveling & Nijhof, 2014). Taking into account that effective governance is not only a way to protect MFIs, but also necessary to protect vulnerable people who rely on permanent access to basic financial services.

The Centre for the Study of Financial Inclusion regularly conducts the Microfinance Banana Skins Survey to determine those areas, which microfinance professionals rank as the highest potential risks to the microfinance industry. The 2014 Microfinance Banana Skins Survey, a survey of 306 respondents from 70 countries, reiteratively has ranked regulation as one of the main risks the microfinance industry is facing. Indeed, microfinance practitioners without exaggeration have been ranking governance high on the scale of risks in all the Banana Skins surveys since 2008. In the 2014 report, governance ranked fifth in terms of perceived risks overall (Lascelles et al., 2014). It is interesting to note that various microfinance professionals including investors, industry experts, support providers, raters and regulators ranked governance in the top five greatest risks to the microfinance industry, however service providers ranked governance well below at thirteenth (Lascelles et al., 2014).

The main governance concerns highlighted in the 2014 Banana Skins Survey are “insufficient knowledge and experience among board members, poor training, lack of independence, failure to stand up to the strong executives or charismatic founders, and poor understanding of the structural changes taking place in the industry, pressure to compromise the institution’s social mission in order to sustain growth, uncertainty about strategic direction, and failure to grasp the essentials of risk management” (Lascelles et al., 2014). Most of the governance concerns emphasized in the survey relate to the characteristics and composition of the board of directors. The survey also accents the other top concerns, closely related to governance, such as regulation, risk management and strategy.
We estimated the aggregate score (Table 1) for the ten highest risks mentioned in the Microfinance Banana Skins survey for each year since the 2008 (Lascelles et al., 2014). By looking at Table 1, we can see that governance has remained a hot topic among industry experts (practitioners, analysts, regulators, investors etc.) from all over the world as the microfinance industry has evolved and has confronted external and internal shocks such as the global financial crisis, and crises such as Andhra Pradesh and detrimental institutional failures. In looking at the other risks, represented in the Table 1, we can find that management quality received third place. We should mention here that management quality belongs to the institutional structure branch, which is highly related to governance, because management quality in the majority of cases is dependent on the CEO. In turn, the CEO is selected by the board and usually performs under board oversight and thus, the board of directors as a part of the governance structure has an indirect impact on management quality.

Indeed, Labie and McConaghy (2013) acknowledge the complexity of the microfinance industry and underline the importance of understanding the distinct differences in the types of organizations that frame the industry. Because MFIs can be formed under different legal statuses, such as traditional commercial banks, regulated non-banking financial institutions, non-governmental organizations (hereafter – NGOs) or cooperatives, it is possible to assume that each type of MFI may require a different type of governance (Labie, 2001; McConaghy, 2013). At the same time MFIs may have different ownership structures, which imply a for-profit or non-profit status of an institution. Thus, taking into consideration various legal structures and ownership types, debate remains as to which governance mechanisms are effective and might lift MFIs toward achieving both financial and social performance in a balanced way.

Corporate Governance

Corporate governance is an idea that has been in existence since the corporate form came about. However, it wasn’t until the 1990s that corporate governance would become an international topic of discussion. After a period of economic instability and as a response to several corporate financial scandals in the 1970s and 1980s, the Committee of the Financial Aspects of Corporate Governance published the 1992
The Cadbury Report, which provided one of the first codes of best practices in corporate governance (Demirag, Sudarsanam & Wright, 2000; Cheffins, 2013). Key recommendations of the Cadbury Report included the separation of the chairman and chief executive officer titles, appointing independent directors, reducing conflicts of interest at the board level, instituting an independent audit committee, and reviewing the effectiveness of the company’s internal controls (Larcker & Tayan, 2011).

Corporate governance began as a strategy to manage the problems that can exist when there is a separation between the ownership of a company and its management. For example, this agency problem might be resolved when an organization puts in place a monitoring system of checks and balances, to ensure self-interested executives do not work to benefit themselves at the cost of shareholders and stakeholders (Larcker & Tayan, 2011).

Today, corporate governance is defined in the OECD Principles of Corporate Governance as “a set of relationships between a company’s management, its board, its shareholders and other stakeholders.” These principles outline how corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined (OECD, 2004, p. 11).

At a minimum, corporate governance includes a board of directors to oversee management and an external auditor to provide an opinion on the reliability of the financial statements. It is important to understand that, although many put forth best practices in governance, some clearly point out that a single set of practices does not exist for all firms (Adler & Waldschmidt, 2013; Armendariz & Labie, 2011; BBVA, 2011; Lapenu & Pierret, 2006; Larcker & Tayan, 2011). “Governance is a complex and dynamic system that involves the interaction of a diverse set of constituents, all of whom play a role in monitoring executive behavior. Because of the complexity inherent in microfinance, it is difficult to assess the impact of a single component.” (Larcker & Tayan, 2011, p.13).

The Role of Governance

The idea of effective corporate governance has evolved as destructive corporate failures exposed shortfalls in governance mechanisms. Labie highlights the fact that there is a strict definition of corporate governance, called the shareholder approach which was purely market-oriented and focused on protecting the shareholders’ interests, and a broader version called the stakeholder approach, which expands the focus beyond just the shareholders to encompass all stakeholders (Labie 2001). Boards must take into consideration a growing number of internal and external stakeholders, which

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2 Most corporations today accept the OECD Principles of Corporate Governance as the way to ensure the basis of effective corporate governance to include the rights of the shareholders and other key ownership functions, the equitable treatment of shareholders, the role of stakeholders in corporate governance, disclosure and transparency and the responsibilities of the board of directors.
include shareholders and investors, senior management, regulators, donors, customers, staff, creditors, labor unions and suppliers (Ledgerwood & White, 2006; Larcker & Tayan, 2011).

In fact, in the wake of the 2008 financial crisis, it appears that stakeholders, or those affected by the breakdown of sound corporate governance risk management practices, have grown to include not only communities, but also the global financial system players (Kirkpatrick, 2009). With globalization and the far reaching effects of corporate collapses, corporate governance has taken on the new role of social responsibility, which shifts away from the traditional focus of agency conflicts and has expanded to include issues of ethics, accountability, transparency, disclosure, and environmental stewardship (Gill, 2008; Labie, 2001; Larcker & Tayan, 2011).

The Role of Governance in Microfinance

The role of governance in microfinance has undergone a similar evolution in terms of broadening the scope of responsibility. This evolution coincided with changes within the microfinance industry. Microfinance was developed as a method to alleviate poverty through loans to poor entrepreneurs (Armendariz & Labie, 2011). The initial phase of microfinance was dominated by NGOs that received governmental support (Varottil, 2012; Adler & Waldschmidt, 2013). Governance in microfinance was first mentioned in a CGAP Focus Note in 1997 and talked mainly about governance in the emerging microfinance industry. One of the main points of the paper was to encourage the visionaries who had created MFIs to relinquish some control by first bringing professional management into the organization, and ultimately to allow a board of directors to oversee management to preserve the MFI’s mission and vision as they work toward sustainability (CGAP, 1997; Lapenu & Pierret, 2006).

As the microfinance industry matured, MFIs were compelled to provide greater outreach and move away from donations and subsidized credit toward sustainability. Many different types of microfinance organizational structures developed and some MFIs started focusing more on making profits, in the way similar to traditional businesses, with financial performance and sustainability taking a leading role in the running these MFIs (Varottil, 2012, Adler & Waldschmidt, 2013). This period was characterized by an increased integration of microfinance into financial markets including an increasing number of private commercial lenders, the introduction of professional networks, equity capital providers and microfinance investment vehicles (Adler & Waldschmidt, 2013).

Because of some detrimental MFI failures, which were partly caused by the lack of or inadequate control of institutional development, a more balanced governance approach of microfinance institutions has been promoted. The new balanced approach works to align the dual objectives or double bottom line that MFIs are working to maximize. Labie and Mersland (2011) suggest the following modification to the OECD governance definition to better fit the needs of MFIs: “Corporate governance is a system or a set of mechanisms, by which an organization is directed and controlled in order to reach its mission and objectives” (Labie & Mersland, 2011, p. 286). McConaghy adds that the
governance mechanisms should guide major strategic decisions, manage risks, and ensure accountability (McConaghy, 2013).

The idea that MFI governance must monitor the double bottom line of financial and social performance is echoed by McKee (2013), when she highlights the fact that one of the main goals of microfinance is to provide financial services to the poor, who have no access to convenient and flexible financial services. Thus, it is imperative for an MFI's governance structure not only to oversee operational performance and to establish prudent risk management practices to ensure an organization's long-term viability but also to be adequate to protect vulnerable clients (McKee, 2013). Labie and Mersland point out that in order to develop meaningful interventions, MFIs must make deliberate choices and recognize and weigh the trade-offs between meeting social goals and maximizing financial performance (Armendariz & Labie, 2011).

From Microfinance to Financial Inclusion

As the microfinance industry has gradually shifted the focus from microcredit only to microfinance and now is moving toward financial inclusion, the main issues that governance structures face, have been mentioned as managing responsible MFI growth, customer segmentation, product diversification, client protection, pricing and profits, remuneration, and changes in financing and ownership structures and social performance management (McKee, 2012).

Labie and Mersland (2011) agree that the complexity and rapid growth of the microfinance industry makes it necessary for governance to be at the forefront of the microfinance policy debate. They discuss some changes in the industry in the last decade that highlight the need for sound governance for MFIs to better manage the increased risks they are facing. These changes include the tremendous growth in the number of service providers and number of clients served and the evolution from a focus on the single product of credit to becoming more complete financial institutions that also provide savings, money transfers, remittances, payment systems and insurance (Labie & Mersland, 2011). Additionally, with the trend away from reliance on donations and toward other sources of funds and the numerous institutional and legal transformations, MFIs require a more robust structure for managing liabilities (Armendariz & Labie, 2011, Bakker et al., 2014).

Labie and Mersland (2011) advocate a view beyond traditional microfinance governance mechanisms to a system that builds on historical lessons learned, a focus on risk analysis, adopting a real stakeholder approach, and a high level of transparency. Realizing that traditional governance mechanisms continue to be the focus of research, but do not provide the whole picture, they call for a new governance framework. The framework they propose is adapted from Charreaux's analysis framework for the classification of corporate governance mechanisms taking into account those mechanisms which are intentional and which are spontaneous with the realization that governance mechanisms have both a direct and indirect effect (Labie & Mersland, 2011). Additionally, the framework takes into account both specific mechanisms, which are those mechanisms that are designed for a specific firm, and non-specific
mechanisms, which are those that are created for a whole set of institutions (Labie & Mersland, 2011).

Varottil calls for a paradigm shift that looks at corporate governance as a way for MFIs to gauge their financial and social performance. This new approach, which he calls a “customer primacy” approach, is meant to keep the focus on the customers and the communities that MFIs serve (Varottil, 2013). Bakker et al. (2014) support Labie and Mersland with the idea to expand the scope of governance in microfinance in order to understand which mechanisms truly effect the double bottom line to examine the role of networks, stakeholders and the decision making process.

Copestake (2007) warns that without the monitoring of social performance indicators, MFIs will fail to balance the dual mission and will focus too much on financial indicators. Roodman (2013) urges MFIs to give representatives of each bottom like a voice on the board. In 2005, microfinance industry leaders came together to form the Social Performance Task Force to agree on a common social performance framework and a plan to include social performance management and monitoring into the mainstream to help MFIs ensure they are translating their mission into practice (Social Performance Task Force, n.d.). The Task Force has developed a document outlining the Universal Standards for Social Performance Management that highlights the important role of the board in holding the institution accountable to its social mission and goals. The Standards are developed to establish a framework that ensures board members understand the social mission and goals of the MFI. It is also mentioned that the board’s role is to monitor social performance indicators and to ensure these data are properly reported. Additionally, the board should include social performance criteria in the evaluation of the CEO and management (Social Performance Task Force, 2014).

Review of Relevant Literature

Over the last decades researchers have worked to identify the impact governance mechanisms have on the financial and social performance of microfinance institutions. Taking into consideration the diversity of the microfinance industry in terms of legal status, ownership control and country specific regulation, it is clear that this is a complicated issue to research.

In the beginning, researchers where interested in the role of governance in the emerging microfinance industry. The focus was on examining, defining and assessing the relationship between corporate governance and the management of microfinance organizations (Campion, 1998; Churchill, 1997; Churchill, 1998).

The question of how to address corporate governance became more complex taking into account the need to assess the double bottom line faced by the microfinance industry and to identify which governance mechanisms could be practically applied to the benefit the capacity of all forms of MFIs (Berenbach & Churchill, 1997; Labie, 2001). Researchers then began to focus their studies on the corporate governance effects on both financial and social performance. Some of them argued that these two objectives are not mutually exclusive but are intertwined, and asserted that financial sustainability
is essential if MFIs are going to provide substantial outreach and impact far beyond what donor agencies can fund (Berenbach & Churchill, 1997; Rock et al., 1998, Adler & Waldschmidt, 2013).

In one of the first studies that applied an econometric model to assess the impact of the governance tools on the outreach\(^3\) and sustainability\(^4\) of microfinance institutions, Hartarska (2005) determined that not all known governance mechanisms affected performance and, moreover, different factors have differential effects on outreach and sustainability. We start with the review of the internal governance mechanisms and main findings regarding their impact on the operational results of MFIs.

**Legal Status**

Gutiérrez-Nieto et al. (2005) examined MFI efficiency in relation to legal status and concluded that the legal status of MFIs in Latin America had an impact on efficiency. Their findings highlight that non-governmental MFIs try to make a large number of loans while keeping their operating costs as low as possible. In contrast, non-NGO MFIs maintained a more specialized staff and had a higher average loan size (Gutiérrez-Nieto, Serrano-Cinca & Molinero, 2005). However, a study by Mersland and Strom (2008) found almost no difference between non-profit organizations and shareholder firms in financial performance and outreach.

In light of some microfinance practitioners advocating for the transformation of not-for-profit MFIs into private regulated companies, Tchakoute-Tchuigoua (2010) studied the relationship between the legal status of MFIs and their performance, and as a result found the performance of private corporations to be better only when portfolio quality is used to assess performance. Interestingly, they found that for-profit MFIs are more socially efficient than not-for-profit MFIs (Tchakoute-Tchuigoua, 2010).

Barry and Tacneng (2014) found that NGOs perform better socially and are more financially viable than other MFI organizational forms in Africa. However, they found that institutional quality had an effect on performance. Where governments are less effective, NGOs outperform other ownership types as they may use their local network relationships to overcome institutional deficits (Barry & Tacneng, 2014). However, where institutional quality is strong and there is better contract enforcement, banks are better able to serve more borrowers, including poor households (Barry & Tacneng, 2014). Barry and Tacneng (2014) also note that the generally weak level of institutional quality in Sub-Saharan Africa may explain the advantage of NGOs over MFIs in their study.

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\(^3\) Outreach is measured by Hartarska (2005) in terms of breadth of outreach (measured as the log of the number of active borrowers) and in terms of depth of outreach is (measured as the average size of outstanding loans size/GDP per capita in USD; lower values mean that the MFI serves poorer borrowers).

\(^4\) Sustainability in Hartarska’s 2005 study is identified as ROA (return on assets), and OSS (operational self-sustainability), which is defined as operating revenue/ (financial expense + loan loss provision + operating expense). OSS measures how well the MFI can cover its costs through operating revenues.
Mission Statement

Rock et al. (1998) state that it is important for any MFI to define the mission clearly and to accurately communicate the mission to the whole spectrum of institutional stakeholders, such as donors, lenders, staff and clients.

The study conducted by Fernandez, Crespi and Lopez Sabater (2011) of World Savings Banks Institute members found that the inclusion of a clear reference to access to finance in the mission statement of an institution was linked to their ability to provide scope and depth of outreach to financial services. Here, access to finance refers to the idea of financial inclusion, which they define as the delivery of basic banking services to the low income and unbanked population as a way out of poverty (Fernandez et al., 2011).

Board Structure and Characteristics

Researchers agree that a good board should represent key stakeholders, maintain considerable independence, embody a wide range of experience, and maintain the collective knowledge to meet the strategic demands faced by the MFI (Fundacion BBVA, 2011; Pistelli, Geake & Gonzalez, 2012).

In Hartarska’s 2005 study, which looked at the role of governance on the performance of MFIs in Central and Eastern Europe, one of the main finding was that the characteristics of a microfinance board play a significant role in MFI performance. Key board characteristics that have been studied include the number of board members, board diversity, the number of independent board members and board member qualifications.

Board Size

There is a belief that the number of directors can affect the performance of a company, especially its financial performance. A number of scholars have contended that larger boards have their benefits and when board size increases, firm performance also goes up as more board members provide greater monitoring, advice and make available better linkages to the external environment (Thrikawala et al., 2013).

Kyereboah-Coleman and Biekpe (2006) looked at the relationships of governance mechanisms on firm performance in Ghana and found small board size enhances the performance of MFIs with the optimal board size being about eight members. Further, Kyereboah-Coleman and Osei (2007) examined how selected governance indicators impact the performance measures of outreach and profitability in MFIs and found that board size is positively related to profitability and negatively to outreach.

*5 Performance was measured by using ROA and outreach for firm i during fiscal year t. Whiles ROA is a ratio, outreach is measured as the rate of change in active clients on yearly basis.*
Hartarska and Nadolnyak (2012) looked at how board size affected the efficiency of U.S. Community Development Loan Funds (CDLF) to attain the double bottom line of financial sustainability and reaching low-income clients and found that board effectiveness improves with board size, but worsens in CDLFs\textsuperscript{6} with more than 13 board members (Hartarska & Nadolnyak, 2012).

Hartarska and Mersland (2012) explored the impact of measurable governance mechanisms on the efficiency with which MFIs can reach more many poor clients. Of the MFIs\textsuperscript{7} studied, Hartarska and Mersland found that efficiency increases with a board size of up to nine members and decreases after that.

**Separation of the Board Chairman and CEO**

In their study Kyereboah-Coleman and Biekpe (2006) concluded that the separation of board chairman and CEO positions positively influences a firm’s performance. They conclude this is due to a minimization of tension between managers and board members (Kyereboah-Coleman & Biekpe, 2006). Further, Kyereboah-Coleman and Osei (2007) confirmed this previous study with a study that showed that Ghana MFIs were more effective when the position of CEO and board chairman were separated.

Mersland and Strom (2008) found that the number of credit clients increases with CEO/chairman duality. This is echoed by the Fernandez et al. (2011) study that found the separation of the CEO and Chairman provided a positive correlation with access to finance (Fernandez et al., 2011).

Hartarska and Mersland (2012) confirm that MFIs in which the CEO chairs the board are less efficient (Hartarska & Mersland, 2012). Again, Hartarska, Mersland, Nadolnyak and Parmeter (2013) examined the relation between board composition and performance, but this time they looked at an MFI’s ability to cost effectively provide both savings and credits. They found that employee representation on the board is associated with positive scope economies, but CEO-chairman duality is associated with equal or larger probability of scope diseconomies, which is consistent with previous findings of the negative effect of CEO-chairman duality (Hartarska et al., 2013).

Interestingly, Bakker et al. (2014) analyzed sustainability and outreach on a sample of 106 MFIs and found that the CEO rarely operates as the Chairman. Keeping in mind, that data for their research was obtained from a Dutch independent investment manager, it is possible to assume that the MFIs, which where the object of study, where

\textsuperscript{6} The average loan fund had disbursed $12.4 million in active clients, housing loans of $70 000 dollars each, or 175 loans per loan fund. Other loans disbursed were on a yearly basis average 6 million per fund or 190 loans with average value per loan of $30 000.

\textsuperscript{7} The dataset was constructed from publicly available data from www.ratingfund.org. It consists of all available risk assessment reports conducted by five major rating agencies (MicroRate, Microfinanza, Planet Rating, Crisil, and M-Cril), as of June 2007. The main dataset consists of 278 MFIs from 60 countries.
mature MFIs that were able to attract investors and thus, had already adopted best governance practices.

**Board Diversity**

Hartarska and Nadolnyak’s study of U.S. Community Development Loan Funds looked at the effect of board diversity and concluded that board diversity affects efficiency and showed that CDLFs with female dominated boards were 10% more efficient\(^8\) (Hartarska & Nadolnyak, 2012). Additionally, in their study, Fernandez et al. (2011) found a positive correlation between the percentage of women on the board and access to finance which is defined as scope and depth of outreach (Fernandez et al., 2011).

Mori and Olomi (2012) studied MFIs in Kenya and Tanzania and found MFIs with female board members have higher financial performance in terms of ROA and OSS, and social performance assessed as having more female clients, providing small-sized loans, and having a greater number of customers.

According to Strom et al. (2014), the microfinance industry is particularly well suited for studying the impact of female leadership on governance and performance because female borrowers are the primary and the largest target market, and the proportion of female leaders is higher than in traditional firms. Their study found that female leadership in the form of female CEOs, female chairs and female directors is significantly associated with larger boards, younger firms, and NGO or cooperative legal status, and more female borrowers. Furthermore, they found that female leadership was associated with weaker corporate governance by way of fewer board meetings, fewer internal audits and increased CEO-chair duality. However, they found that a female CEO or Board Chair is positively related to the financial performance of an MFI (Strom, D’Espallier & Mersland 2014).

**Board Independence**

Agency theory is highly concerned about board independence and the balance between executive and non-executive directors on the board (Thrikawala et al., 2013). Hartarska (2005) found that boards with larger proportions of unaffiliated directors achieve better results, and organizations that have donor representatives on the board improve depth of outreach but worsen sustainability. Results of the study also show that MFIs in Central and Eastern Europe that include clients on the board achieve better sustainability but less depth of outreach (Hartarska, 2005). The results of the study of 106 MFIs by Bakker et al. (2014) showed that none of the MFIs in their study had a client on the board. Mersland and Strom (2008) examined the effects of board and CEO

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\(^8\) Hartarska and Nadolnyak (2012) provide empirically derived results with the explanation that, for example, an average CDLF board has five women and eight men. If the proportion would change to six women and seven men, holding all other factors equal, the model predicts small efficiency improvements of about 2%.
characteristics and found that financial performance improves with local rather than international directors, an internal board auditor, and a female CEO.

Mori and Mersland (2011) find stakeholders, defined as donors, employees, customers and creditors, can have an influence on board structure and the performance of MFIs. They found that NGO boards often include donors and employees, bank boards include creditors, and cooperatives include customers. Their findings show when donors and creditors are on the board the board size is usually smaller, there is less likelihood of CEO/Board Chair duality, and there is better MFI performance. Customers on the board, however, bring the likelihood of duality and lower social performance, but have the effect of pushing for low costs while also improving financial performance. Employees are found to be associated with larger boards (Mori & Mersland, 2011).

Hartarska and Mersland’s (2012) study of governance mechanisms on an MFI’s ability to reach more clients efficiently confirms that MFIs with a larger proportion of insiders on the board are less efficient. The evidence also suggests that donors’ presence on the board is not beneficial when looking at efficiency (Hartarska & Mersland, 2012).

**Board Qualifications**

Pistelli, et al. (2012) point out that the risk management function of the board has been attracting increased attention after the economic crisis brought to light how an effective board can protect an organization from risks. One strategy to increase risk management is to have a separation of the Board Chair and the CEO, and to maintain board committees that monitor internal auditing and risk management (Pistelli et al., 2012).

Thrikawala et al. (2013) highlight guidance for selecting directors for MFI boards based on their academic and professional qualifications. The role of board members in terms of their fiduciary responsibility can be extended to improve the outreach and impact for the betterment of MFIs’ overall performance by progress monitoring.

Pistelli et al. (2012) tested for correlation between governance indicators and financial performance of MFIs and found positive correlations between MFI boards that changes policies more often and the number of skills represented on the board, to include the presence of an internal auditor. In addition, the presence of executive, risk and audit committees has positive correlation with staff productivity in terms of number of borrower per staff (Pistelli et al., 2012).

Mori and Olomi’s study of MFIs in Africa was surprising in that they found MFIs with board members who are less educated tend to provide small-sized loans and serve a higher percentage of female borrowers and have a slightly higher operational self-sufficiency (Mori & Olomi, 2012).
Regulation, Rating and External Auditor

In order to evaluate the impact of regulation on the performance of microfinance institutions, Hartarska and Nadolnyak (2007) reviewed 114 MFIs from 62 countries and empirically evaluated whether regulated MFIs perform better than non-regulated MFIs in terms of operational sustainability and outreach. Surprisingly, the main findings of the research showed that regulatory involvement does not affect either sustainability or outreach but MFIs that collect savings achieve better outreach. The authors suggest that because MFIs which access savings are generally regulated, there may be indirect benefits from regulation (Hartarska & Nadolnyak, 2007).

Hartarska and Nadolnyak (2008) study the ability of microfinance rating agencies to impose market discipline on MFIs by rating these organizations’ performance. They concluded that, while the role of rating is very important for policy purposes, not all rating agencies had equal impact on an MFI’s abilities to raise extra funds.

Mersland and Strom (2008) found that bank regulation has no effect on an MFI’s financial performance and outreach to poor clients. Hartarska (2009) conducted a study to examine which external governance mechanisms have an effect on performance. She found that audit, rating, and supervision by central bank authorities play only a limited role in a MFIs performance. However, she did find that rating may hold the potential to play a disciplining role in microfinance (Hartarska, 2009).9

Bassem (2009) and Mersland and Strøm (2009) highlight that audited financial statements improve MFI performance and need to be considered for further studies. Fernandez, et al. (2011) found there was a positive correlation between access to finance and the existence of an external audit, an internal governance code and a rating from an agency.

Hartarska and Nadolnyak (2011) looked at the role of external governance mechanisms on MFI performance and found that regulation does not impact financial performance or scope of outreach, but it can negatively impact depth of outreach leading to mission drift10.

Hartarska and Mersland (2012) find weak evidence that MFIs in countries with mature regulatory environments reach fewer clients, while MFIs regulated by an independent banking authority are more efficient.

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9 The empirical analysis uses a new database consisting of 108 MFIs operating in over 30 countries. It might be argued that the number of MFIs is not representative, because according to the researchers (Daley & Harris 2005) the number of reporting institutions at the end of 2004 was more than 3,000. However, keeping in mind that the focus of the research paper (Hartarska, 2006) was on the impact of external governance framework, data represented a relatively random sample of MFIs.

10 Hartarska and Nadolnyak assumed that it may be more likely for an MFI to change its clientele to include less poor borrowers to satisfy various stakeholders thus causing mission drift.
Thrikawala et al (2013) examined the role of social performance measurement and reporting by MFIs and suggest regulators assess not only the financial performance of MFIs but their social performance as well. They recommend social performance indicators be included in the reporting requirements of MFIs to regulators and that these reports should be available to the general public (Thrikawala et al., 2013).

**Beyond Traditional Governance Mechanisms**

Because 19th Century pro-poor savings banks and the non-profit MFIs of today must develop governance structures that take into account multiple stakeholders Mersland (2011) felt that MFIs could learn governance lessons that worked in the past. His historic literature review highlighted how monitoring by bank associations, which are similar to today’s microfinance networks, clients, donors, and local communities were important in disciplining managers and securing the survival of savings banks where external governance through regulation was absent (Mersland, 2011).

Acknowledging that previous research has failed to find best practice governance mechanisms that have a clear influence on an MFI’s performance, and recognizing microfinance corporate governance is a complex issue, Labie and Mersland (2011) propose a broadened approach to governance in microfinance. They call for an investigation of how MFI networks influence the governance on MFIs, identification of effective governance mechanisms that can control for risks, and discovering which stakeholders influence governance in MFIs and further study of the interrelation of governance mechanisms with a framework approach (Labie & Mersland, 2011).

Although Africa remains the most undeveloped region for microfinance, it is clear there is a large unbanked market. According to the 2014 Global Findex data, 34% of adults in Sub-Saharan Africa have a bank account. This is an increase of 10% since 2011, mainly due to the fact that this region leads the world in mobile money accounts. However, this region remains one of the lowest in the world in terms of the level of financial inclusion and particularly low for the poorest 40% of households in SSA, at just 25%. (Demirguc-Kunt et al., 2015).

The Global Findex report shows a high demand for financial services in SSA, where 54% of adults reported borrowing money in the past 12 months from formal and informal sources, higher that the global rate of 42%. Additionally, the World Bank report highlighted the opportunity to increase financial inclusion is especially large in SSA, where 16% of account holders (28 million adults) save through semiformal means which could be converted to formal savings products (Demirguc-Kunt et al., 2015).

Additionally, according to the African Development Bank, nine out of 10 rural and urban Africans work in the informal sector, and the majority of these workers are women and youth. The African Development Banks believes in promoting access to financial
services, including microfinance, as a way to encourage those in the informal sector to move into the formal sector (African Development Bank, 2013).

The African Development Bank acknowledges that African MFIs face many challenges such as high transaction costs, and lower returns, weak supervision and poor portfolio quality compared with other global regions. They state that in Africa there still remains a large gap between the demand for financial services by poor households and supply of these services. They point out other main challenges such as enabling equity investment, promoting local currency funding and strengthening governance structures (Mokaddem, 2009, MIX & CGAP, 2011).

The 2014 Microfinance Banana Skins Survey ranked governance as the second highest risk to the microfinance sector in Africa and at the same time Tsamenyi, Shahzad and Uddin question if the corporate governance principles touted in literature fully apply to organizations in developing and emerging economies (Tsamenyi & Uddin, 2008; Tsamenyi & Shahzad, 2008).

Tsamenyi and Shahzad (2008) note that corporate governance systems recommended for many developing countries are generally based on those systems that are developed in the West. Tsamenyi, Uddin and Shahzad recommend further examination to determine whether Western models are the right fit for less developed and emerging economies, or if emerging economies have different corporate governance needs than those pertaining to developed countries (Tsamenyi & Uddin, 2008; Tsamenyi & Shahzad, 2008). When considering governance structures, the authors highlight the importance of taking social, cultural and political contexts of developing countries into consideration, as these contexts may render imported governance models unworkable (Tsamenyi & Uddin, 2008).

Africa Trends

There is great diversity among the MFIs which serve the poor in Sub-Saharan Africa. All formal financial intermediaries characterized as MFIs that can be arranged in four major categories – banks (BANKs including downscaling commercial banks, Greenfield banks, and rural banks), non-banking financial institutions (NBFIs), non-governmental organizations (NGOs) and credit unions/financial cooperatives/mutuelles (CUs). According to the Sub-Saharan Africa 2009 Microfinance Analysis and Benchmarking Report there is a huge trend toward commercialization of microfinance in SSA, although as it is mentioned in the report, there are still more non-profit microfinance providers (MIX & CGAP, 2010).

According to the 2009 Benchmarking Report, Governments in 29 African countries introduced specialized microfinance laws with several other countries in the process of introducing microfinance laws at the time of the report. While microfinance providers in the remaining African countries are regulated within the broader banking or non-banking financial institutions legislation (MIX & CGAP, 2010).
In order to understand the scope and outreach of microfinance in SSA and observe the trend, it would be beneficial to analyze the number of borrowers, loan portfolio and number of microfinance providers in absolute terms. However, it is highly difficult to estimate the correct numbers because of the diversity and complexity of microfinance in SSA.

We have based our trend analysis on data reported by the MFIs to the MIX, although we understand that we cannot pretend this data shows the whole picture. To highlight the discrepancies, only 47 Nigerian MFIs reported their financial performance data in 2011 to the MIX, yet our research shows that in Nigeria there were 830 specialized microfinance banks\textsuperscript{11}, 770 savings and credit cooperatives (SACCOS) and 190 microfinance institutions (Central Bank of Nigeria, n.d.). Additionally, according to World Council of Credit Unions, Tanzania has 5,559 Credit Unions that manage assets totaling almost USD 600 million (World Council of Credit Unions, n.d.), while there are only 13 MFIs that reported data to MIX with a gross loan portfolio of almost USD 1,000 million.

Taking into account the data discrepancy mentioned above, we decided to present the trends in Africa with the use of ratios, assuming ratios might average the variation and absorb some of the incompleteness of the data. Thus, first we checked the relation between the financial and social performance by making scatter plots for operational self-sufficiency against percentage of female borrowers distinguishing between legal statuses of the MFIs.

The results (Figure 1 and Figure 2) show that there is no direct correlation between OSS and percentage of female borrowers even taking into account different legal statuses of the MFIs. However, there is an observation that NGOs have the highest median percentage of women borrowers (79%).

To mention, for example, credit unions (CU) have only 41% of their

\textsuperscript{11} According to Central Bank of Nigeria there are 792 licensed microfinance banks (cite)
borrowers’ women. At the same time, we there are still a number of CU’s that work with women only. So far we may conclude that NGO are more efficient in depth of outreach by granting microloans to women.

Examining the six years trend of the average percentage of female borrowers in Figure 3 we can spot that the average percentages are in line with the data presented by figures 1 and 2, and NGOs continue to serve the highest percentage of women. Other types of MFIs have considerably lower percentages of women borrowers in their portfolios.

By taking into consideration the fact that NGOs are most widely present in the western part of Africa (MIX & CGAP, 2010) we can assume that depth of outreach in western African countries is higher than in other SSA sub-regions.

Analysis of the MFI’s deposit portfolio over loan portfolio ratio\textsuperscript{12} is the tool to understand the role that external funding plays for the MFI. We have seen that BANKs and CUs have a deposit-to-loan ratio of 1.65 and 1.28 respectively, which could mean that BANKs may not heavily rely on external funds if they decide to increase their loan portfolios. Regarding CUs, this might mean that people still use credit unions as a tool to save money, which responds to the conclusion in the 2010 Benchmarking Report that uptake of deposit services in credit unions, is even greater than for credit services (MIX & CGAP, 2011).

It is important to note that the poor care more about finding a safe way to save their money, while in contrast rich people consider the best return on investment (Collins, Murduch & Rutherford, 2009). The two other major types of microfinance institutions, NGOs and NBFIs, have considerably lower deposit-to-loan ratios. Thus, NBFIs have a ratio of 0.59 and NGOs have a ratio of 0.46, which might mean that these types of institutions demand external sources of funding in order to increase their micro-lending activities.

Further, we analyze the return on equity ratio (ROE) trend (see figure 4)\textsuperscript{13} constructed with data from 2007 to 2012\textsuperscript{14}. Figure 4 shows that the average ROE of BANKs remained positive for over the 6 years of observation, but has decreased since

\textsuperscript{12} Ratios for the figure are calculated as geometric average of the mean of the ratios for 2007 to 2012

\textsuperscript{13} Candlestick graphs include the body and sometimes an upper and a lower shadow. In this graph, the brown candles show the decreasing trend between the first year’s data and the last year’s data. The green candles show an increasing trend with the first year’s data at the bottom of the candle and the last year’s data at the top. The wicks, when depicted, show the highest and lowest ROE for the given period.

\textsuperscript{14} Return on equity calculated here as the mean of returns of equity reported by MFIs to MIX over the course of the 2007-2012 and, adjusted without outliers in order to receive more robust coefficient estimate.
2007, from 17.3% to 12.3% in 2012. CUs’ average ROE in 2012 (7.4%) is higher than it was in 2007 (5.5%), however during the observable period CUs ROE dropped below zero. NBFIs show negative ROE over the period observed and have a negative trend toward increasing the losses. As in the case of NGOs, they show the highest increase in ROE since 2007, when the ratio was negative 4.78% increasing to the 8.37% point in 2012.

Surprisingly, NGOs showed the highest depths of outreach, with average loan balance over GNI per capita (ALB.GNI) of 46%\textsuperscript{15}, which is significantly lower than that of other types of MFIs. Together with the highest depth of outreach, and a positive trend in returns on equity, NGOs are proving that it is possible to show a high social return, by providing smaller loans to more poor female borrowers, and a relatively high financial return.

Conceptual Framework

Financial and Social Performance

To assess the effects of governance on both elements of the double bottom, we will study the effects of governance mechanisms on both financial performance and social performance. We are assessing social performance as a component of depth of outreach. The percentage of female borrowers is often used as an indicator for social performance as women are microfinance’s largest target market and women are among the poorest and most vulnerable in the world (Merlsand & Strom, 2010; Serrano-Cinca, Gutiérrez-Nieto & Molinero, 2011; Bakker et al., 2014; Strom et al., 2014). Additionally, we thought it interesting to understand how the percentage of female board members affects the percentage of female borrowers in the MFIs in our study.

In assessing financial performance, we will look at the operational self-sufficiency (OSS)\textsuperscript{16} ratio which measures how well an MFI covers its costs from operating revenues (Serrano-Cinca et al., 2011). OSS is the most widely used indicator of financial performance because it is a figure that is not affected by institutional diversity of accounting practices and measures management’s ability to run the organization efficiently (Hartarska & Nadolnyak, 2007).

\textsuperscript{15} The same ratio for BANKs, CUs and NBFIs equals approximately 200%, 155% and 110% respectively. The calculation is made based on data provided by MIX taking into account the mean values from 2007 to 2012.

\textsuperscript{16} Operational Self Sufficiency is calculated as Financial Revenue / (Financial Expense + Impairment Loss + Operating Expense) (Mix Market).
Percentage of Female Board Members

Past research shows that MFIs with women on the board tend to perform better financially as well as socially (Hartarska & Nadolnyak, 2012; Fernandez et al., 2011; Mori & Olomi, 2012; Strom et al., 2014).

H1: The percentage of women on the board of directors has an effect on the financial and social performance of an MFI

Legal Status

The research is quite mixed when examining the role that legal status has on financial and social performance. Some researchers have found that NGO MFIs are more efficient at providing a larger scope and depth of outreach while controlling costs (Gutiérrez-Nieto et al., 2005). Others have shown that for-profit MFIs can be more financially and socially efficient than non-profit MFIs (Tchakoute-Tchuigoua, 2010). While Mersland and Strom found almost no difference between non-profit organizations and shareholder firms in financial performance and outreach (Mersland & Strom, 2008).

Barry and Tacneng’s research of MFIs in Africa found that institutional quality plays a role in determining the effect of an MFI’s legal status on performance, showing that NGOs perform better where governments are less effective, as is the case in SSA (Barry & Tacneng, 2014).

H2: The legal status of an MFI has an effect on financial and social performance.

Number of Board Members

Kyereboah-Coleman and (2006) Biekpe found small board size enhances the performance of MFIs with the optimal board size being about eight members. Yet, Kyereboah-Coleman and Osei (2012) found that board size is positively related to profitability and negatively to outreach. Hartarska and Mersland (2012) found that efficiency increases with a board size of up to nine members and decreases after that.

H3: Board size will have a direct effect on the financial and social performance on an MFI.

External Governance Mechanisms

Most researchers have found that regulation and ratings have little or no effect on the financial and social performance of MFIs (Hartarska & Nadolnyak, 2007; Hartarska & Nadolnyak, 2008; Mersland & Strom, 2008; Hartarska, 2009). Yet, Hartarska and Nadolnyak (2011) found that regulation can negatively impact depth of outreach. Additionally, Hartarska and Mersland (2012) found that MFIs regulated by an independent banking authority can be more efficient.
Studies have shown that MFIs that have an external auditor perform better (Bassem, 2009; Mersland & Strøm, 2009; Fernandez, et al., 2011).

H4: External governance mechanisms such as regulation, ratings, external audits and network membership have an effect on financial performance, but do not affect social performance.

Data

With the aim to conduct an empirical analysis we developed the dataset using data downloaded from the MIX database. We started with a cross-market analysis for all MFIs in SSA and downloaded all the data provided for years 1999 to 2015, which consisted on 768 MFIs.

Next, the data was analyzed to determine that 2011 was the year with the most MFIs reporting their data, which included 392 MFIs. Next, only MFIs that reported data at the 3, 4 or 5 diamond level were selected, which totaled 292 MFIs. Next, from the sample we created two data sets in order to test each model (financial performance and social performance) separately.\(^{17}\)

Percent of Female Borrowers Data Set

For the percent of female borrowers (%FEMBORROW) data set we removed the MFIs that did not provide the percentage of female borrowers and were left with 236 MFIs from 32 countries. The data set description Table 2 provides information about the MFIs in the data set according to the independent variables we are reviewing.

<table>
<thead>
<tr>
<th># of MFIs by type</th>
<th>AGE &gt;8 years</th>
<th>from 5 to 8 years</th>
<th>1 to 4 years</th>
<th>Regulated *</th>
<th>Percentage regulated MFIs</th>
<th>Rated</th>
<th>Percentage rated MFIs</th>
<th>Audited</th>
<th>Percentage audited MFIs</th>
<th>Part of a network</th>
<th>Percentage Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>BANK</td>
<td>49</td>
<td>8</td>
<td>6</td>
<td>34</td>
<td>47</td>
<td>96%</td>
<td>4</td>
<td>8%</td>
<td>24</td>
<td>49%</td>
<td>40</td>
</tr>
<tr>
<td>CU</td>
<td>71</td>
<td>46</td>
<td>18</td>
<td>6</td>
<td>63</td>
<td>89%</td>
<td>18</td>
<td>25%</td>
<td>44</td>
<td>62%</td>
<td>67</td>
</tr>
<tr>
<td>NBFI</td>
<td>63</td>
<td>29</td>
<td>21</td>
<td>12</td>
<td>46</td>
<td>73%</td>
<td>15</td>
<td>24%</td>
<td>48</td>
<td>76%</td>
<td>54</td>
</tr>
<tr>
<td>NGO</td>
<td>53</td>
<td>41</td>
<td>10</td>
<td>2</td>
<td>29</td>
<td>55%</td>
<td>13</td>
<td>25%</td>
<td>37</td>
<td>70%</td>
<td>47</td>
</tr>
</tbody>
</table>

\(^{17}\) It is necessary to mention that when there are no data provided by MIX for 2011 on the percentage of female borrowers and percentage of female board members we have approximated the missed values with the reported by MFI data from 2010 or 2012.
OSS Data Set

For the operational self-sufficiency (OSS) data sample we removed the MFIs that did not provide OSS data and were left with 191 MFIs from 31 countries. The data set description Table 3 provides information about the MFIs in the data set according to the independent variables we are reviewing. The fact that there are only two NGOs, reporting to MIX with the experience in industry less than five years may lead us to think that the percentage of new MFIs entering the market as NGOs is decreasing, probably because of commercialization of the industry and/or because MFIs seek the possibility to provide wider range of financial services not restricting themselves with loans only.

Table 3. Data set description (OSS) by legal status

<table>
<thead>
<tr>
<th>AGE</th>
<th>BANK</th>
<th>CU</th>
<th>NBFI</th>
<th>NGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 8years</td>
<td>31</td>
<td>63</td>
<td>49</td>
<td>48</td>
</tr>
<tr>
<td>from 5 to 8 years</td>
<td>9</td>
<td>41</td>
<td>23</td>
<td>37</td>
</tr>
<tr>
<td>1 to 4 years</td>
<td>7</td>
<td>17</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td># of MFIs by type</td>
<td>15</td>
<td>4</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td># of MFIs audited</td>
<td>30</td>
<td>55</td>
<td>38</td>
<td>30</td>
</tr>
<tr>
<td>Regulated *</td>
<td>97%</td>
<td>87%</td>
<td>78%</td>
<td>63%</td>
</tr>
<tr>
<td>Percentage regulated MFIs</td>
<td>3</td>
<td>18</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Rated</td>
<td>10%</td>
<td>29%</td>
<td>29%</td>
<td>25%</td>
</tr>
<tr>
<td>Percentage rated MFIs</td>
<td>16</td>
<td>38</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td>Audited</td>
<td>52%</td>
<td>60%</td>
<td>69%</td>
<td>69%</td>
</tr>
<tr>
<td>Percentage audited MFIs</td>
<td>26</td>
<td>59</td>
<td>42</td>
<td>44</td>
</tr>
<tr>
<td>Part of a network</td>
<td>84%</td>
<td>94%</td>
<td>86%</td>
<td>92%</td>
</tr>
</tbody>
</table>

* one bank from Rwanda does not report to MIX the information about being Regulated, however we assume bank to be regulated as bank has reported deposit portfolio as well as loan portfolio, in addition there is one more MFI from Rwanda with legal status Bank that reports to be regulated

It must be noted that MFIs that report to the MIX database represent only a portion of the MFIs operating in Sub-Saharan Africa. Additionally, all data downloaded from the MIX database are self-reported by participating MFIs. This self-selection problem noted by Gonzalez (2007) must be taken into account. Primarily, it is important to recognize that the MFIs in our panel represent those MFIs that have the ability to share a minimum set of financial data and are most likely providing this information to MIX to attract investors. Thus, it is assumed that the MFIs presented in our panel are among some of the strongest and best performing MFIs in Sub-Saharan Africa (Hermes & Meesters, 2011).

To determine if an MFI had an external auditor, we reviewed each MFI’s profile on MIX and also reviewed whether they had provided an audit for 2012 or before. If no information was available, we looked at the MFI’s website and/or checked the MFI’s rating report to determine if the MFI was audited by external auditor. If we could find no evidence of an external audit through any of these sources, we assumed the MFI did not have an external auditor. We then created a dummy variable which gave the value of one if the MFI was externally audited or zero if it was not.

Additionally, to determine which MFIs have been rated in or before 2011, we used the open data provided by three of the four microfinance rating agencies. Planet Rating,
Microfinanza and MicroRate\textsuperscript{18} are the main rating agencies that specialize in assessing financial and institutional viability of MFIs. If an MFI was rated before 2011 (included) we assigned RATED status dummy for the MFI.

The information regarding participation of certain MFIs from our sample in the networks or professional associations was downloaded from MIX in April 2015, with the aim to determine which MFIs were the members of a network. Without historic information about the exact dates of when certain MFI joined each network, we are making the assumption that those MFIs that were members of a network in April 2015 were also members of a network in 2011, the year represented in our data set. While many MFIs are members of more than one network, we only take into account whether an MFI was a member of at least one network or was not a member of any networks as presented in the MIX market database.

We attempted to capture the differences in economic and institutional development across countries with various World Bank indicators\textsuperscript{19}. However, none of these indicators proved significant in any of our models except the variable for inflation, consumer prices (2011).

Nominal yield ratio used in the analysis is adjusted by using the 2011 data where the ratio is available and either 2010 or 2012 if no nominal yield data was reported for 2011 by the MFI. Here, we also assume that the lending product pricing procedures though may be flexible for some institutions, for the majority based on the more conservative principles, when the calculation of the interest rate and the price of the lending product are based on generally accepted principles in the industry taking into consideration the individual characteristics of the MFI.

The expenses over assets coefficient might be in direct relationship to operational self-sufficiency ratio, that is why we used an adjusted coefficient by calculating the geometric average of expenses/assets ratio for over the 2011 and 2012, taking in mind that this adjustment may slightly smooth the possible correlation without significant loss in the quality of the coefficient because it might be difficult for the organization to considerably change the cost structure in the short-planning period.

\textsuperscript{18} These three rating agencies provide historical information concerning the date and score of the rated MFIs. We were unable to find openly available data of the ratings conducted by the M-CRIL.

\textsuperscript{19} In fact, as control variables we tested various indicators such as Worldwide Government Effectiveness, Human Development Indicator, the geometric mean of GDP growth percentage from 2010 and 2011, GDP deflator (annual %), Inflation, consumer prices (annual %), GNI, PPP (constant 2011 international $), GNI per capita, PPP (constant 2011 international $), GNI per capita growth (annual %), GNI growth (annual %), GNI (current US$), GDP per capita growth (annual %), GDP growth (annual %), GDP (current US$), domestic credit provided by the financial sector (% of GDP), foreign direct investment, net inflows (% of GDP) and several indicators from Doing Business such as number of procedures to start a business, number of days to open a business, credit bureau coverage and cost of opening a business as a % of income per capita.
Regression Model and Findings

With the aim to identify the impact governance mechanisms have on the social and financial performance of microfinance institutions in terms of percentage of female borrowers and OSS, we decided to specify MFI social and financial performance as a function of MFI specific characteristics and macroeconomic environment factors. After finding the proper models, which explain the percentage of female borrowers and OSS, we then introduced explanatory variables that capture the impact of governance mechanisms on social performance and operational self-sufficiency.

**Percentage of Female Borrowers Model**

\[
\% \text{fem.borrow} = b_0 + b_1 \times X.\,FM.\,BM + b_2 \times \log(NAB) + b_3 \times ALB.\,GNI + b_4 \times LS.\,NGO + b_5 \times AGE.\,N
\]

First we introduced the percentage of female board members variable to determine its effect on the female borrowers and found it to be a significant factor, raising the percentage of female borrowers by 0.2423 for each point increase in percentage of female board members. Next we introduced a dummy variable for legal status to determine which legal form, if any, showed significance with the percentage of female borrowers and determined that the legal status of NGO was a significant variable as it increases the percentage of female borrowers by 0.1833.

Additionally, we introduced the logarithm of number of active borrowers and found that the percentage of female borrowers increases 0.024 for every percent increase in number of active borrowers. Additionally, the average loan balance to GNI per capita was found to be a significant variable in that percentage of female borrowers will decrease by 0.0356 for every unit increase in average loan balance to GNI per capita. Lastly, a dummy for MFI was introduced and we found that MFIs that are categorized as new are associated with a 0.0765 increase in female borrowers.

Governance mechanisms such as legal status and board composition had an effect of the social performance of an MFI. Specifically, MFIs with more female board members serve more female borrowers and MFIs with the legal status of NGO serve more female borrowers.

We also tested for optimal board size of five to nine board members and did not find that this had a direct effect on MFI social performance. Additionally, none of the external governance mechanisms of external audit, regulation, ratings or network membership had a significant effect on MFI social performance in the model.
First, we introduced in our OSS model the gross loan portfolio over assets variable (GLP.ASSETS), which shows what part of assets placed into interest income generating microlending products. By interpreting the results we can say that the increase of the gross loan portfolio within the existing assets on 10 basis points may result in an increase of 8.5 basis points of operational self-sufficiency. This explanation may be exaggerated by the fact that within our OSS model the impact of GLP.ASSETS is being increased by the introduction of explanatory variable nominal yield ratio (NOM.YIELD).

Table 5. X.FM.B model results

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>1Q</th>
<th>Median</th>
<th>3Q</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residuals:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.48368</td>
<td>-0.11688</td>
<td>-0.01745</td>
<td>0.12552</td>
<td>0.48294</td>
</tr>
</tbody>
</table>

Coefficients:

|        | Estimate | Std.Error | t value | Pr(>|t|) |
|--------|----------|-----------|---------|---------|
| (Intercept) | 0.262232 | 0.079798  | 3.286   | 0.00120** |
| X.FEM.BM   | 0.242347 | 0.055282  | 4.384   | 1.90e-05*** |
| log(NAB)   | 0.024059 | 0.007938  | 3.031   | 0.00277**  |
| ALB.GNI    | -0.035992| 0.013459  | -2.674  | 0.00812**  |
| LS.NGO     | 0.18331  | 0.03492   | 5.249   | 3.95e-07*** |
| Age.N      | 0.076588 | 0.03862   | 1.983   | 0.04875*   |

Signif. codes: 0'***' 0.001'**' 0.01'*' 0.05' . ' 1

Residual standard error: 0.1957 on 196 degrees of freedom
(34 observations deleted due to missingness)
Multiple R-squared: 0.3141,
F-statistic: 17.95 on 5 and 196 DF, p-value: 1.209e-14

Table 6. X.FM.B model test results

RESET test
RESET = 1.4657, df1 = 10, df2 = 186, p-value = 0.1552

Durbin-Watson test
DW = 1.7809, p-value = 0.05348
alternative hypothesis: true autocorrelation is greater than 0

Breusch-Pagan test
BP = 0.5569, df = 1 p-value = 0.4555

OSS (operational self-sufficiency) Model

% OSS = b_0 + b_1 \times \text{GLP.ASSETS} + b_2 \times \text{EXP.ASSETS} + b_3 \times \text{NOM.YIELD} + b_4 \times \text{WRITEOFFS} + b_5 \times \text{LS.BANK} + b_6 \times \text{AGE.M} + b_7 \times \text{INFLAT.CONST2011}
Without the explanatory quality of the nominal yield, GLP.ASSETS slightly loses the quantity impact on OSS.

Second, we introduce the write-off ratio (WRITEOFF), assuming that the amount of written off loans, although indirectly, captures the bad debts in the portfolio and response to the risk management strategy approaching the non-performing loans.

In order to introduce a control variable, we left the OSS model with the inflation constant (price index) for 2011 because it was the only variable that showed significance during testing. At first, the results may seem surprising; however, the inflation (index price index) increases the OSS for 0.5 basis points in every 1 basis point increase. This partially might be explained by the fact that inflation price index responds to the increase in the consumer prices and services, and that leads to an increase in the amount of the microloan granted. In addition, MFIs may forecast their activities by taking into account more than a moderate level of predicted inflation for their financial products and services pricing and as a result they might receive slightly overpriced products which generate more financial revenue with the positive impact in OSS.

The results of our OSS model show that the legal structure, specifically being a bank with the experience of more than eight years in the market, increases OSS by 0.235. However, this interpretation should be taken into account with the understanding the MIX does not provide the historical information about legal status shifts of the MFI, thus we can assume that among the banks in our sample there are some institutions that previously were NGOs or NBFIs.

Table 7. OSS model results

<table>
<thead>
<tr>
<th>Residuals:</th>
<th>Min</th>
<th>1Q</th>
<th>Median</th>
<th>3Q</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.3426</td>
<td>-0.11932</td>
<td>-0.00496</td>
<td>0.08954</td>
<td>0.54748</td>
</tr>
</tbody>
</table>

| Coefficients: | Estimate | Std.Error | t value | Pr(>|t|) |
|---------------|----------|-----------|---------|---------|
| (Intercept)   | 0.477841 | 0.065281  | 7.32    | 2.82E-11*** |
| GLP.ASSETS    | 0.858082 | 0.075397  | 11.381  | <2E-16*** |
| EXP.ASSETS.adj| -1.723253| 0.136405  | -12.633 | <2E-16*** |
| NOM.YIELD.agj | 0.958929 | 0.101112  | 9.484   | 2.40E-16*** |
| WRITEOFFS.adj | -0.726388| 0.26871   | -2.703  | 0.00784** |
| LS.BANK       | 0.159167 | 0.047992  | 3.317   | 0.0012** |
| Age.M.        | 0.075211 | 0.0344    | 2.186   | 0.03068* |
| INFLAT.CONS2011| 0.005808 | 0.002018  | 2.879   | 0.00471** |

Signif.codes: 0**** 0.001*** 0.01** 0.05* 0.1' 1

Residual standard error: 0.1746 on 123 degrees of freedom
(65 observations deleted due to missingness)
Multiple R-squared: 0.7576 Adjusted R-squared: 0.7438
F-statistic: 54.9 on 7 and 123 DF p-value: < 2.2e-16
Having built the OSS model we tested the influence of the internal and external governance mechanisms, such as the number of board members, the percentage of female board members, whether the MFI is regulated, rated or a member of a network by introducing them all, and then one by one into the OSS model described above. However, we have not found any of them to be statistically significant. Thus, we can say - none of the internal or external governance mechanisms we tested were shown to have a direct impact on sustainability but some of them, for example regulation, may smooth the significance of being a more experienced institution.

Table 4 Variable Definitions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSS</td>
<td>Operational Self Sufficiency is financial revenue / (financial expense + impairment loss + operating expense)</td>
</tr>
<tr>
<td>X.FEM.BOR</td>
<td>Number of active borrowers who are women / number of active borrowers</td>
</tr>
<tr>
<td>AGE.M</td>
<td>A dummy variable which takes the value of one if the MFI have been in existence more than eight years</td>
</tr>
<tr>
<td>AGE.N</td>
<td>A dummy variable that takes the value of one if the MFI has been in existence one to four years</td>
</tr>
<tr>
<td>ALB.GNI</td>
<td>Average loan balance/gross national income per capita</td>
</tr>
<tr>
<td>EXP.ASSETS</td>
<td>Expenses / assets</td>
</tr>
<tr>
<td>GLP.ASSETS</td>
<td>Gross loan portfolio / assets</td>
</tr>
<tr>
<td>INFLAT.CONST</td>
<td>Inflation (constant) is measured as the constant percentage change in consumer price index.</td>
</tr>
<tr>
<td>LS.BANK</td>
<td>A dummy variable that takes the value of one if the MFI's legal status is bank</td>
</tr>
<tr>
<td>LS.NGO</td>
<td>A dummy variable that takes the value of one if the MFI's legal status is non-governmental organization</td>
</tr>
<tr>
<td>NAB</td>
<td>Logarithm of the number of active borrowers. Active borrowers is the number of current borrowers, that is the number of individuals that currently have an outstanding loan balance with the MFI</td>
</tr>
</tbody>
</table>

The Inflation in the model is used as numbers not as decimals, thus if the value of inflation equals 5% we use 5 in our calculation instead of 0.05, that should be taken into account for proper interpretation of the beta coefficients.
The Results

H1: The percentage of women on the board of directors has an effect on the financial and social performance of an MFI.

We found that the percentage of the women on the board does not affect the financial performance (operational self-sufficiency) but has an impact on social performance in terms of depth of outreach. For every 10 basis points increase in the percentage of female board members, there is a 0.024 increase in the ratio of female borrowers.

H2: The legal status of an MFI has an effect on financial and social performance. We found that the independent variable Legal status of the MFI is significant and affects both the social and financial performance. Our study shows that MFIs that have the legal status of NGO have 0.18 higher ratios of female borrowers than the legal status of bank, non-bank financial institution or credit union/cooperative. Additionally, our study showed that those MFIs characterized as banks are 0.16 basis points more operationally self-sufficient.

H3: Board size will have a direct effect on the financial and social performance on an MFI. We could not find an effect of board size on neither financial performance nor social performance in any of the models we tested.

Using prior research that identified optimal board size as eight to nine board members, we tested the effect of optimal board size by creating several dummy variables--one for boards that consist of 5 to 7 members, one for boards that consist of 5 to 9 members and one for boards that consist of 5 to 10 members--and found no significance. We did find some significance when testing for the actual board size on social performance; however, there was not a linear relationship with this variable, and we could not determine at which point the increase of the board members began to have a negative impact on depth of outreach.

H4: External governance mechanisms such as regulation, ratings, external audits and network membership have an effect on financial performance, but do not affect social performance.

We found that none of the external governance mechanisms, such as regulation, rating or external audits had an effect on the financial or social performance of an MFI. This could be in part explained, because many of the MFIs that report to MIX are regulated institutions as seen in figure 5 and so there is no way to distinguish the effect.
Additionally, we want to emphasize that in looking at ratings, we did not look at the rating score that an MFI received, but just if they had been rated. However, it would be interesting to research the possible post-rating improvements that a MFIs institutes and how these affect an institution's performance.

In addition, we tested to see if being a member of a network had an effect on the financial or social performance of an MFI. We found that network membership had no effect. This could be because many of the MFIs that report to MIX report being a member of network. It would be interesting to conduct a further study to determine if membership with a specific network affects financial and social performance.

**Conclusion and Recommendations**

Although industry experts agree on the importance of effective governance for the social and financial performance of MFIs, few have conducted studies to determine which mechanisms play a role in the ability of MFIs in SSA to fulfill the dual mission of microfinance.

Using MIX data, we examined how internal and external governance mechanisms affect the operational self-sufficiency and the depth of outreach, represented by the percentage of female borrowers of MFIs in SSA. We focused our research on SSA MFIs because of the diversity of the sector, and the increasing attention microfinance is receiving in the region from various stakeholders. Africa’s high unbanked population serves as a signal for the potential growth of microfinance in the region, and at the same time few studies have been conducted on the role of governance mechanisms on MFIs in SSA.

The main finding of our study shows that the percentage of female board members has a positive effect on the depth of outreach (percentage of female borrowers) of MFIs, but does not affect their operational self-sufficiency. Further, we found that legal status affects both social and financial performance, with NGOs performing better socially and banks performing better financially. Additionally, we found no significant evidence that board size, external auditor, rating, regulation and being a member of a network affected either social or financial performance. Our study has found no governance mechanism that has a positive effect on both financial and social performance.

Although we determined that board characteristics play a role only in social performance, we realize that other board characteristics, such as CEO/Chairman duality, board independence and female board chair have been shown to affect financial performance. Without access to this data through MIX, we were unable to fully investigate the role of these board characteristics on social and financial performance. Also, it would be interesting to include in the further analysis the number of committees, time spent on committees by board members and type of remuneration of board members.

Additional research is necessary regarding external governance. For example, it should be examined the types of regulation in order to capture the unique impact
different regulatory environment have on MFIs performance. We suggest, as well, applying an MFI’s ratings score during research instead of differentiating MFIs only into two categories - rated or not-rated. Additionally, understanding the role that membership in specific networks plays in social and financial performance would be beneficial to highlight which networks are benefitting MFIs the most. Lastly, with more MFIs reporting their social performance indicators to MIX, future studies on the effect of board monitoring of both financial and social performance management will be facilitated.
References


CGAP, 1997 (March). Effective Governance for Microfinance Institutions, Focus Note No. 7, CGAP.

CGAP, 2009 SSA Microfinance Analysis and Benchmarking Report, CGAP.


### Table 10. Descriptive statistics X.FM.B model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>IQR</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>N</th>
<th>NA</th>
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</thead>
<tbody>
<tr>
<td>Age.N</td>
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<td>0.423</td>
<td>0.000</td>
<td>1.271</td>
<td>-0.384</td>
<td>233</td>
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<td>1.471</td>
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<td>LS.NGO</td>
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<tr>
<td>NAB</td>
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<td>78017.470</td>
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<td>6.801</td>
<td>53.635</td>
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<tr>
<td>X.FEM.BM</td>
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<td>0.269</td>
<td>0.277</td>
<td>1.256</td>
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<tr>
<td>X.FM.B</td>
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<td>0.235</td>
<td>0.334</td>
<td>0.172</td>
<td>-0.691</td>
<td>236</td>
<td>0</td>
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</tbody>
</table>

### Table 12. Descriptive statistics OSS model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>IQR</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>N</th>
<th>NA</th>
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<td>GLP.ASSETS</td>
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<td>INFLAT.CONS2011</td>
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<td>7.479</td>
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<td>LS.BANK</td>
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<td>0.380</td>
<td>0.054</td>
<td>1.324</td>
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<td>WRITEOFFS</td>
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<td>0.072</td>
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<td>3.623</td>
<td>14.743</td>
<td>148</td>
<td>48</td>
</tr>
</tbody>
</table>
# Appendix B
## Correlation matrixes

### Table 9. Correlation matrix X.FM.B model

<table>
<thead>
<tr>
<th></th>
<th>Age.N</th>
<th>ALB.GNI</th>
<th>LS.NGO</th>
<th>NAB</th>
<th>X.FEM.BM</th>
<th>X.FM.B</th>
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</thead>
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<td>NAB</td>
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<td>0.14</td>
<td>0.30</td>
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### Table 11. Correlation matrix OSS model

<table>
<thead>
<tr>
<th></th>
<th>Age.M</th>
<th>EXP.ASSETS</th>
<th>GLP.ASSETS</th>
<th>INFLAT.CONS</th>
<th>LS.BANK</th>
<th>NOM.YIELD</th>
<th>OSS</th>
<th>WRITEOFFS</th>
</tr>
</thead>
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<td>Age.M</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>1</td>
<td></td>
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</tr>
<tr>
<td>LS.BANK</td>
<td>-0.25</td>
<td>-0.03</td>
<td>-0.14</td>
<td>0.18</td>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>NOM.YIELD</td>
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<td>-0.08</td>
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<td>0.07</td>
<td>1</td>
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<tr>
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<td>0.06</td>
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<td>-0.07</td>
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