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## The Association between microfinance rating scores and corporate governance: a global survey

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*The Association between Microfinance Rating Scores and Corporate  
Governance: A Global Survey*

**Abstract**

The global microfinance industry has experienced high growth rates over the past decades, and the World Bank foresees a future market with billions of customers. However, the industry's continued growth is contingent on its ability to create a governance structure that supports microfinance institutions' long-term performance. Because microfinance institutions' performance is multidimensional and difficult to measure, prior research has not been successful in establishing consistent associations between governance structures and microfinance institutions' performance. We apply microfinance rating scores—a unique innovation of the microfinance industry—as a summary performance metric and find that several governance metrics are related to microfinance performance. Specifically, we find that CEO/Chair duality has a negative relation to rating scores, whereas the number of international board directors, the presence of internal auditors and the level of competition intensity are positively associated with rating scores. These findings should prove useful in an industry in which there is no established 'best set-up' for governance mechanisms.

## ***1. Introduction***

Poor corporate governance has been identified as one of the main obstacles to the performance of the microfinance industry (Mersland and Strøm, 2009). However, given that microfinance institutions (MFIs) commonly focus on social outreach *and* financial survival, it is difficult to assess such institutions' 'true' performance, and prior research has not been successful in establishing consistent associations between MFIs' corporate governance structures and their performance. Therefore, to improve MFIs' corporate governance there is an urgent need for more research on how various governance mechanisms relate to overall microfinance performance (Labie and Mersland, 2011; Armendariz and Morduch, 2010). Another factor motivating our research is the scale and growth of the microfinance industry, which provides microcredit to more than 200 million individuals (Maes and Reed, 2012) with yearly growth rates of more than 40% (Mersland and Strøm, 2010). Moreover, microfinance is becoming an asset class in its own right, particularly for investors pursuing both financial and social returns (cf. Renneboog et al., 2008).

Until recently, microfinance has been celebrated for its development effects (Goldberg, 2005; Odell, 2010). However, the industry has come under public scrutiny and media attack (Bateman, 2010; Cull et al., 2014). There has been a critical focus on interest rates (too high) and collection methods (too harsh), and one major concern has been whether microfinance truly reduces poverty. A recent study by the Consultative Group to Assist the Poor (CGAP), a branch of the World Bank, has reviewed the microfinance impact literature and concluded that although microfinance is not a magic bullet in the fight against poverty “developing inclusive financial systems is an important component for economic and social progress on the development agenda” (Cull et al., 2014, p. 1). Thus, by addressing the link between MFIs' corporate governance and their performance, we are focusing on an issue that concerns the ability of microfinance to contribute to economic and social progress.

Despite the critiques of microfinance, the World Bank-supported CGAP<sup>1</sup> highlights that support for microfinance remains high on the international development policy agenda. Cross-border funding of microfinance continues to grow, reaching at least USD 25 billion in 2011; two-thirds of those funds were public (www.cgap.org). In light of the high growth rate and strong public attention to microfinance, it has repeatedly been highlighted that one of the

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<sup>1</sup> Using Cull et al. (2014) as an indicator of the World Bank's policy view.

industry's major risk factors is the lack of well-governed MFIs (CSFI, 2012; cf. Buchanan et al., 2012).

What constitutes “good corporate governance” of industrial and financial firms is not well established (Thomsen and Conyon, 2012), and the same holds true in the microfinance industry (Labie and Mersland, 2011). When measuring the impact of corporate governance on firm performance the results are often confusing (Adams et al., 2010). For example, when studying why some banks outperformed others during the credit crisis of 2007-2008, Beltratti and Stulz (2012) have not found support for the claim that the failure of specific banks was *caused* by weak corporate governance. Conversely, Balachandran et al. (2010) have found that banks with managers who received equity-based pay, a major corporate governance mechanism, had a greater probability of default during the credit crisis compared to banks managed by CEOs who received cash bonuses. With respect to MFIs, corporate governance is a nuanced system of mechanisms that should satisfy multiple stakeholders, such as regulators seeking stability, owners and debt-holders seeking profit or financial sustainability, and donors seeking social returns to microbank customer and long-term institutional survival. These overlapping and conflicting goals of microfinance stakeholders makes it particularly important to measure performance in a multidimensional fashion.

The literature on microfinance corporate governance tends to be primarily anecdotal (Servin et al., 2012). The few studies that have addressed the relationship between corporate governance mechanisms and MFI performance have arrived at inconclusive results and have not been successful in identifying a clear relationship between governance and performance (e.g., Hartarska, 2005; Mersland and Strøm, 2009). Thus, even if most microfinance academics and professionals would agree that the lack of high-quality corporate governance structures represents a major challenge to the microfinance industry, consistent linkages between MFI governance structures and performance have not been established in the literature. This implies that existing research offers little guidance as to which specific corporate governance structures are considered the most performance enhancing. By using MFI-specific third-party rating reports, a novelty in the microfinance industry, we are able to address the association between specific corporate governance characteristics and MFI performance.

When searching for what constitutes good corporate governance of MFIs, we argue that it is important to consider that a vast majority of MFIs pursue the dual objectives of financial

sustainability *and* social outreach (Galema et al., 2008). We argue that part of the reason why existing research has not been able to identify a stronger linkage between MFI governance structures and performance is the inherent challenge of measuring organizational performance according to both social and financial objectives. Regardless of the huge challenges related to attaching appropriate ‘weights’ to the two overall performance metrics, the performance measurement problems are amplified by the challenges related to evaluating the two components separately; it is always a considerable challenge to measure MFIs’ social performance (Mersland and Strøm, 2010), and the existence of substantial grants and subsidies in the industry makes also assessments of mere financial performance difficult (Christen et al., 1995; Hudon and Traca, 2011). Moreover, as demonstrated by several authors, including Hermes et al. (2011) there is a trade-off between the two objectives, which further complicates the identification of corporate governance mechanisms associated with strong MFI overall performance.

Thus, when searching for linkages between corporate governance mechanisms and MFI performance, one must account for the ‘double bottom lines’ objectives inherent to most MFIs (Labie and Mersland, 2011). The specialized third-party microfinance rating assessments, a unique innovation of the microfinance industry, attempts to summarize overall MFI performance into one collective grade or *rating score*. So far, however, the nature of the specific association between governance mechanisms and these rating scores, if it exists, remain unknown in the literature.

Rating assessment in the microfinance industry is much more extensive than a traditional credit rating of publicly traded firms; microfinance rating reports claim to measure MFIs’ ability to reach their multiple sets of objectives simultaneously (Reille et al., 2002). The purpose of the rating reports is to present independent information that various stakeholders—such as lenders, donors, investors, or managers—can use to make informed decisions. The characteristics of the MFIs are summarized through a rating score, which is an overall measure of performance or ‘excellence’. Because of the microfinance industry’s performance measurement challenges, donors, investors and other stakeholders rely heavily on the rating scores before contracting with an MFI (Beisland and Mersland, 2012). A signal of the importance given to microfinance rating assessments is that Mixmarket, an important microfinance industry-specific website<sup>2</sup>

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<sup>2</sup> [www.mixmarket.org](http://www.mixmarket.org)

where MFIs present their profiles to funders and other industry actors, only assigns the maximum transparency score of five ‘diamonds’ to those MFIs for which an external rating report is available.

The rating agencies claim that they assess not only an MFI’s conventional performance metrics but also aspects such as competitiveness, risk management, internal control procedures, IT systems, legal issues and governance quality (Beisland and Mersland, 2012). However, given the subjective judgment involved and the fact that prior research has struggled to identify significant relations between the rating scores and some of the metrics claimed to be relevant when constructing those scores (e.g., leverage, see Beisland and Mersland, 2012), it remains unknown whether a significant relationship between corporate governance measures and rating scores truly exists. The association has not been tested empirically in the prior microfinance research, and thus, our first research question is whether such an association can be identified.

Prior microfinance research has found that rating scores are associated with MFI characteristics such as efficiency, risk and size (Gutierrez-Nieto and Serrano-Cinca, 2007; Beisland and Mersland, 2012). We believe that corporate governance structure is such an important issue for MFIs that governance not only should be related to the rating score but also should constitute a considerable proportion of the overall score. Thus, our second research question is the relative importance (to other MFI characteristics) of governance to the final rating score.

Our third research question evaluates alternative governance structures; given that governance is related to rating scores, what mechanisms do the professional rating agencies regard as ‘good’ governance structures? We view this final research question as the most important because the identification of specific, favorable corporate governance structures is a huge challenge to the microfinance industry (Lapie and Mersland, 2011). Given the industry’s entrepreneurial characteristics and novelty (Randøy et al., forthcoming), corporate stakeholders, such as managers and board directors, need to know which specific corporate governance mechanisms rating agencies consider valuable. In fact, such knowledge is a prerequisite for future efforts by executive and board members to improve rating scores. Moreover, because investors, donors and lenders use ratings as a basis for funding (Beisland and Mersland, 2012), they need a clear understanding of the information that a particular rating conveys. Because of large geographical and cultural distances, *international* capital providers, which in the microfinance industry

possess the bulk of the available capital (Mersland et al. 2011), are likely to pay special attention to the quality of governance structures (Buchanan et al., 2012).

This study applies CEO/Chair duality, internal audits, board size, international board members, type of ownership, regulation, type of initiator and competition as measures of governance structures. In addition, it briefly discusses other indicators for which the number of observations is limited. Furthermore, our research design controls for multiple country-specific and MFI-specific factors that prior research has shown to influence rating scores in the microfinance industry. The empirical evidence from our hand-collected global dataset of 405 MFIs in 73 developing countries indicates that several of the dimensions of the MFIs' governance structures are significantly related to their rating scores. Moreover, we document that the inclusion of governance variables causes a considerable increase in the explanatory power of our regressions, in particular, in the rating agency-specific analysis. With respect to the various governance measures, we find that CEO/Chair duality is negatively associated with rating scores, whereas the number of international directors and the presence of internal auditors are positively associated with those scores. Moreover, we find that a higher intensity of competition—an often-used indication of stronger corporate governance pressure—is positively related to rating scores. Overall, our study indicates that theoretically motivated “good” governance structures improve MFIs' rating scores.

This paper is organized as follows: Section 2 describes the microfinance industry, discusses the purpose and information content of the microfinance rating assessments, and presents the research questions on the relationship between corporate governance structures and rating scores. Section 3 outlines the research design and presents the data applied in the empirical study. The empirical findings are described and discussed in Section 4, and Section 5 concludes the study.

## ***2. The Microfinance Industry, Rating Assessments and Research Questions***

### ***2.1. The Microfinance Industry***

Microfinance has received considerable public attention for its role in ensuring micro-entrepreneurs' access to loans, especially after Muhammad Yunus and Grameen Bank received the Nobel Peace Prize in 2006. However, until a few years ago microfinance was merely considered a development tool helping poor entrepreneurs to work themselves out of poverty. This view has now been broadened. There is now a more nuanced view of the socio-economic

effects of microborrowing (Cull et al., 2014). Moreover, the size of the global microfinance industry and its continued growth will soon make the industry the world's largest banking market in terms of the *number* of customers (Mersland, 2013). The 'business' of microfinance is therefore becoming an increasingly important research area to understand the role of finance worldwide. The importance of studying microfinance is amplified by the explosive growth in socially responsible investment in general (Renneboog et al., 2008).

Microfinance involves conducting banking in small increments. The most well-known feature of microfinance is MFIs' provision of small, short-term loans to low-income families, often women, with the purpose of growing their business activities and income. Although lending on group collateral was the norm in the 1970s and 1980s, MFIs are increasingly offering individual loans, which are more popular among their customers (Mersland and Strøm, 2012). Moreover, micro-savings and micro-insurance are increasingly recognized as being equally important to micro-credit because poor families must balance their cash flows to smooth their daily consumption and plan for future economic improvement (Collins et al., 2009). Mersland and Strøm (2012) define microfinance as the extension of formal financial services to low-income families and small enterprises. The word 'formal' is important here because Collins et al. (2009) show that the poor use a variety of informal credit sources—such as local moneylenders, relatives, friends, and neighbors—along with various forms of trading credit. Moreover, poor people save and transfer money through informal mechanisms such as rotating savings and credit associations (ROSCAs) (Bouman, 1995). The term 'MFI' should be broadly understood as a provider of all types of formal microfinance services. MFIs can be banks or other types of non-bank financial institutions including non-governmental organizations (NGOs) and member-based cooperatives. Modern microfinance was first initiated by socially oriented development organizations, and NGOs continue to make up the bulk of MFIs. However, those MFIs organized as regulated banks are relatively larger institutions and according to Reed and Maes (2012), the largest 77 (2%) out of a sample of 3,652 MFIs serve 42% of microcredit customers worldwide.

Although MFIs vary in relation to their ownership forms (i.e., for-profits, non-profits, and cooperatives), their business practices are relatively similar across MFI types and legal forms (Mersland and Strøm, 2008). Still, variation in ownership forms is in itself an interesting aspect of the microfinance industry, and an essential characteristic that separates microfinance from most other financial industries is the co-existence of donors *and* professional investors within

the same industry. However, although NGO-MFIs and cooperative MFIs tend not to distribute profits—whereas shareholder MFIs do (Périlleux, et al. 2012)—the performance difference across ownership types is small (Mersland and Strøm, 2008). Nevertheless, it is likely that ownership structures have an influence on governance structures (Mersland, 2009; Ntim et al., 2013), which is an issue to which we will return in the empirical section.

Although until recently the microfinance industry was celebrated for its poverty-reducing effect in developing economies (Goldberg, 2005; Odell, 2010), it has lately been the focus of criticism (Bateman, 2010). For example, on March 1, 2010, the Wall Street Journal coined the industry’s challenge as “Microfinance’s midlife crisis”. The newspaper reported investors pocketing multimillion-dollar gains from investments supposedly aimed at improving the lives of poor families. It also reported—based on some MFIs’ practice of charging interest rate of up to 100% on small loans—that investors realized yearly return rates of approximately 50%. This practice sharply contrasts with the idealistic ‘promise’ of microfinance to serve low-income families with cheap access to capital while setting interest rates sufficiently high to secure MFIs’ financial sustainability (Morduch, 1999). Therefore, although most industries celebrate double-digit profits, in microfinance, they are seen as questionable. This illustrates the need for MFIs to be more transparent so that various stakeholders can better assess their involvement with specific MFIs (see, e.g., Servin et al., 2012; Beisland et al., 2014).

Labie and Mersland (2011) list several reasons that governance should be at the forefront of the microfinance policy debate. They highlight the tremendous growth of the industry and thus low-income families’ inherent demand for financial services. Other major issues include the services provided by MFIs, which have expanded from the provision of credit only to a broad range of financial services, including savings, money transfers and insurance. Another trend that affects the enhanced need to better understand MFIs’ corporate governance is MFIs’ tendency to transform from institutions primarily funded by donations to institutions that rely on funding from capital markets and local deposits; additionally, some MFIs have transformed from NGOs to regulated, shareholder-owned banks.

## 2.2. Rating Assessments

In 2001, the first international rating initiative was launched by the CGAP and the Inter-American Development Bank (IDB) to co-finance and promote the use of ratings and assessments in the microfinance industry. Following the closing of the initial funding of that

initiative in 2008, two new initiatives appeared that aimed to sponsor MFIs interested in being externally rated: the Rating Initiative and the Rating Fund 2. Today, the rating industry includes more than a dozen rating agencies, but it is dominated by the rating agencies *Microrate*, *Microfinanza Rating*, *Planet Rating* and *M-CRIL*, each of which have rated hundreds of MFIs. The ratings are used extensively by donors and investors in deciding whether to finance a particular MFI (Beisland and Mersland, 2012).

Due to MFIs' entrepreneurial characteristics, e.g., common weak and/or inconsistent governance structures (Lapie and Mersland, 2011), and the especially large performance measurement challenges in the microfinance industry, microfinance stakeholders face a high level of asymmetric information vis-à-vis the MFI. The objective of creating stronger MFI transparency by introducing microfinance rating assessments was therefore a vital innovation in the industry (Beisland et al., 2014). These rating assessments are much more extensive than the traditional credit risk ratings used for publicly listed firms; therefore, as explained by Beisland and Mersland (2012), microfinance rating assessments should not be compared with credit-risk ratings by agencies such as Standard and Poor's and Moody's. Reille et al. (2002) state that rating scores seek to answer the question of "Is this a good organization?" rather than the question of "How likely am I to be repaid in full and on time?" Microfinance ratings are sometimes referred to as 'global risk assessments' to separate them from traditional credit ratings.

The rating agencies publish reports containing the information that forms the basis of the rating score. The rating reports contain 'hard facts' about, e.g., the MFI's financial performance, funding and liquidity, along with 'soft' information such as data on the MFI's management and governance. Based on the overall assessment of all relevant characteristics, the rating agency assigns a rating score to the MFI. The score should summarize a combination of the MFI's creditworthiness, trustworthiness, and excellence ([www.ratinginitiative.org](http://www.ratinginitiative.org)). Rating agencies may consider several factors when defining the score, including but not limited to management quality, capital adequacy, asset quality, costs and rates of return, growth prospects, efficiency, risk, IT systems, the regulatory and competitive environment and other contextual and organizational considerations (cf. Gutierrez-Nieto and Serrano-Cinca, 2007).

Although all microfinance rating assessments seek to measure an MFI's overall ability to achieve multiple sets of objectives, each rating agency applies its own methodology when

assigning rating scores. Moreover, subjective judgment is part of the rating process. Consequently, there has been considerable uncertainty in the microfinance industry related to which MFI characteristics actually drive the rating scores, which has triggered empirical research on the determinants of the assigned scores (Beisland and Mersland, 2012; Gutierrez-Nieto and Serrano-Cinca, 2007). Obviously, if stakeholders use ratings as a basis for their decisions, they will want to understand the information conveyed by a particular rating. Moreover, it is important for MFIs' management to know what drives ratings so that they can improve future ratings.

In general, the rating agencies' rating methodologies suggest that an MFI's governance structure is one of many characteristics considered when a rating score is assigned (see, e.g., the Girafe Methodology of Planet Rating). Nevertheless, whether governance issues actually *are* associated with the assigned rating score remains an unanswered question. Likewise, it is totally unknown what type of governance the rating agencies consider *good* governance. For outside stakeholders, this condition is unfortunate because it is difficult for them to assess the quality of a particular MFI's governance structure. Moreover, in a new and fast-growing industry, there might be several unidentified factors influencing the performance of MFIs, potentially rendering it difficult to isolate the performance effects of governance mechanisms. In fact, given the substantial difficulties for external stakeholders in assessing the consequences of an MFI's governance structure, it may be argued that it is particularly important that the rating scores address the existence of such structures. In this study, we aim to fill a knowledge gap important to investor/donors and public policy makers by empirically analyzing the relationship between governance structures and microfinance rating scores.

In prior research, Gutierrez-Nieto and Serrano-Cinca (2007) have found that rating scores are positively associated with MFI size, profitability, and operational efficiency, and they are negatively associated with risk. Gutierrez-Nieto and Serrano-Cinca (2007) study only one rating agency (i.e., *Planet Rating*); however, by using several rating agencies, far more observations and a wider set of statistical methods, Beisland and Mersland (2012) essentially confirm their findings.<sup>3</sup> Furthermore, Beisland and Mersland (2012) show that the rating scores

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<sup>3</sup> Gutierrez-Nieto and Serrano-Cinca (2007) study 70 ratings from *Planet Rating* from 2000-2004. They state that *Planet Rating* has analyzed MFIs worldwide, but do not specifically disclose the geographical coverage of their sample. Beisland and Mersland (2012) apply a sample similar to the sample used in this study, although with a lower number of observations (324 ratings) and covering a shorter period.

reflect remarkably consistent information content across rating agencies. However, no study thus far has investigated how corporate governance structures are associated with rating scores.

### 2.3. The Research Questions

Following the large growth in socially responsible investment, investors have become increasingly aware of corporate governance issues (Renneboog et al., 2008; Bebchuck et al., 2009). However, with respect to corporate governance in MFIs, the literature tends to be primarily anecdotal (Servin et al., 2012). Nonetheless, some recent studies have addressed the relationship between corporate governance structures and MFI performance (e.g., Hartarska and Mersland, 2012). Unfortunately, no consistent association appears across studies because indicators of ‘good’ corporate governance often show up as insignificant or as having different signs.

The two most referenced studies (Hartarska, 2005; Mersland and Strøm, 2009) explore the association between governance mechanisms (e.g., ownership type, board size, board composition, and public regulation) and MFIs’ financial and social performance.<sup>4</sup> Hartarska (2005) finds that some employee participation on the board is beneficial, whereas Mersland and Strøm (2009) report a positive effect of having a female CEO and of having an internal auditor who reports directly to the board. Mersland and Strøm (2009) also report benefits from splitting the roles of the CEO and the board chair (cf. Galema et al., 2012). A study by Hartarska and Nadolnyak (2007) indicates indirect positive performance effects from regulation by banking authorities because this condition normally allows an MFI to access local savings. Some of the inconsistencies among the abovementioned corporate governance studies may be due to the treatment of common ‘double’ bottom performance objectives because most studies have addressed the effect on the two objectives separately (Lapie and Mersland, 2011). In this regard, Hartarska and Mersland (2012) advance governance research by considering the dual objectives simultaneously (focusing on costs per client as a financial performance metric and number of clients as a social performance proxy). The authors report the performance benefits of splitting the role of the CEO from that of the board president and the performance benefits of not having employees as board members.

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<sup>4</sup> Hartarska (2005) measures financial performance as return on assets (ROA), and operational self-sufficiency (OSS) and social performance as the number of active borrowers and average loan size. Mersland and Strøm (2009) apply the same performance metrics, but in addition, they include portfolio yield and operational costs (relative to total loan portfolio) as financial performance metrics. Hartarska and Nadolnyak (2007) focus their analysis on OSS and number of borrowers.

There are several reasons that it is difficult to identify the linkage between MFI governance and performance, even if such a relationship truly exists; in addition to the challenges that arise because of the multiple dimensions of MFI performance, it is important to remember the industry's entrepreneurial characteristics and novelty (Randøy et al., forthcoming). This condition makes it difficult to know which corporate governance mechanisms to address, which renders industry guidelines and policies difficult to formulate. It is our view that the use of microfinance ratings as an overall and summary performance metric advances the discussion on the relationship between corporate governance and performance in the microfinance industry.

Based on the rating agencies' contention that governance structures are among the characteristics investigated in the rating process, one may argue that the quality of such structures ought to be reflected in the rating scores. This is also the theoretical departure point of our empirical investigation. Nonetheless, it is not obvious that a statistically observable relationship exists. Even if the rating agencies claim that governance is assessed when assigning the scores, our investigation reveals that no rating agency outlines the specific governance metrics or structures upon which its assessment relies. Moreover, it is notable that assigning rating scores is not a purely objective exercise because qualitative assessment is also included in the rating; cf. *Microfinanza's* definition of a rating assessment: "An in-depth quantitative and qualitative analysis of the institution's performance and risk factors..."<sup>5</sup>. It is unclear how such a qualitative judgment affects the score. In fact, in their rating agency-specific analysis, Beisland and Mersland (2012) document that variables said to be taken into consideration when assigning scores are unrelated to the scores in multivariate analyses: "For instance, we do not find a statistical association between the ratings and the debt-to-equity ratio in the *Planet* sample, even if *Planet* lists this ratio as a key performance indicator" (Beisland and Mersland, 2012, p. 228). Thus, our first research question is as follows: Is there an association between an MFI's governance structures and rating score performance?

Moreover, the relative importance of governance structure for MFI ratings compared to other MFI characteristics is unknown; even if the governance variables should prove significant, their importance might be negligible compared to factors that prior research has shown to influence

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<sup>5</sup>[http://www.microfinanzarating.com/index.php?option=com\\_content&view=article&id=143&Itemid=174&lang=en](http://www.microfinanzarating.com/index.php?option=com_content&view=article&id=143&Itemid=174&lang=en).

the scores (size, risk, efficiency, etc.). When all relevant variables are included in the analysis, one may not identify a sizeable incremental effect of governance structure. Thus, our second research question is as follows: What is the relative importance of MFIs' various governance structures to rating score performance? According to Renneboog et al. (2008), the importance of corporate governance as an investment screening mechanism has increased substantially in recent years, in particular for socially responsible investors. Therefore, it is interesting to learn whether this increase in the relative importance of governance is also reflected in microfinance rating scores.

In general, as observed by Mersland and Strøm (2009, p. 662), "problems of credit risk assessment and repayment make governance of firm-customer interactions potentially more important in banking than in other industries". It is noteworthy that corporate governance in financial industries has become even more topical in the aftermath of the financial crisis (Balachandran et al., 2010; Beltratti and Stulz, 2012; Fahlenbrach, 2011), and research suggests that poor governance may directly affect firms' access to and cost of capital (cf. Renneboog et al., 2008). A major problem in the microfinance industry is that there is no established 'best set-up' for governance mechanisms. Thus, because it is completely unknown what governance mechanisms are considered 'good' in the microfinance industry, we consider it to be of vital importance to analyze which specific mechanisms (if any) are related to the rating scores. Therefore, our third research question is as follows: What constitutes a 'good' MFI governance structure according to the rating agencies, i.e., which kind of governance structure is associated with improved rating scores? We believe this final research question is the most important both for the MFI itself (its management and board) and for its external stakeholders, particularly policy makers and regulators. The findings related to this research question could potentially have direct consequences in an industry with an urgent need to improve its governance. Consistent with the results found by Bebchuck et al. (2009) for firms in general, one may argue that among a large set of possible governance structures, the structures that are truly significant to firm performance are likely to constitute only a limited subset of those possibilities.

### ***3. Research Design and Data Sample***

#### ***3.1. Research Design***

In this study, we use a multivariate setting to explore the associations between governance metrics and rating scores. We follow prior research (Gutiérrez-Nieto and Serrano-Cinca, 2007; Beisland and Mersland, 2012) and assume that the rating of an MFI is associated with its size,

profitability, efficiency, and risk. However, as a novel contribution to the prior research, we include corporate governance variables in the analysis (cf. the study of credit rating determinants of Ashbaug-Skaife et al., 2006). We thus use the following regression specification as the basis for our empirical study:

$$(1) \text{ RatingScore} = \beta_0 + \beta_1 \text{GOV} + \beta_2 \text{PROF} + \beta_3 \text{SIZE} + \beta_4 \text{EFF} + \beta_5 \text{RISK} + \beta_6 \text{CONTROL} + \varepsilon$$

Subscripts  $i$  and  $t$  are dropped for simplicity. Due to the ordinal nature of the rating scale, we follow Ashbaug-Skaife et al. (2006) and estimate the relation using ordered logistic regression (Greene, 2003). We now present and discuss the variables of the regression specification.

The dependent variable *RatingScore* represents the rating grade (assigned to MFI  $i$  in year  $t$ ). The five rating agencies that we investigate (see below) use different rating scales with different combinations of letter scores. However, because they all use scale systems, the different rating scales can easily be converted mathematically into a uniform scale. Thus, when constructing *RatingScore*, each grade is assigned values between 0 and 1. A higher number indicates a better rating. Specifically, the lowest score of each agency is set equal to zero. The distance between each score is equal to one divided by the total number of scores that the agency applies. For instance, the rating agency *Microfinanza* applies the following 10-point scale: aaa, aa, a, bbb, bb, b, ccc, cc, c, d. The grade d is given the numerical value 0, c is set equal to 0.1, and the number is further increased by 0.1 per grade up to the grade aaa, which is assigned the numerical value 0.9.<sup>6</sup> The applied procedure is similar to that applied by Beisland and Mersland (2012) and to those used in both classical studies and in more recent investigations of the determinants of credit ratings. For instance, Horrigan (1966) converts the rating scale to a nine-point scale, where each letter score is assigned a value from one to nine (see also Ashbaug-Skaife et al., 2006).

*GOV* is a corporate governance vector of variables. We define corporate governance as a set of mechanisms by which organizations are directed and controlled (OECD, 2004), and we test a large number of governance mechanisms in the *GOV*-vector. These mechanisms may be

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<sup>6</sup> Overall, there is a relatively equal number of rating grades across the studied agencies. The rating agency M-Cril applied a 10-point scale (a+++ , a++ , a+ , a , a- , b+ , b , b- , c+ , and c) but changed it to a 9-point scale in 2006 (from  $\alpha^{++}$  to  $\gamma$ ), Microrate changed from a 10-point (a++ to c-) to a 9-point scale in 2007 ( $\alpha^{++}$  to  $\gamma$ ), whereas Planet Rating and Crisil applied an 11-point (a+ to e) and an 8-point (mfR1 to mfR8) scale respectively throughout the sample period.

defined either internally by the firm itself (through CEO incentives and board composition, among other factors) or externally (through market competition, public regulation, and various other considerations).

Our first internal measure of corporate governance is CEO/chair duality. This binary CEO/chair variable implies weaker governance structure because the board is less independent if the CEO and chairperson roles are combined (Galema, et al. 2012; Adams et al., 2010). Our second internal governance variable is also a binary variable, and it measures the presence of a board-reporting internal auditor. In contrast to most large and exchange-listed companies, the presence of an internal auditor is not obvious in the microfinance industry. Obviously, we consider the existence of an internal auditor to be indicator of stronger microfinance governance structure, as confirmed by Mersland and Strøm (2009) and consistent with the general governance literature (e.g., Adams et al., 2010; cf. Aebi et al., 2012).

The corporate governance literature is inconclusive regarding the association between board size and firm performance. For financial firms, the literature shows both positive and negative relationships between board size and performance (Adams and Mehran, 2003; Pathan et al., 2007; Ntim et al., 2013). Hartarska and Mersland (2012) find that the performance relationship is curvilinear with an optimal MFI board size of 7-9 members. Considering the bank governance literature's keen interest in board size, we include this metric as our third corporate governance mechanism.

The number of international directors is our fourth metric. Prior corporate governance research on listed firms suggests that international corporate influence, such as international directors or foreign listing, is associated with stronger governance mechanisms and may directly enhance firm performance (Oxelheim and Randøy, 2003; Ben Naceur et al., 2007). Likewise, Mori and Mersland (2014) argue that donor representatives (who in most cases are international [Mersland et al., 2011]) on MFI boards may have a positive effect on performance.

In line with Mersland and Strøm (2009), we consider ownership type an internal governance mechanism, and we use this variable as the fifth governance indicator in our *GOV* vector. The MFI categories in our data sample are bank and non-bank financial institutions owned by shareholders, cooperatives owned by members, NGOs and state-owned MFIs. We examine the simple dichotomy between shareholder-owned MFIs and other MFIs. Although Mersland and

Strøm (2008) report that shareholder MFIs and NGO-MFIs show similar performance, we still expect rating agencies to prefer shareholder MFIs because common policy is to recommend that NGO-MFIs transform into shareholder MFIs (Ledgerwood and White, 2006). Importantly, this binary variable also typically captures the for-profit versus non-profit dimension of the microfinance industry (Mersland, 2009). Shareholder corporations generally have profit as an objective, whereas other MFIs do not. Therefore, the legal incorporation variable is expected to indicate whether the degree of for-profit objectives affect the microfinance ratings.

Microfinance is an industry in which only some MFIs are regulated by national banking authorities. MFI regulation is the first external governance mechanism that we consider. The regulation of MFIs depends on country-specific characteristics, such as a nation's level of development and institutional capacities (Arun, 2005; Hardy et al., 2003); therefore, there is no uniform regulation of MFIs across countries. Relevant regulations for MFIs may include rules that govern MFI formation and operations, consumer protection, fraud prevention, the establishment of credit information services, secured transactions, interest rate limits, the ability to mobilize deposits, minimum levels of provisions for future losses, foreign ownership limits and tax issues (Cull et al., 2011). Therefore, although Hartarska and Nadolnyak (2007) find that regulation only indirectly improves MFI performance through the grant of permission to mobilize savings, we suggest that rating agencies consider regulated MFIs as better governed than non-regulated MFIs and thus, regulated MFIs achieve better rating scores.

Inspired by Hearn and Piesse (2013), the second external governance metric we consider is a binary variable that indicates whether an MFI was founded/co-founded by an international entity. Consistent with the reasoning above, we expect that international influence may have favorable governance implications (see also the general argument of Mersland et al., 2011) and will be looked upon favorably by rating agencies.

Our third and final external governance measure is product market competition. Although Mersland and Strøm (2009) have found no relationship between MFI performance and market competition, we propose that fiercer competition reduces managerial slack and increases a firm's need for control (cf. Giroud and Mueller, 2011).<sup>7</sup> Therefore, because MFIs operating in

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<sup>7</sup> Competition may reduce MFI margins. This indirect effect of competition will be embedded in the profitability measure. Therefore, the direct association between competition and the rating score will be captured by the competition metric.

competitive markets are normally more mature and better managed and governed, we expect competition to have a positive association with the rating score. It is challenging to measure a firm's exposure to competition; in this study, we apply rating agencies' reported assessments of the competitiveness of the local product market for microloans and based on these data, we produce a competition index.

Regarding the remaining explanatory variables of the regression, we use conventional measures based on prior research (Gutiérrez-Nieto and Serrano-Cinca, 2007; Beisland and Mersland, 2012). Profitability (*PROF*) is measured as accounting earnings divided by end-of-period total assets. We use the log of total assets as the size variable (*SIZE*) in the regressions. The efficiency measure (*EFF*) is operating expenses relative to the total loan portfolio. *RISK* is measured as the share of portfolio with more than 30 days in arrears (the Portfolio at Risk—PaR30), i.e., the amount of the loan portfolio more than 30 days past due divided by the total loan portfolio.<sup>8</sup> *CONTROL* is a vector of control variables. The *CONTROL* vector consists of both firm controls and context controls. Specifically, we include the score of countries on the Human Development Index (HDI) and the Regulatory Status Index as country control variables, MFI age (to be precise, the number of years since the entity began conducting microfinance services because some organizations may have been involved in other activities prior to entering microfinance), and indicator variables for the year of observation and the rating agency as our control variables. Note that because the focus of this study is the associations between the rating score and the corporate governance variables, all variables but *GOV* may be considered control variables. The variables employed in the study are listed and defined in Table 1.

[Insert Table 1 about here]

Governance studies often suffer from endogeneity due to possible reverse causality problems. In our study, the reverse causality problem is lessened because we primarily focus on the first-time rating exercise of MFIs (approximately 90% of the observations; see more information below); by definition, therefore, the independent variables predate the rating score for most of the examined MFIs. Moreover, regardless of a potential endogeneity problem, whether

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<sup>8</sup> Because the MFIs are not listed, many traditional risk metrics (such as the market model 'Beta') cannot be applied. Therefore, PaR30 is by far the most commonly used risk metric in microfinance research (see, e.g., Mersland and Strøm, 2009). Nonetheless, we have also tested other non-market-based risk metrics in the regressions, e.g., provision for future loan losses and total write-offs (both variables are scaled by total loan portfolio). All findings remain similar to those reported.

governance structures are linked with the rating scores, as claimed by the rating agencies, remains a matter of interest. Nevertheless, to avoid unnecessary discussions of endogeneity, we use the term *association* instead of *influence* when discussing the relationship between governance mechanisms and rating scores (consistent with, e.g., Bebhuck et al., 2009).

### 3.2. Data Sample

The dataset is hand-collected from *risk assessment reports* (i.e., rating reports) from the five leading rating agencies in the microfinance industry. The reports range from 10 to more than 40 pages of narrative and accounting information, including benchmarks. In total, the dataset contains information from 405 MFIs in 73 countries.<sup>9</sup> The rating agencies include the American *MicroRate* agency, the Italian *Microfinanza* agency, the French *Planet Rating* agency and the two Indian agencies of *Crisil* and *M-Cril*. All these agencies consider the entire world to be their market. However, the Indian agencies are more active in Asia than in other regions of the world, whereas the others are more active in Africa, Latin America, and Eastern Europe than they are in Asia. All five agencies are official rating agencies approved by the Rating Fund of the CGAP.

The rating reports comprising our database are from 2000-2009, with the vast majority of reports published during the last five years of this period. In the multivariate analyses, approximately 80%<sup>10</sup> of the sample consists of one observation per MFI. For the remaining 20% we have two observations per MFI, which means that 90% of our observations are a first rating exercise for an MFI. The rating agencies differ in their emphasis and in the amount of information available. The result is that different numbers of observations for different variables and in different years are reported. When necessary, all of the numbers in the dataset have been annualized and dollarized using the official exchange rates from the given time. Descriptive statistics for the variables applied in the study are displayed in Table 2.

[Insert Table 2 about here]

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<sup>9</sup> We have 103 variables in our dataset, which were collected from the rating reports. The main categories of variables include financial and accounting information, proxy variables for size, outreach and social performance, information about the CEO, the board and the directors, and information about the MFI's type, origin, initiation and funding, stakeholders, products and markets.

<sup>10</sup> This proportion varies slightly across regressions because of different degrees of missing observations.

The average rating score is 0.44 and is similar to the median value. This rating level is equivalent to approximately a b in the letter grades applied by the agencies (e.g., b for *Microfinanza* and b- for *Planet Rating*). Moreover, based on the reported quartiles, we notice that 50% of the grades lies in the interval 0.3 (e.g., ccc for *Microfinanza* and c for *Planet Rating*) to 0.6 (e.g., bbb for *Microfinanza*, a for *Planet Rating*).

With respect to the governance variables, we note from the descriptive statistics that in 12% of the sample cases, the CEO and the board chair are the same person. Of the total MFIs, 47% have an internal auditor reporting to the board, and the average board has 7 people. The average number of international board members is 0.57. Thirty-five percent of the MFIs are shareholder corporations, 31% are regulated, and 40% have been initiated by a foreign entity, thus demonstrating great international influence in the industry. The average score on the competition index is 4.39, suggesting that competition in the microfinance industry is beginning to intensify (cf. Dinh and Kleimeier, 2007). With respect to the other explanatory variables, we note that the level of earnings scaled by end-of-period assets is 4% on average, and the average observation of  $\ln(\text{assets})$  is 15.26, equivalent to mean assets of 4.2 million USD.

To provide more detailed information about the microfinance industry and the MFIs in our sample, the final part of Table 2 displays descriptive statistics on additional variables not applied directly in the analysis ('stylized facts'). This part of the table is generally self-explanatory and provides a general overview of the microfinance industry. For example, this part of the table provides a more detailed picture of legal incorporation: 5% of the MFIs are commercial banks, 30% are other types of non-bank financial institutions, 51% are NGOs, 12% are member-based cooperatives and credit unions, and 2% have some other type of legal incorporation (typically state banks). The main market index reveals that most MFIs operate in both urban and rural areas, 82% focus exclusively on financial products (meaning that 18% are involved in other development efforts such as education or business development training), the average number of loan products is 4 and 35% of the MFIs accept (voluntary) savings. Thus, most MFIs are financed by equity and loans. Nevertheless, donations and other types of subsidies are frequent, which is reflected in a low cost of funds (given the interest rate conditions in most of the countries represented) of 8%.

Table 3 lists correlation coefficients for the variables in the study. The rating score is significantly correlated with MFI profitability, size, efficiency and risk, and all directional signs

are as expected. Among the governance variables, the rating score is significantly correlated with the presence of an internal auditor, the number of international board members, the binary variable for international initiation and the competition level. As expected, the signs of these correlation coefficients are positive.

[Insert Table 3 about here]

An important contribution of this paper is its attempt to identify MFI-specific governance structures that can be considered indicators of ‘good’ corporate governance—an issue that has been unclear. In general, we note that the observed correlation coefficients among the various governance indicators are most often low, suggesting that the association between microfinance ratings and corporate governance metrics may vary depending on the specific governance metric analyzed (compare to Bebchuck et al., 2009). One of the highest correlations between governance variables is observed between the binary variables of regulation and shareholder-controlled corporation; therefore, on average, regulated MFIs tend to be shareholder owned. This finding is as expected because it is often a regulatory requirement that an MFI have a shareholder structure.

#### ***4. Empirical Results***

Subsection 4.1 presents the results of the main empirical tests. In Subsection 4.2, we test the robustness of the results through rating agency-specific analyses. Finally, in Subsection 4.3, we compare our results from using the rating score as the performance metric with results obtained if traditional performance measures are applied for the same sample.

##### **4.1. Main Analysis**

The correlation matrix in Table 3 provides a clear indication that ‘good’ corporate governance is positively related to microfinance ratings. However, drawing strong inferences based on a bivariate analysis may be premature; thus, we base our conclusions on multivariate analyses using the regression specification outlined in Subsection 3.1. We begin the analysis by successively introducing one governance variable at a time. We have a varying number of observations for the governance mechanisms, and this approach allows us to use the maximum amount of information in the data set. The results from the multivariate analyses are presented in Table 4.

[Insert Table 4 about here]

First, we note that MFI profitability is positively associated with the rating score in all model specifications. Moreover, the log of assets variable shows a consistently positive and significant coefficient. Therefore, MFIs that are larger and more profitable receive higher rating scores on average. The variable operating expenses shows a significantly negative effect, suggesting that operating efficiency has a positive association with rating scores. In all model specifications, risk is negatively associated with the rating score. We also note that the HDI shows a significant and positive coefficient, indicating that the economic development of the country in which an MFI is situated has a positive influence on its ratings (cf. Ben Naceur et al., 2007). The age of the MFI has a negative association with rating scores. We interpret this finding to signal, all else being equal, either that the rating agencies are stricter when assigning scores to older MFIs (thus allowing for some entrepreneurial flaws in an MFI's early life) or that MFIs become more complacent over time when its entrepreneurial spirit has departed (Randøy et al., forthcoming).

The findings regarding all of these explanatory variables confirm results from prior research (Gutiérrez-Nieto and Serrano-Cinca, 2007; Beisland and Mersland, 2012). Therefore, the remainder of this study focuses on the corporate governance structures that have not yet been investigated in the literature. The first variable we examine is the CEO/chair duality. The analysis suggests that when one person holds both positions, the institution's rating score will be lower. The finding is reasonable: CEO/chair duality is a signal of poor governance because it is an indication of too much power concentrated in one person (Adams et al., 2010) and thus, a negative association with rating score is unsurprising.

The next corporate governance indicator is the presence of an internal auditor. The results strongly suggest that internal auditing has a positive association with microfinance ratings. Installing a system with an internal auditor reporting to the board is most likely among the most direct measures of good corporate governance that an MFI may apply; therefore, it is particularly interesting to note the strong statistical result for this variable. This finding is consistent with results from the general board literature, indicating that firms with auditing committees report earnings numbers of higher quality (Adams et al., 2010).

For board size, we are unable to identify a significant association, consistent with the contention in the prior research that board size is an ambiguous governance indicator (Adams et al., 2010).

However, we do provide some evidence that the number of international board members is associated with higher rating scores. The result on international directors is interesting because Mersland and Strøm (2009) report that international directors have a negative influence on MFIs' financial performance, whereas Mersland et al. (2011) report that international directors have a positive influence on MFIs' social performance. Our results suggest, although only weakly significantly, that rating agencies consider the presence of international directors on the board to be performance enhancing. This is similar to findings in the for-profit corporate governance literature (Masulis et al., 2012; Oxelheim and Randøy, 2003) reporting a positive effect of international directors in firms with substantial international exposure.

We find no indication that shareholder MFIs receive higher rating scores (than NGOs and cooperatives), thus supporting earlier results by Mersland and Strøm (2008) that legal status does not affect MFI performance. Likewise, we find that MFIs regulated by banking authorities, our first external governance metric, do not receive higher rating scores. This is an interesting finding that can be related to research on traditional financial industries; when Beltratti and Stulz (2012) studied which factors determine why some banks performed better than others during the credit crisis in 2008, they found that differences in country regulations were not a decisive factor. Thus, Beltratti and Stulz (2012) conclude that poor bank governance was not what caused the crisis (instead, they emphasize the role of short-term lending in the capital markets). Nevertheless, we expected rating agencies to be influenced by the recent critical media focus on the microfinance industry, which suggests that public perception is that regulation is good for the microfinance industry (Beisland et al., 2014). Our findings call for further research to better assess the contents and impact of microfinance regulation. However, it is also important to note that because MFI regulation varies across countries, we cannot rule out that our country control variables capture much of the information embedded in the applied binary regulation variable.

Our second external governance factor, the binary variable for whether an MFI is internationally initiated, is also insignificant in the regression analysis. Although we expected that international initiation could be an indication of stronger governance structures, we note that our finding is somewhat more in line with the general perception in the industry that in the long run, local ownership is better (Mersland et al., 2011). Nevertheless, this variable's lack of significance suggests that rating agencies do not emphasize whether MFIs are locally or internationally initiated. However, this insignificant result might be because the international connotation

aspect is captured by the number of international board members variable (see the significant correlation coefficient between the two variables displayed in Table 3), which was found in the analysis to be weakly significant. Our final external governance indicator, the industry competition variable is significantly related to the rating scores, in line with performance-enhancing impact of competition seen in publicly traded, for-profit firms (Giroud and Mueller, 2011). As expected, the sign is positive because we expect that competition in the microloan market decreases managerial slack in MFIs and pushes them to install more comprehensive management procedures.

To further test the robustness of our results, we conduct a test in which we combine all governance variables in a single analysis (see the column ‘Multivariate1’ in Table 4). The disadvantage of this analysis is that a relatively large number of observations are lost. Nonetheless, we note that for the most part, the previously stated results remain unchanged. CEO/chair duality, the presence of an internal auditor and the number of international board members all are revealed significant in the regression (although their significance levels vary). All signs are as expected.

Nonetheless, the previously significant variable of competition is not significant in the complete model. However, we note that the complete model includes only 58% of the observations applied when studying competition individually. The primary dropout problem is the variable “number of international directors”, a variable for which many observations are missing. Therefore, in ‘Multivariate2’, we rerun the complete model without the number of international directors. In addition, because the correlation analysis suggested that firm type and regulation are strongly and significantly correlated, we drop the shareholder firm binary variable. In this alternative specification, competition regains its significance level. The results are practically unchanged for the other variables.

We have also tested other corporate governance mechanisms for which we have a limited number of observations (not tabulated). In line with research on publicly traded firms (Vafeas, 1999), we are unable to document a statistically significant association between microfinance performance (as measured by ratings) and number of board meetings. Furthermore, in the spirit of Liu et al. (2012), we have examined external audit quality and applied the use of a Big Four auditor as the quality metric (the most commonly applied audit quality metric, according to Hay et al., 2006). External auditing reflects a corporate governance choice that establishes the

quality of the gatekeeper role and the information certification function for a firm (Coffee, 2002). Interestingly, the variable is found significant and positively associated with rating scores. Therefore, both audit quality measures—i.e., both the presence of internal board reporting auditors and the choice of high-quality external auditors—show as highly relevant explanatory variables for the rating scores of MFIs.

Overall, we expected the quality of the corporate governance structure of an MFI to be difficult to measure. However, this study documents statistically significant relations between microfinance rating scores and four corporate governance indicators. Thus, with respect to research question 1, the answer appears to be ‘yes’: MFIs’ governance structures *are* associated with their observed rating score performance. This finding should be helpful to lenders, donors and other industry stakeholders. Moreover, with respect to research question 3, the analysis provides clear indications as to which specific control mechanisms are considered favorable. We find that CEO/chair duality is negative for MFIs’ performance, as measured by rating score. The presence of an internal auditor (and also a higher-quality external auditor) is significantly associated with higher rating scores. Contrary to our expectation, we find that board size is not significant, but a higher number of international directors appear to be a beneficial corporate governance structure. Finally, we find that MFIs’ competition level significantly enhances rating scores. This finding is interesting from a public policy point of view because regulators should promote competition and expect to observe better MFI performance. In the presence of more competition, regulators should naturally expect to see lower interest rates for consumers as well.

As a second measure to capture the explanatory capacity of corporate governance structures to explain rating score performance, Table 4 reports the incremental explanatory power from introducing the corporate governance variables in the regressions ( $\Delta$ pseudo  $R^2$ ). We note that in the most complete analysis (‘Multivariate1’), the incremental explanatory power equals 1.97 percentage points. With a total explanatory power of 24.03%, the incremental increase from including the corporate governance variables as explanatory variables is thus rather modest (approximately 9% compared to the regression without the corporate governance variables). Thus, with respect to research question number 2, attributes of the MFIs other than governance mechanisms appear to be the most important to the rating grade. However, Beisland and Mersland (2012) show that explanatory power generally increases substantially if a pooled analysis is replaced by rating agency-specific regressions. The reason, according to them, is

that the relative importance of the various explanatory variables varies across agencies, and when allowing regression coefficients to be agency-specific, the regression model provides a better fit to the rating scores. Therefore, our analysis continues with a study of agency-specific regressions, see Subsection 4.2.

#### 4.2 Rating Agency-Specific Analysis

We start by noting that the sizes of the sub-samples of *M-Cril*, *Crisil* and *MicroRate* are too small for a meaningful run of rating-agency-specific regressions; therefore, we only present results for the rating agencies *Microfinanza* and *Planet Rating* (see Table 5).

[Insert Table 5 here]

Given the limited sizes of the subsamples, we present results based on the regression specification ‘Multivariate2’. For the rating agency of *Microfinanza*, we see from Table 5 that the presence of an internal auditor is a highly significant governance metric in the regression. This variable may be considered especially important because it is most likely the most direct measure of the quality of corporate governance among the proxy variables we study. We also note that *Microfinanza* appears to evaluate the presence of microfinance regulation positively, but because the variable is only weakly significant we refrain from drawing strong conclusions based on this finding. Nonetheless, the importance of including the regulation variable and (in particular) the internal audit variable when studying *Microfinanza*’s rating scores is illustrated by the additional explanatory power achieved when governance variables enter the regression. Indeed, the governance metrics lead to an increase in the pseudo  $R^2$  of 6.37 percentage points. Therefore, we see that the importance of corporate governance for the rating scores appears to be greater than indicated by the pooled analysis, a result consistent with Beisland and Mersland’s (2012) findings that pooled analysis may underestimate the importance of some explanatory variables.

Next, we analyze the ratings reported by *Planet Rating*. Again, the presence of internal audits is revealed significant in the regression analysis. Moreover, the CEO/chair duality is highly significant and as expected, has a negative sign. Somewhat surprisingly, the international initiation variable is significantly negative. Collectively, for *Planet Rating*, the explanatory power increases by 4.72 percentage points when the governance proxies are added.

*Planet Rating* is the rating agency that most explicitly communicates the fact that corporate governance is important to its rating score. In fact, *Planet Rating* publishes a ‘governance score’ that is intended to reflect the aggregate quality of the corporate governance mechanisms for each MFI. We use this governance score to further investigate the influence of MFIs’ corporate governance on the rating scores. Specifically, in the regression denoted ‘PlanetRating2’, we replace all of the individual governance metrics with the governance score. Table 5 shows that the governance score is highly significant in the regression. The sign is negative, but this is simply because a higher number is associated with a weaker governance structure. Therefore, the sign is as expected. Note the substantial increase in explanatory power from including the variable: 12.33 percentage points. Once again, we find clear indications that the reason that the incremental explanatory power is depressed in the pooled analysis is because identical regression coefficients are applied to all agencies, even if the relative importance of the explanatory variables may vary across those agencies.

Overall, with respect to research question 2, the agency-specific examination demonstrates that the main analysis appears to underestimate the relative importance of governance. Compared to other influential factors for the rating scores, we conclude that governance structure *is* highly relevant.

Collectively, this study illustrates that when the rating score is used as a performance metric, governance is revealed as much more important than it is in past studies that have used traditional performance metrics (e.g., Hartarska, 2005). However, a possible reason that we obtain far more significant associations between governance and (our measure of) performance than prior studies could be that our study investigates a different sample. Thus, as a robustness test, we conclude the empirical analysis by comparing the rating scores to other performance metrics (using the same dataset and research approaches). This test will reveal whether our findings can be attributed to the application of a different (more extensive) sample than prior studies, or whether governance measures actually *are* more closely related to rating scores than are other performance metrics (see Subsection 4.3).

#### 4.3 Alternative Performance Metrics

We apply return on assets (ROA) and return on equity (ROE) as conventional financial (accounting) performance metrics (see, e.g., Fahlenbrach and Stulz, 2011; Aebi et al., 2012). Because social performance is important to most MFIs, we also study the two most commonly

used social performance indicators: percentage of female clients and average loan size (Cull et al., 2007, Mersland and Strøm, 2009). Having a higher proportion of female clients is regarded as indicating higher social performance because in developing countries, females are poorer and generally worse off than males (D’Espallier et al., 2013). Lower average loan size is expected to be associated with more focus on serving ‘the poorest among the poor’—having a stronger impact on poverty alleviation and therefore higher social performance. Because lower loan size is, almost by definition, associated with higher costs (it is expensive to provide many customers with small amounts of money), lower average loan size will, ceteris paribus, be associated with lower ROA/ROE, which illustrates the challenges researchers face when using conventional financial performance metrics in microfinance governance research. Moreover, this illustrates one of the most debated microfinance issues: how to balance social and financial results when there is a trade-off between the two (Hermes et al., 2011). In this discussion, it is notable that Renneboog et al. (2008) find that prior studies on socially responsible investors do not unequivocally demonstrate that investors are willing to accept suboptimal financial performance in the pursuit of social objectives.

[Insert Table 6 here]

Table 6 reports the results when the regressions of Table 4 is rerun with the above four metrics as performance measures. To use the maximum amount of information, one corporate governance proxy is included at a time, consistent with the leftmost columns of Table 4. We only report the coefficients of the governance variables, although the other explanatory variables are included in all analyses (profitability is excluded as an explanatory variable when ROA and ROE are examined). The governance variables are generally statistically unrelated to the four performance variables, but we note some exceptions: board size is negatively related to ROA, whereas shareholder MFIs and regulated MFIs seem to have a lower proportion of female clients than do other MFIs.

Collectively, we argue that the results displayed in Table 6 contribute very little to an increased understanding of the role of corporate governance mechanisms in the microfinance industry. Keeping in mind the clear public policy concern that poor corporate governance seriously threatens MFIs’ long-term growth and sustainability (CSFI, 2011) the findings shown in Table 6 leave us with the impression that governance is *not at all* important for performance; very few coefficients are significant. Moreover, these findings do not offer much in terms of public

policy implications; in cases in which significant coefficients actually *are* observed, the coefficients are only significant for one of the four performance metrics. We believe that if we are to learn more about the overall importance of corporate governance in the microfinance industry and about the relative importance of different governance structures, we must introduce alternative and better performance metrics. The rating score approach represents one such alternative.

## **5. Conclusions**

Rating scores have become an important measure of MFIs' multidimensional performance in the global microfinance industry. They are widely used by investors, donors, lenders and other stakeholders before contracting with MFIs. Because of the stated importance of poor corporate governance among MFIs (CSFI, 2011), and the substantial amount of uncertainty about which corporate governance structures should be considered 'good' governance, this study investigates the extent to which rating agencies incorporate corporate governance issues when assigning rating scores. To the best of our knowledge, this is the first study to empirically assess the association of rating scores with different corporate governance structures.

The introduction of specialized microfinance rating assessments is an innovation in an industry with a significant need for information transparency (Beisland et al., 2014). We believe that our finding that MFIs' corporate governance structures are significantly associated with their rating scores further strengthens the usefulness of rating scores as a performance metric. This study shows that combining the positions of board chair and CEO is not beneficial for rating performance. Moreover, our study suggests that the presence of international board members can be a valuable instrument for strengthening MFIs' corporate governance. We have not explored the importance of international board membership relative to an MFI's location, but we expect the performance-enhancing impact of international board membership to increase with the cultural and geographical distance between capital providers and an MFI. This issue should be explored further in future research.

Some of our strongest empirical findings relate to the presence of internal auditing (and external audit quality in additional tests with fewer observations); because auditing is one of the most explicit measures of control mechanisms that we study, we believe this finding may prove particularly useful to MFIs and their stakeholders. In general, installing better internal (and

external) auditing is a reasonable policy guideline because auditing knowledge is generally available in most contexts.

We conclude this study with some further suggestions for future research. The study is motivated by the assumption that rating scores summarize MFIs' multidimensional performance and overall 'quality' reasonably well. This is an assumption that we most likely share with a large majority of microfinance stakeholders, who make extensive use of the scores to make decisions and allocate resources. However, rating scores are based on observations of historical MFI information, whereas stakeholders are forward-looking and implicitly apply the scores as estimates of *future* performance. Although we expect that historical MFI performance is a good forecast of MFIs' future performance, this has not been tested empirically and we believe that this issue should be moved to the forefront of the research agenda. Such a research setting is, however, somewhat complex in the sense that rating scores will not only serve as predictors of future performance but also can be expected to directly influence MFIs' long-term behavior and alternative metrics of both financial and social performance (for instance, low-scoring MFIs will seek to improve their scores). Given that existing studies on microfinance rating assessments (inclusive of this one) have focused on MFIs' first-time ratings, we recommend future research to pursue the longitudinal development of rating scores for individual MFIs.

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**Table 1: Variable definitions**

<b>Variable</b>	<b>Definition</b>
RatingScore	The microfinance rating score. The different rating scales have been mathematically converted into a uniform scale that takes values between 0 and 1. A higher number indicates a better rating.
CEO/Chair duality	An internal governance indicator. A binary variable that takes a value of 1 if these two roles are shared by the same person.
Internal audits	An internal governance indicator. A binary variable that takes a value of 1 if an MFI has board-reporting internal auditors.
Board size	An internal governance indicator. An MFI's number of board members.
International directors	An internal governance indicator. An MFI's number of international board members.
Shareholder firm	An internal governance indicator. A binary variable that takes a value of 1 if an MFI is owned by shareholders.
Regulation	An external governance indicator. A binary variable that takes a value of 1 if an MFI is regulated by a local bank authority.
International initiation	An external governance indicator. A binary variable that takes a value of 1 if an MFI is founded by an international organization.
Competition	An external governance indicator. A self-constructed index that takes a value from 1 to 7. This variable reflects an MFI rater's judgment of an MFI's competitive position; a higher value indicates a higher level of competition.
EARN/ASSETS	A profitability measure. Reported earnings divided by the end-of-period total assets.
LN(ASSETS)	A size proxy. The natural logarithm of an MFI's end-of-period total assets.
OEX/PORTF	An operating efficiency proxy. Operating expenses relative to the average annual total loan portfolio.
PAR30	A risk proxy. The outstanding balance of an MFI's loans that are more than 30 days past due divided by its average outstanding gross loan portfolio.
HDI	A control variable. The Human Development Index is a country index from the UN Development Program that summarizes a country's per capita GDP, life expectancy, and educational level.
Regulatory quality	A control variable. Regulatory quality is a country-specific governance indicator published by the World Bank; it reflects perceptions of the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development.
AGE_MFI	A control variable. The number of years an MFI has been in the microfinance industry.

Table 1 provides definitions of the variables used in the empirical analyses. The rating score constitutes the study's dependent variable; the remaining variables listed in this table are explanatory variables. The dataset is hand-collected, and all information used is obtained from *risk assessment reports* from five of the leading rating agencies in the microfinance industry: *MicroRate*, *Microfinanza*, *Planet Rating*, *M-Cril* and *Crisil*. The dataset contains information from 405 MFIs in 73 countries for 2001-2009. The countries covered by the sample include: Albania, Argentina, Armenia, Azerbaijan, Bangladesh, Benin, Bolivia, Bosnia Herzegovina, Brazil, Bulgaria, Burkina Faso,

Burundi, Cambodia, Cameroun, Chad, Chile, China, Colombia, Croatia, Democratic Republic of Congo, Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Ethiopia, Gambia, Georgia, Ghana, Guatemala, Guinea, Haiti, Honduras, India, Indonesia, Jordan, Kazakhstan, Kenya, Kosovo, Kyrgyzstan, Madagascar, Malawi, Mali, Mexico, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Paraguay, Peru, Philippines, Republic of Congo (Brazzaville), Romania, Russia, Rwanda, Senegal, Serbia, South Africa, Sri Lanka, Tajikistan, Tanzania, Togo, Trinidad and Tobago, Tunisia, Uganda, Vietnam, and Zambia.

**Table 2: Descriptive statistics**

	<b>Mean</b>	<b>St. Dev.</b>	<b>Q1</b>	<b>Median</b>	<b>Q3</b>	<b>n</b>
<i>Dependent variable</i>						
<b>RatingScore</b>	0.44	0.18	0.30	0.45	0.60	412
<i>Test variables</i>						
<b>CEO/Chair-duality</b>	0.12	0.32	0	0	0	370
<b>Internal audits</b>	0.47	0.50	0	0	1	359
<b>Board size</b>	7.12	3.45	5	7	9	378
<b>International directors</b>	0.57	1.20	0	0	1	296
<b>Shareholder firm</b>	0.35	0.48	0	0	1	412
<b>Regulation</b>	0.31	0.48	0	0	1	406
<b>International initiation</b>	0.40	0.49	0	0	1	407
<b>Competition</b>	4.39	1.52	3	5	6	390
<i>Other independent variables</i>						
<b>EARN/ASSETS</b>	0.04	0.06	0.01	0.04	0.07	405
<b>LN(ASSETS)</b>	15.26	1.18	14.37	15.28	16.07	410
<b>OEX/PORTF</b>	0.27	0.17	0.15	0.22	0.34	405
<b>PAR30</b>	0.06	0.09	0.01	0.03	0.07	401
<b>HDI</b>	0.67	0.13	0.58	0.72	0.79	411
<b>Regulatory quality</b>	-0.30	0.39	-0.48	-0.31	-0.10	411
<b>AGE_MFI</b>	16.47	7.40	12	15	19	410
<i>Stylized facts</i>						
<b>Government initiation (binary)</b>	0.11	0.31	0	0	0	406
<b>Religious initiation (binary)</b>	0.17	0.38	0	0	0	408
<b>Bank (binary)</b>	0.05	0.23	0	0	0	412
<b>Non-bank financial inst. (binary)</b>	0.30	0.56	0	0	1	412
<b>NGO (binary)</b>	0.51	0.50	0	1	1	412
<b>COOP/Credit Union (binary)</b>	0.12	0.32	0	0	0	412
<b>Other incorporations/state bank (binary)</b>	0.02	0.14	0	0	0	412
<b>Number of branch offices</b>	12.73	17.96	4	7	14	407
<b>Number of clients</b>	22616	48118	3818	9293	22124	357
<b>Urban vs. rural market (index 1 to 3)</b>	2.16	0.85	1	2	3	403
<b>Pure financial services (binary)</b>	0.82	0.39	1	1	1	411
<b>Voluntary savings (binary)</b>	0.35	0.48	0	0	1	412
<b>Number of loan products</b>	4.12	2.88	2	3	5	406
<b>Average loan amount (USD)</b>	710	894	179	414	980	396
<b>Women percentage (of clients)</b>	0.70	0.25	0.52	0.70	0.97	170
<b>Donated equity (% of total book equity)</b>	0.56	1.21	0.05	0.46	0.84	310
<b>Cost of funds (aggregate)</b>	0.08	0.08	0.03	0.07	0.10	390

Table 2 reports the mean, standard deviation, first quartile, median, third quartile, and number of observations of the variables of the empirical study (defined in Table 1). In addition, we present some ‘stylized facts’ from our sample of MFIs.

**Table 3: Correlations**

<u>Variable name</u>	<u>Variable number</u>															
RatingScore	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CEO/Chair duality	2	0.04														
Internal audits	3	<b>0.22</b>	-0.01													
Board size	4	-0.09	-0.09	-0.02												
Intern. directors	5	<b>0.26</b>	-0.12	0.10	-0.09											
Shareholder firm	6	0.04	-0.04	<b>0.15</b>	<b>-0.23</b>	<b>0.27</b>										
Regulation	7	0.01	-0.07	0.11	-0.01	0.07	<b>0.34</b>									
Intern. initiation	8	<b>0.19</b>	-0.06	-0.06	-0.07	<b>0.44</b>	0.10	-0.01								
Competition	9	<b>0.14</b>	-0.03	<b>0.15</b>	<b>-0.32</b>	-0.01	-0.07	-0.06	-0.11							
EARN/ASSETS	10	<b>0.43</b>	0.07	0.03	-0.09	<b>0.15</b>	0.05	-0.13	0.12	0.09						
LN(ASSETS)	11	<b>0.48</b>	0.07	<b>0.38</b>	-0.02	0.10	0.10	0.13	0.00	<b>0.20</b>	0.08					
OEX_PORTF	12	<b>-0.25</b>	0.00	-0.13	0.10	0.07	-0.08	<b>-0.17</b>	0.07	-0.10	-0.09	<b>-0.33</b>				
PAR30	13	<b>-0.40</b>	-0.05	-0.08	0.06	<b>-0.18</b>	-0.03	0.06	<b>-0.21</b>	-0.03	<b>-0.20</b>	-0.11	-0.07			
HDI	14	<b>0.22</b>	0.10	-0.07	<b>-0.18</b>	-0.05	<b>-0.16</b>	<b>-0.20</b>	-0.05	-0.02	<b>0.23</b>	0.06	0.03	-0.11		
Regulatory quality	15	-0.02	0.03	0.00	-0.01	-0.07	0.04	0.11	-0.03	<b>-0.14</b>	0.01	0.01	<b>0.25</b>	0.05	<b>0.42</b>	
AGE_MFI	16	-0.13	-0.03	<b>0.15</b>	0.07	<b>-0.19</b>	-0.12	0.01	<b>-0.20</b>	0.08	-0.12	<b>0.23</b>	-0.09	<b>0.21</b>	0.03	0.00

Table 3 reports Pearson correlation coefficients for the variables defined in Table 1. Boldface denotes that the variables are significant at the 5% level (two-sided test).

*Table 4: Multivariate analysis*

	CEO/Chair duality	Internal audits	Board size	Intern. directors	Shareholder firm	Regulation	Intern. initiation	Competition	Multivariate1	Multivariate2
<b>CEO/Chair-duality</b>	-0.64**								-0.79*	-0.84**
<b>Internal audits</b>		0.54**							0.68**	0.54**
<b>Board size</b>			0.03						-0.02	0.04
<b>Intern. directors</b>				0.19*					0.35***	
<b>Shareholder firm</b>					-0.04				-0.36	
<b>Regulation</b>						0.04			0.12	0.07
<b>Intern. initiation</b>							0.09		-0.36	-0.20
<b>Competition</b>								0.15**	0.11	0.19**
<b>EARN/ASSETS</b>	16.47***	15.06***	16.04***	17.32***	15.89***	15.97***	16.34***	16.37***	20.20***	18.43***
<b>LN(ASSETS)</b>	1.42***	1.31***	1.35***	1.45***	1.38***	1.40***	1.38***	1.42***	1.43***	1.40***
<b>OEX_PORTF</b>	-1.37**	-1.81***	-1.67**	-2.31***	-1.59**	-1.59**	-1.67***	-1.54**	-2.73***	-1.53**
<b>PAR30</b>	-10.97***	-12.42***	-11.89***	-11.17***	-11.51***	-11.36***	-11.27***	-12.22***	-12.22***	-12.74***
<b>CONTROLS:</b>										
<b>HDI</b>	3.06***	3.02***	2.95***	2.57**	2.66***	2.78***	2.62***	2.75***	3.62**	3.86***
<b>Regulatory quality</b>	0.12	0.13	0.17	0.45	0.21	0.15	0.19	0.24	0.16	0.00
<b>AGE_MFI</b>	-0.06***	-0.06***	-0.05***	-0.05***	-0.06***	-0.06***	-0.06***	-0.06***	-0.06***	-0.06***
<b>Indicator var:</b>										
<b>Year</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Agency</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Pseudo R<sup>2</sup></b>	20.08 %	20.01 %	19.49 %	20.99 %	19.41 %	19.74 %	19.40 %	20.17 %	24.03 %	22.50 %
<b>Δpseudo R<sup>2</sup></b>	0.22 %	0.33 %	0.04 %	0.23 %	0.00 %	0.00 %	0.01 %	0.26 %	1.97 %	1.25 %
<b>No. obs</b>	350	340	359	286	387	381	382	368	210	273

Table 4 reports regression coefficients, explanatory power (pseudo R<sup>2</sup>) and number of observations from the following ordered logit regression model:

$$\text{RatingScore} = \beta_0 + \beta_1\text{GOV} + \beta_2\text{PROF} + \beta_3\text{SIZE} + \beta_4\text{EFF} + \beta_5\text{RISK} + \beta_6\text{CONTROL} + \varepsilon$$

where GOV is a vector of governance variables (CEO/chair duality, internal audits, board size, international directors, shareholder firm, regulation, international initiation, and competition), PROF is a measure of profitability (EARN/ASSETS), SIZE is a measure of size (ln[assets]), EFF is a measure of operating efficiency (OEX/PORTF), RISK is a measure of risk (PAR30) and CONTROL is a vector of other control variables (HDI, Regulatory quality, AGE\_MFI and indicator variables for year and rating agency). The variables in the GOV vector are included successively, one at a time. Multivariate1 is the complete model and Multivariate2 is the complete model exclusive of international directors and shareholder firms. All variables are defined in Table 1.  $\Delta$ pseudo R<sup>2</sup> is the increase in explanatory power from introducing the governance variables. Three asterisks (\*\*\*) , two asterisks (\*\*) and one (\*) asterisk denote the conventional 1%, 5% and 10% significance levels, respectively.

**Table 5: Agency-specific analysis**

	<b>Microfinanza</b>	<b>PlanetRating1</b>	<b>PlanetRating2</b>
<b>CEO/Chair duality</b>	-0.12	-3.09***	
<b>Internal audits</b>	1.63***	1.11**	
<b>Board size</b>	-0.13	0.00	
<b>Regulation</b>	1.04*	-0.15	
<b>Intern. initiation</b>	0.53	-0.95**	
<b>Competition</b>	0.28	0.12	
<b>Governance score</b>			-15.57***
<b>EARN/ASSETS</b>	16.92***	23.59***	18.93***
<b>LN(ASSETS)</b>	1.52***	1.72***	1.14***
<b>OEX_PORTF</b>	0.95	-2.11*	-4.06***
<b>PAR30</b>	-21.34***	-10.37***	-11.63***
<b>CONTROLS:</b>			
<b>HDI</b>	1.49	3.97**	1.52
<b>Regulatory quality</b>	-0.56	0.69	1.02
<b>AGE_MFI</b>	-0.01	-0.12***	-0.04
<b>Indicator var:</b>			
<b>Year</b>	Yes	Yes	Yes
<b>Pseudo R<sup>2</sup></b>	36.65 %	40.15 %	46.55 %
<b>Δpseudo R<sup>2</sup></b>	6.37 %	4.72 %	12.33 %
<b>No. obs</b>	90	114	132

Table 5 repeats the analysis of Table 4 for the two microfinance rating agencies *Microfinanza* and *Planet Rating* (Multivariate2). In the regression ‘PlanetRating2’, the governance vector (GOV) is replaced by *Planet Rating*’s aggregate governance score. Three asterisks (\*\*\*), two asterisks (\*\*) and one (\*) asterisk denote the conventional 1%, 5% and 10% significance levels, respectively.

**Table 6: Other performance metrics**

	<b>ROA</b>	<b>ROE</b>	<b>Avg. loan amount</b>	<b>Wom. percentage</b>
<b>CEO/Chair-duality</b>	-0.001	0.056	-12271	0.047
<b>Internal audits</b>	0.000	-0.002	-20149	0.040
<b>Board size</b>	-0.003***	0.002	5878	0.006
<b>Intern. directors</b>	0.003	-0.007	-12739	-0.003
<b>Shareholder firm</b>	-0.002	-0.212	-10764	-0.155***
<b>Regulation</b>	-0.002	0.096	-11603	-0.128***
<b>Intern. initiation</b>	-0.004	0.040	-17778*	-0.003
<b>Competition</b>	-0.003	-0.008	838	0.004

Table 6 repeats the analysis of Table 4 using alternative performance metrics (to rating score) as dependent variables. Return on assets (ROA) and return on equity (ROE) are applied as financial performance measures, whereas average loan amount and percentage of women (clients) are used as social performance indicators. Consistent with the leftmost columns of Table 4, one governance metric at a time is included in the regression analysis. Only the coefficients of the governance variables are reported, but all other explanatory variables are included in the regressions (EARN/ASSETS is excluded in the ROA/ROE-regressions). Three asterisks (\*\*\*) , two asterisks (\*\*) and one (\*) asterisk denote the conventional 1%, 5% and 10% significance levels, respectively. Note that in Table 6, ordinary least squares replaces ordered logistic regression as the estimation technique.