

A Global Assessment of Microbank Regulation and Earnings Quality

Abstract

The purpose of this study is to investigate whether banking regulations, as a governance mechanism, influences the earnings quality of microfinance institutions. **An** earnings quality metrics are estimated by the means of cross-sectional analysis of 403 microfinance institutions from 73 countries. This study finds that discretionary reporting behavior is more pronounced among regulated microfinance institutions, than among non-regulated institutions. The presence of regulations appears to constrain opportunistic reporting of earnings numbers. Earnings persistence and predictability are superior in regulated microfinance institutions. Moreover, the earnings quality appears to be more influential on the on microbanks` performance ratings, when the microfinance institutions are regulated.

Keywords: Microfinance, Corporate Governance, Earnings Quality, Financial Accounting, Global Banking Regulations.

1. Introduction

Banking regulations have been subject to extensive research and debate for decades. In the aftermath of the 2008 global financial crisis, the focus on banking regulations and governance have been particularly intense (see e.g., Gulamhussen et al., 2012). Simultaneously, within the high growth microfinance industry there has been relatively less attention on regulations and other means of external control in (Hartarska, 2010). However, the industry has recently come under public pressure and media attack (Bateman, 2010). 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. In contrast to the traditional banking industry, the presence of banking regulations is not obvious in the microfinance industry; some microfinance institutions (MFIs) are regulated by the national banking authority, others are not, even when they operate in the same national markets, and follow similar business models (Mersland and Strøm, 2009). The increased critical focus on microfinance, combined with both the substantial recent growth rates (Maes and Reed, 2012) and the impressive remaining growth potential (cf. Demirguc-Kunt and Klapper, 2012), motivates this research on the impact of banking regulations on MFIs.

The scarce existing research on the impact of microfinance regulations has typically had a performance focus. For example, both Hartarska and Nadolnyak (2007) and Mersland and Strøm (2009) find no relationship between being regulated, by the banking authorities, and MFI performance. Therefore, in this study, we focus on the impact of banking regulation on microfinance managers' behavior. Specifically, we investigate if the presence of banking regulations affects the earnings quality of MFIs. In general, there is a substantial degree of managerial discretion involved in the financial reporting process and the subsequent earnings quality. Such earnings quality measure the relevance and usefulness of the

financial reporting, and summarizes the degree to which such discretion is applied in a manner that is (un)favorable to an entity's external stakeholders.

Overall, the existing research on the relationship between earnings quality and governance mechanisms shows inconclusive results (see the comprehensive discussion in Francis, et al., 2008; cf. Dechow, et al., Section 5.3., 2010). According to Francis et al. (2008), there are also mixed results for the more specific research on the influence of regulatory scrutiny on earnings quality. One possible explanation for these inconclusive results could be measurement difficulties and inherent weakness with the applied research settings. Therefore, this study on the microfinance industry provides a unique research setting because some MFIs are regulated while others are not, and the regulated versus the non-regulated MFI institutions are otherwise rather similar (Mersland and Strøm, 2009).

Our tests suggest that there is more discretionary financial reporting behavior among regulated than non-regulated MFIs. The possible discretionary actions of the management of regulated organizations appear to result in smoother and more predictable earnings that, on average, are more representative of the organizations' long-term earning ability (cf. Melumad and Nissim, 2008). Thus, we conclude that the earnings quality is higher in regulated than in non-regulated MFIs. The study supports the view of, e.g., Melumad and Nissim (2008) that discretionary actions to increase earnings smoothness and predictability are not necessarily explained by a management desire to obtain private gains through manipulation of financial reports; the more positivistic view is to claim that the explanation can equally well be a desire to reduce information asymmetries between the organizations and their stakeholders. This interpretation is strengthened by the finding that the earnings of the regulated MFIs are more influential for the MFIs' global risk assessments than the earnings of their non-regulated counterparts. The global risk assessments, or simply the MFI ratings, are broad measures of the MFIs' ability to achieve

their multiple sets of objectives; they are frequently used by investors, lenders, donors, and others as a basis for decision making and capital allocation (Reille et al., 2002). Thus, the rating score constitutes a very important factor in the microfinance industry, and the 'rating relevance' of earnings can be regarded as a proxy for the value relevance measures that are frequently studied for exchange-listed corporations (Beisland and Mersland, 2013).

Overall, a starting premise in this study is that earnings quality is of value to key stakeholder (such as investors, donors, lenders) in the microfinance industry. Even if the regulations of the microfinance industry do not necessarily cover financial reporting *per se*, we conclude that MFI regulation, as an additional governance mechanism, improves the usefulness and relevance (i.e., the earnings quality) of the financial reporting information. This finding is attributed to the generally reduced opportunities for the management of regulated entities to act opportunistically, as well as the greater professionalism and the higher degree of awareness regarding the importance of high-quality accounting information.

This study contributes to the existing research in several ways. First, the study answers the challenge put forth by Hartarska (2010); for more research on the influence of regulation on managerial attributes of MFIs. This study suggests that regulations, as a governance mechanism, affect microbank managers' behavior and effort, even in areas that are typically not directly covered by the regulations. The main argument for regulation has been that it enables the MFIs to attract deposits, but regulations may also increase the possibility for other stakeholders to create and extract rent, and prevent entry by new competitors (as discussed by Hartarska, 2010) Thus, it is of vital public policy importance to understand a wider set of consequences from regulations, including possible spillover effects. Second, the study answers the challenge of Francis et al. (2008) for more research on the influence of governance mechanisms in general, and regulations in particular, on earnings quality. Previous research suggests

that regulations may have discernible economic effects, but the results from the limited existing research are inconclusive (Francis et al., 2008). The mixed results from past studies can possibly be attributed to comparability challenges in the research design, and the co-existence of regulated and non-regulated MFIs makes the microfinance industry a particularly attractive research setting.

This paper is organized as follows. Section 2 develops the hypothesis to be tested and outlines the research design of the study. Section 3 presents the data sample, and Section 4 discusses the empirical findings. Section 5 concludes the paper.

2. Hypothesis Development and Research Design

2.1. Hypothesis Development

Banks and financial institutions are regulated because their failure generate negative externalities for their customers, mostly their depositors (Freixas and Rochet, 1997; Inter-American Development Bank, 2004). Moreover, there is a need to protect the payment system and, more generally, the financial system (Inter-American Development Bank, 2004). An additional objective for the regulation of the microfinance industry is to increase the MFIs' outreach and sustainability and thus increase their contribution to poverty reduction (McGuire, 1999; Arun, 2005).

Being regulated enables the MFIs to attract deposits, just like regular banks, and this is often presented as the main argument for regulation (Hartarska, 2010). However, traditional banking regulations do not typically cover microfinance activities (Hartarska and Nadolnyak, 2007). Past research highlight how the appropriate MFI-regulation is contingent on country-specific characteristics such as the level of development and institutional capacities (Arun, 2005; Hardy et al., 2003), and therefore, there is no uniform regulation of MFIs across countries (McGuire, 1999). Since banking regulations are not uniformly

applied to the microfinance industry, a 'hot' topic in the industry is whether such regulations should be imposed. Unfortunately, prior research on the consequences of microfinance regulation is limited (Hartarska, 2010).

Microfinance regulations can include rules governing MFI formation and operations, consumer protection, fraud prevention, the establishment of credit information services, secured transactions, interest rate limits, foreign ownership limits, and tax issues (Cull, Demirguc-Kunt and Morduch, 2009). Several studies discuss how regulatory authorities may optimize the regulation of MFIs, given their special characteristics (see, for instance, Hardy et al., 2003). Any kind of regulation, as such, is problematic first and foremost because it may prevent competition and increase the possibilities for rent extraction (Stigler, 1971). Thus, in general, it is important to study all of the consequences of regulation, including possible spillover effects. For instance, as noted by Hartarska (2010), it is important to study whether the presence of a regulator promotes better managerial effort overall. In this study, we devote our attention to the possible influence of regulation, as a governance mechanism, on the quality of the financial reporting. Specifically, we argue that regulation might affect the managerial discretion involved in the reporting process and thus have consequences for the relevance and usefulness of reported earnings numbers. According to Chalevas and Tzovas (2010), one of the main objectives of corporate governance mechanisms, is to restrain a possible tendency of the firm's management to manipulate reported accounting figures.

The main objective of high-quality financial reporting in the microfinance industry is to reduce information asymmetries between the stakeholders and the MFI (Hartarska, 2010). Thus, high-quality reporting improves the usefulness, relevance and trustworthiness of the accounting information. However, there is no unique definition of either financial reporting quality or the more specific concept

of earnings quality in the accounting literature (Dechow et al., 2010). Nevertheless, Melumad and Nissim (2008) provide an accurate description of the term earnings quality when they contend that “earnings are of high quality if they are representative of long term earning ability” (p. 91). According to this interpretation of the concept, earnings should not only represent the current financial performance of a company or organization; the earnings are of high quality only if they also provide some type of information on the future performance of the entity. Based on this interpretation; we find that accounting information is of limited usefulness if it only reflects historical events. Because the firm value is the present value of future cash flows, investors would only find the earnings numbers useful if they are indicative of the future cash flows of the company. Thus, earnings numbers reduce the investors’ information risk if they reflect the current and future cash flow generating capabilities of a firm (cf. Francis et al., 2004). The reduced information risk stemming from high earnings quality can explain why high earnings quality is found to be associated with a lower cost of capital (Dechow et al., 2010; Ngo and Varela, 2012).

The earnings quality of a company or organization can be influenced by a large number of factors. Francis et al. (2008) distinguish between two sources, or determinants, of earnings quality. The innate sources are those that reflect the innate features of the business model and the operating environment, whereas the reporting sources arise from the financial reporting process (Francis et al., 2008). The accounting rules are the most obvious reporting source, and there is widespread evidence that accounting regulations have a direct effect on earnings quality (see, for instance, Barth et al., 2008). Other reporting sources include management decisions, information systems, audits, and governance structures. Company regulation (cf. Chalevas and Tzovas, 2010) is also a potentially important reporting source, but according to Francis et al. (2008), there are serious difficulties in measuring regulatory scrutiny. The microfinance industry offers a cross-country opportunity to investigate the influence of

regulation on earnings quality, as some MFIs are regulated while others are not (Mersland and Strøm, 2009).

Collectively, the regulations can be considered to be an important governance mechanism. However, some of the individual microfinance regulations, such as interest rate limits, cannot be assumed to be related to earnings quality. Mersland and Strøm (2009) find that the various governance structures in the microfinance industry often complement each other. Thus, the regulated MFIs can be expected to have stronger (complementary) control mechanisms than the non-regulated MFIs.

Dechow et al. (2010) contend that the earnings quality literature mostly proposes a positive relationship between governance and earnings quality: "...the hypotheses are based on the assumption that better governance leads to increased reliability and credibility of the financial statements..." (Dechow et al., 2010, p. 368). However, Francis et al. (2008) maintain that the prior research presents mixed results with respect to the specific interaction between governance mechanisms and earnings quality. They claim that the previous results are often dependent on whether "...the researcher views earnings quality as primarily innate — that is, governance structures respond to earnings quality — or primarily discretionary — that is, earnings quality responds to governance structures" (Francis et al., 2008, p. 288). In the microfinance industry, there has been little focus on earnings quality (except Beisland and Mersland, 2013), and we therefore suggest that regulations (or the introduction of other control mechanisms) are not a consequence of poor earnings quality. Thus, in our study of MFIs, it is reasonable to assume that earnings quality is a function of regulations and not the other way around; hence, we adopt a discretionary view on earnings quality.

Based on previous research in the general business literature, Francis et al. (2008) and Dechow et al. (2010) contend that when earnings quality is viewed as discretionary, firms with greater external monitoring have better earnings quality. Moreover, in their general discussion of the forces that influence earnings quality, Givoly et al. (2010) argue that opportunism can depress earnings quality. It is generally assumed that regulation promotes market discipline and reduces managers' ability to act opportunistically (Hartarska, 2010). Thus, based on the cumulative evidence from prior research on earnings quality and control mechanisms, we propose the following hypothesis:

- *The presence of MFI regulation leads to higher earnings quality.*

The hypothesis is developed from the general expectation of a positive, overall association between the governance structures and the earnings quality. We do not have information about the detailed regulations applied to each MFI in our data sample (see below). The reader should note that the regulations of MFIs may sometimes include provisions for performance measurements and financial accounting (Cull et al., 2009; McGuire, 1999). It is reasonable to assume that these provisions, when they exist, are intended to increase reporting trustworthiness. Thus, in addition to the indirect effect of general MFI regulations on earnings quality, there can also be a direct influential factor through the possible reporting rules embedded in the regulatory framework.

2.2. Research Design

Earnings quality cannot be summarized into one composite score, but it can be evaluated through the scores on several earnings attributes (Dechow et al., 2010). For instance, earnings attributes such as smoothness, persistence, and predictability are labeled accounting-based attributes, whereas value relevance is an example of a market-based attribute (Francis et al., 2004). Because the accounting

literature does not propose ‘normal’ or ‘standard’ tests for earnings quality, the number of earnings quality dimensions that are investigated in each earnings quality study varies.

Consistent with the findings that managers have an ‘obsession’ with stable earnings (Graham et al., 2005) and that the largest cost of capital effect from earnings quality is observed for the accounting-based attributes of earnings (Francis et al., 2004), Melumad and Nissim (2008) contend that practitioners appear to equate earnings quality with earnings persistence. However, consistent with the contention that there is no single best measure for earnings quality (Dechow et al., 2010), we apply a large number of metrics for accounting-based earnings quality in this study (Francis et al., 2004). One advantage of using several metrics is that it permits us to identify the source of any accounting quality differences between the regulated and the non-regulated MFIs (Barth et al., 2008). The earnings attributes of the study are defined as follows (cf. Beisland and Mersland, 2013):

Earnings smoothness: Earnings quality is higher when earnings are smooth, compare the interpretation of earnings quality that defines high quality earnings as representative of long-term earning ability (Ngo and Varela, 2012). Earnings smoothness is measured as the standard deviation of earnings scaled by the total assets (Dechow and Dichev, 2002; Barth et al., 2008).

Earnings persistence: Persistence measures the degree to which future earnings equal current earnings. The higher the earnings persistence is, the higher the earnings quality. Persistence is measured as the slope coefficient from a regression of current earnings on lagged earnings (Francis et al., 2004; Sloan, 1996):

$$\text{Earn}_{i,t} = \beta_0 + \beta_1 * \text{Earn}_{i,t-1} + \varepsilon \quad (1)$$

Earn is the net earnings scaled by the end-of-year total assets (Barth et al., 2008) for MFI i in year t .

Earnings predictability: Earnings quality is higher when the earnings are more predictable. The predictability is measured through the explanatory power, the adjusted R^2 , from regression specification (1) (Francis et al., 2004).

Earnings management: Earnings management is defined as the purposeful intervention in the external financial reporting process with the intent of obtaining private gain (Schipper, 1989). Obviously, this type of intervention reduces earnings quality. The standard deviation of the change in earnings scaled by the total assets is our first metric for earnings management (Barth et al. 2008). A lower standard deviation is seen as evidence of earnings management. However, because this metric is also a measure of earnings stability, we include two additional proxy variables for earnings management. Hayn (1995) illustrates that companies often manage earnings to avoid reporting a loss, and her empirical results show an overrepresentation of small positive earnings for companies engaging in this type of earnings management. The proportion of small profits is our second measure of earnings management. Small profits are defined as earnings scaled by total assets in the interval 0 to 0.01 (Barth et al., 2008; Melumad and Nissim, 2008), and a higher small profit proportion is assumed to be associated with earnings management. Our third proxy variable for earnings management is timely loss recognition. Losses should be recognized as they occur and not postponed to future periods. Thus, one would expect that a higher earnings quality is associated with a higher frequency of large losses. A large loss is defined as scaled earnings that are smaller than -0.2 (Barth et al., 2008).

An important component of earnings quality is value relevance (Barth et al., 2008; Francis et al., 2004). Value relevance can be defined as the association between the market value of equity and the accounting information and it may be regarded as the foremost measure of accounting usefulness from the perspective of the stock investors. The previous literature on earnings quality typically refers to publicly listed companies (Dechow and Dichev, 2002; Francis et al., 2004; Barth et al., 2008). However,

the MFIs are not publicly listed, there is no observable market price for the entities, and thus, standard value relevance analysis cannot be conducted for these organizations.

Even if prior research has indicated that accounting-based earnings quality metrics provide strong indications with respect to value relevance (e.g., Beisland, 2011), we apply one (additional) proxy for market-based earnings quality in MFIs (based on the approach taken by Beisland and Mersland [2013]); we analyze the degree to which the earnings numbers are related to an MFI's third party rating assessment. The MFI ratings measure a combination of creditworthiness, trustworthiness, and excellence in microfinance (www.ratinginitiative.org) and are frequently applied by investors, donors and other stakeholders when evaluating the overall performance of an MFI. If the MFI's earnings are related to these ratings, one can conclude that the reported earnings are relevant and useful for the MFI's stakeholders and, hence, that the earnings are of high quality. Note that the MFI ratings are much broader than traditional credit ratings. Whereas traditional credit ratings solely focus on repayment risk, the MFI ratings are a broad measure of MFI performance (Reille et al., 2002).

Prior research has shown that the rating scores are a function of more variables than just accounting earnings. We follow prior research (Gutiérrez-Nieto and Serrano-Cinca, 2007; Beisland and Mersland, 2012) and assume that the rating of an MFI is a function of size, profitability, efficiency, and risk. Thus, the earnings' 'rating relevance' is analyzed through the following regression:

$$\text{RATE} = \beta_0 + \beta_1 \text{PROF} + \beta_2 \text{SIZE} + \beta_3 \text{EFF} + \beta_4 \text{Risk} + \beta_5 \text{CONTROL} + \varepsilon \quad (2)$$

where RATE is the rating score, PROF is a measure of the MFI's profitability, SIZE is the MFI's size, EFF is a measure of the MFI's efficiency, and Risk is a measure of the MFI's risk. Specifically, *EARN* is our

profitability measure; it is defined as earnings scaled by the end of period total assets. We use the log of total assets, $LN(ASSETS)$, as the size variable in the regressions. The efficiency measure is operating expenses relative to the total loan portfolio, OEX_PORTF . Risk is measured as the Portfolio at Risk > 30, $PAR30$.¹ This selection of proxy variables is based on the studies of Gutiérrez-Nieto and Serrano-Cinca (2007) and Beisland and Mersland (2012). *CONTROL* is a vector of control variables. The *CONTROL* vector consists of both firm controls and context controls. Specifically, we include the Human Development Index, HDI , the number of years since the MFI started conducting microfinance services, AGE_MFI , and indicator variables for the year of observation and the rating agency as our control variables. However, because the focus in the rating relevance test is on the relationship between the rating score and the earnings, all variables but *EARN* may be considered control variables in this study. Due to the ordinal nature of the rating scale, the regression is estimated using an ordered logistic regression (Greene, 2003).

Similar to the approach taken by Hartarska and Nadolnyak (2007), we split the sample in two groups depending on whether the particular MFI is regulated by the banking authorities. All tests are run on the sub-samples of regulated and non-regulated MFIs, respectively, and we analyze any possible significant differences between the two groups of organizations. Following Barth et al. (2008), we compute our earnings quality metrics from cross-sectional data (cf. Beisland and Mersland, 2013). When this type of pooled estimation is applied, one presents the metrics for the sub-samples as a whole and then analyzes possible difference between the samples, as insightfully described by Barth et al. (2008, p. 481): “As with prior research, we interpret differences in various summary statistics (e.g., variances, correlations, and regression R^2 values) relating to the metrics between two samples of firms being compared as evidence of differences in accounting quality. This approach to comparing accounting quality metrics for two

¹ The relative proportion of the portfolio that is over 30 days in arrears

groups of firms assumes that the metrics for the firms within each group are drawn from the same distribution, and that the metrics for firms in different groups are potentially drawn from different distributions.” This method of comparing the results from different sub-samples is similar to the industry-level estimation that is often applied in earnings quality research (cf. Dechow et al., 2010; Kwag and Stephens, 2010).

3. Data Sample

The dataset contains information from 403 MFIs in 73 developing countries. The data are hand collected from www.ratingfund.org. All data are from the *risk assessment reports* made by the five ratings agencies: MicroRate, Microfinanza, Planet Rating, Crisil, and M-Cril. These agencies have been selected because they provide the most comprehensive reports and are the biggest players in the industry, and all five agencies are approved official rating agencies by the Rating Fund of the Consultative Group to Assist the Poor (C-GAP) (www.ratingfund.org). The fact that the ratings stems from a third party, independent from the MFI or the donors/funds providers, is of particular importance. So far, most performance-related research in microfinance has been conducted on self-reported data to the Microbanking Bulletin (www.mixmarket.org).

Our database comprises a sample of rating reports from 2000 to 2009, with the vast majority being from ratings conducted the last five years. The rating agencies differ in their emphasis and in the abundance of available information. The result is that the database contains MFI-specific information that differs in terms of numbers of observations, number of variables, and years covered. When needed, all of the numbers in the dataset have been annualized and dollarized using the official exchange rates from the given time

The geographical distribution of the data sample is outlined in Table 1. The dataset consists of 1525 earnings observations, and 425 of the observations are from regulated MFIs. The proportion of regulated MFIs is 27.9% in our sample.

[Insert Table 1 about here]

4. Empirical Findings

4.1. Accounting-based measures of earnings quality

Table 2 displays the results from the accounting-based tests on earnings quality. Panel A lists the distributional characteristics for the total sample, the sub-sample of regulated MFIs and the sub-sample of non-regulated MFIs. We note that the mean earnings equal 0.7% of total assets. This earnings level is lower than the typical level observed for banks and (other) exchange listed companies. The lower profitability can be attributed to the fact that most MFIs pursue a “double bottom line” of social development and financial returns. In our sample, there appears to be no difference in the profitability of the regulated versus the non-regulated MFIs. This finding is consistent with prior research that shows that regulation has a negligible effect on bank profitability in general (Barth et al., 2004) and on MFI profitability in particular (Cull et al., 2009; Hartarska and Nadolnyak, 2007).

The first metric of earnings quality that we study is earnings smoothness. Panel A of Table 2 presents evidence that the regulated MFIs report smoother earnings than the non-regulated ones. The standard deviation of the scaled earnings is 0.128 for the non-regulated MFIs, compared to only 0.087 for the regulated entities. An F-test for differences in the standard deviations shows that the difference is highly significant. Thus, the earnings quality, as measured by the earnings smoothness, appears to be higher for the regulated MFIs. This first test of earnings quality supports the proposed hypothesis.

Panel B of Table 2 reports the results from a regression of the current earnings on the lagged earnings. This analysis tests both the persistence and the predictability of the earnings numbers. The slope coefficient is the measure of earnings persistence, and it equals 0.51 in the total sample. The regulated MFIs report a persistence coefficient of 0.518, compared to 0.511 for the non-regulated ones. The difference is negligible and statistically insignificant.² Hence, the earnings quality of the two types of MFIs appears to be similar when earnings persistence is considered. However, the explanatory power—the adjusted R^2 —is 50.92% and 41.05% for the regulated and non-regulated MFIs, respectively. This difference in the adjusted R^2 is significant when measured with the Cramer (1987) test. Thus, the metric of earnings predictability suggests that there is superior earnings quality for the regulated MFIs.

The tests of earnings smoothness, persistence, and predictability do, to some extent, measure the same attribute because they all investigate the current earnings' ability to indicate the future financial performance of the MFIs. Melumad and Nissim (2008) state that "Earnings are of high quality when they are expected to recur, that is, when the current level of earnings is a good proxy for the expected level of earnings in future years" (p. 92). The focus on earnings' ability to reflect future and not only current performance can be attributed to the use of earnings as a basis for making capital allocation decisions (see discussion in Francis et al., 2008, chapter 2). Higher quality information is more precise, and more precise information, in this case information on future financial performance, advances a more effective capital allocation. Research suggests that the demand for information on future earning ability from investors and other stakeholders is overwhelming; in fact, an international survey by Graham et al. (2005) finds that 96.9% of CFOs prefer stable earnings, and a surprising 78% of CFOs would sacrifice

² The p-value is estimated by re-running (1) using a pooled sample with a dummy variable for the observations of the regulated MFIs. The listed p-value is the significance level of an interaction variable of *Earn* multiplied by the dummy variable.

value to achieve a smoother earnings path. Our finding that regulated MFIs present smoother and more predictable earnings numbers is important; if regulation promotes the production of earnings numbers that are more indicative of future financial performance, regulation may also have a direct effect on the capital allocation effectiveness within the industry.

Our next set of tests investigates the degree of earnings management within regulated and non-regulated MFIs, respectively. Panel C reports the result. A higher standard deviation for the change in earnings is expected to be associated with less earnings management. Similarly, a lower level of earnings management is expected to lead to a decreased frequency of profits just above zero and an increased frequency of particularly large losses. All of these three tests provide identical conclusions. The regulated MFIs have a lower standard deviation for the change in scaled earnings. Moreover, the regulated MFIs appear to be associated with both a higher small profit frequency and a lower large loss frequency (the latter result is only weakly significant). All of these findings suggest that there is more earnings management among the regulated than the non-regulated MFIs.

The apparently more widespread earnings management in regulated MFIs can possibly be attributed to larger pressure from the stakeholders of this group of institutions to meet certain performance benchmarks. This 'opportunistic behavior hypothesis' (see Givoly et al., 2010) may be valid if the regulated MFIs have been more subject to professionalization and commercialization than the non-regulated MFIs. The opportunistic behavior hypothesis contrasts with the 'demand hypothesis' (also discussed in Givoly et al., 2010). Under the demand hypothesis, more professional and commercial stakeholders should increase the demand for high earnings quality, thereby reducing earnings management. The results of Panel C may suggest that the opportunistic behavior hypothesis dominates the demand hypothesis when earnings management is considered.

In general, managements' discretionary actions have the potential to increase earnings quality through improved earnings persistence, smoothness and predictability (Francis et al., 2004). However, if the discretionary actions have the characteristics of earnings management with the intent of obtaining some sort of private gain (Schipper, 1989), there is no doubt that this will reduce the precision and usefulness of earnings information, and hence, the earnings quality. Thus, discretionary reporting behavior can be both advantageous and detrimental to earnings quality. In our sample, discretionary reporting behavior appears to be most pronounced among regulated MFIs, leading to the most stable and predictable earnings numbers and, apparently, the earnings numbers that are the most contaminated by earnings management. From a practical banking management perspective, the findings may not be particularly surprising. Banking regulations typically include portfolio restrictions and reserve requirements; these regulations may encourage discretionary reporting behavior.

In reality it is difficult to measure earnings management (Kwag and Stephens, 2010). Thus, it is a challenge to disentangle the discretionary actions that increase earnings persistence and predictability to reduce uncertainty and information asymmetries (Melumad and Nissim, 2008) from the creation of "... an intentional bias in the financial reports" (Melumad and Nissim, 2008, p. 97). Guay et al. (1996) state that the discretionary component of earnings quality reflects both the management's attempt to improve the ability of earnings to reflect performance in a reliable and timely way and managerial opportunism that reduces information precision (cf. Francis et al., 2008).

4.2. Rating relevance

Table 3 presents the results from regression (2) – the analysis of rating relevance. Consistent with prior research we document that the rating score is positively associated with size and operating efficiency,

and negatively associated with risk in the total sample (Gutiérrez-Nieto and Serrano-Cinca, 2007; Beisland and Mersland, 2012). However, the main focus of our analysis is the relationship between earnings and the rating scores, since rating relevance is a metric of the earnings quality of the MFIs. In accordance with prior research (Gutiérrez-Nieto and Serrano-Cinca, 2007; Beisland and Mersland, 2012), we find that (scaled) earnings are highly related to the MFI ratings; the higher the earnings, the better the rating score. Because the rating scores are frequently applied by investors, donors, lenders, and other stakeholders of the MFIs, the results suggest that there is useful and relevant information embedded in the reported earnings numbers. The result holds for both the total sample and the subsamples of regulated and non-regulated MFIs, respectively. Nonetheless, we note that the regression coefficient is substantially larger for regulated than for non-regulated entities. The difference is statistically significant.³ This difference suggests that each dollar of earnings has a larger effect on the rating score when MFIs are regulated, and thus, the rating relevance of the earnings of regulated MFIs is superior to the rating relevance of the earnings of non-regulated MFIs. We also note that the explanatory power in the ratings regression is substantially higher when the MFIs are rated.

The accounting-based earnings quality measures suggested that the earnings of regulated MFIs are more contaminated by earnings management than the earnings of their non-regulated counterparts. At the same time, the earnings of regulated entities appear to be smoother and more predictable. If the discretionary actions of management are applied to make earnings more indicative of the long-term earning ability of the MFIs (compare with the definition of earnings quality of Melumad and Nissim, 2008), rather than to obtain some type of private gain (compare with the definition of earnings management of Schipper, 1989), then the subjectivity is exercised in a manner that actually increases the informativeness of reported earnings. The rating relevance tests support this latter assumption. The

³ Measured as described in footnote 2.

regulated MFIs appear to present more precise information on the financial performance of the entities than the non-regulated MFIs, and this difference in earnings usefulness is manifested in a larger influence from the earnings of the regulated institutions on the MFI ratings.

Kanagaretnam et al. (2004) makes the theoretical argument how managerial discretion in banks may induce both signaling (about future earnings prospects) and earnings management (referred to as smoothing in their study), contingent on bank managers. However, the empirical evidence from the banking sector is mixed and supports both signaling and smoothing motives (Kanagaretnam et al., 2004). The positive effects of discretionary reporting behavior, i.e., signaling, in the banking industry have been documented by prior studies, e.g., Beaver and Engel (1996), who state that discretionary behavior may convey management's beliefs about the future earnings power of the entities. This study indicates that regulation causes increased discretionary reporting behavior, and the motive is signaling rather than earnings manipulation. The higher rating relevance coefficient for the regulated entities supports that regulation, as a governance mechanism, has a disciplining role on managers and leads to higher earnings quality.

4.3. Robustness tests

Accrual quality is an element of earnings quality (Francis et al. 2004), and it is typically tested as the statistical association between accruals and cash flows (cf. Dechow and Dichev 2002). Accruals are of good quality if they materialize into cash flows. For MFIs, the far most important accrual component is the provisions for future losses (cf. Dechow et al., 2010), and this is also a component that management can affect through discretionary behavior (Beaver and Engel, 1996; Kanagaretnam et al., 2004). The loss provisions are of high quality if they are related to actual, future losses. Although data limitations reduce our ability to fully test the accrual quality in our sample, we do provide one empirical analysis. As a

robustness test, we regress the write-off ratio on the lagged observations of net loss provisions (scaled by the total loan portfolio). From an earnings quality perspective, the write-offs should be closely related to the previous loss provisions. This (non-tabulated) test shows that the regression coefficient is much larger among regulated than non-regulated MFIs (0.24 vs. 0.10). Thus, there is a closer relationship between loss provisions and the succeeding actual losses when the MFIs are regulated, and hence, this alternative accounting-based test of earnings quality further supports the notion of higher earnings quality among regulated MFIs.

Although prior research presents mixed results on the relationship between earnings quality and company size, we cannot rule out that company size may affect earnings quality (Dechow et al., 2010). It is reasonable to assume that large MFIs are more frequently regulated than the small ones. In the sample of this study, the mean total assets are \$2,352,374 for the non-regulated MFIs, compared with \$3,705,700 for the regulated ones. The difference is highly significant ($p\text{-value} = 0.00$). We now split the samples of regulated and non-regulated MFIs into two equally sized sub-samples according to size (measured through total assets). All analyses from sub-sections 4.1 and 4.2 are repeated on the four sub-samples (not tabulated). This robustness test shows that the differences in the accounting-based earnings quality metrics between the regulated and the non-regulated MFIs are largest when the MFIs are small. In contrast, the biggest difference in rating relevance is observed for the sub-samples of large MFIs. Overall, the results on this robustness tests are similar to those presented in the main analysis.

This study is based on a sample of MFIs with a very broad geographical coverage. We consider this type of coverage to be an advantage; having a large number of countries in both sub-samples reduces the probability that our results are driven by a specific country's accounting regulations. However, unfortunately, the sample size of each country is too small for any country specific analyses to be

meaningful. Thus, we cannot rule out that possible systematic differences between the samples have influenced our findings. This challenge is common in earnings quality research on broad international samples (see the discussion in Barth et al., 2008). Nevertheless, no conclusion from our study is dependent on a single-country characteristic, and compared to single country studies, in which it is difficult to extrapolate the inferences to other countries (Barth et al., 2008), our conclusions are more generalizable. Nonetheless, as a robustness test, we re-run all tests on only the observations from the countries for which we have observations in both samples. This alternative sample selection procedure shows that the magnitude of the differences observed in the main tests increases for all tests, and thus, all conclusions withstand this alternative sample selection procedure.

5. Conclusion

Does regulation affect financial reporting usefulness, relevance and trustworthiness, or more specifically, does it affect earnings quality? We analyze whether the presence of non-accounting regulations at an overall level affects the earnings quality. A challenge in this type of study is that the presence of regulations is only one among many factors that could possibly affect earnings quality. In general, in a cross-sectional study, the overall earnings quality for every sub-sample is a weighted average of a large number of separate effects that potentially influence each organization differently (Francis et al., 2008). Thus, when splitting a sample according to only one attribute, such as the presence of regulations in this study, there is a risk that any earnings quality difference related to regulations will not be observed, even if they exist. Hence, we regard our results as being particularly strong from a statistical point of view.

Our results show that reporting discretion appears to be more widespread among regulated than non-regulated MFIs. The empirical tests suggest that this discretion increases the financial reporting quality because the regulated entities present smoother, more predictable and more rating relevant bottom line earnings numbers. Reporting discretion appears to be applied to signal future prospects rather than to

opportunistically manage earnings. The policy implication of these findings is obvious: if the earnings quality of small MFIs matters, then such organizations should be regulated. However, this study, does not discuss any other consequences of regulation aside from earnings quality.

We believe that microfinance regulations have increased MFIs' awareness of the need for accounting information of high quality. Moreover, we suggest that regulations in general, as a monitoring device and a governance mechanism (Dechow et al., 2010), and reduce the ability of MFIs to act opportunistically. The applied methodology do not identify the detailed mechanisms that cause the earnings quality to differ, which should be addressed in future studies. Thus, more research is needed to identify the specific influence of banking regulations on reporting practices, and further explore the impact of regulations on governance and managerial behavior.

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Table 1: Data Sample

Country	No. of observations	Regulated	Proportion regulated	Country	No. of observations	Regulated	Proportion regulated
Albania	15	4	26.67 %	Kosovo	18	11	61.11 %
Argentina	4	0	0.00 %	Kyrgyzstan	17	17	100.00 %
Armenia	11	5	45.45 %	Madagascar	3	3	100.00 %
Azerbaijan	28	6	21.43 %	Malawi	4	0	0.00 %
Bangladesh	3	0	0.00 %	Mali	11	4	36.36 %
Benin	35	13	37.14 %	Mexico	76	16	21.05 %
Bolivia	75	6	8.00 %	Moldova	9	0	0.00 %
Bosnia Herzegovina	46	0	0.00 %	Mongolia	9	6	66.67 %
Brazil	54	7	12.96 %	Montenegro	8	3	37.50 %
Bulgaria	9	0	0.00 %	Morocco	32	6	18.75 %
Burkina Faso	12	6	50.00 %	Mozambique	6	5	83.33 %
Burundi	3	3	100.00 %	Nepal	7	7	100.00 %
Cambodia	43	35	81.40 %	Nicaragua	48	5	10.42 %
Cameroon	17	6	35.29 %	Niger	6	0	0.00 %
Chad	3	0	0.00 %	Nigeria	12	8	66.67 %
Chile	8	8	100.00 %	Pakistan	1	0	0.00 %
China	4	0	0.00 %	Paraguay	12	6	50.00 %
Colombia	27	0	0.00 %	Peru	126	60	47.62 %
Croatia	4	4	100.00 %	Philippines	17	2	11.76 %
Dominican Republic	18	4	22.22 %	Rep of Congo	3	0	0.00 %
East Timor	1	1	100.00 %	Romania	3	0	0.00 %
Ecuador	81	8	9.88 %	Russian Federation	56	0	0.00 %
Egypt	17	0	0.00 %	Rwanda	13	13	100.00 %
El Salvador	25	0	0.00 %	Senegal	31	21	67.74 %
Ethiopia	44	40	90.91 %	Serbia	4	0	0.00 %
Gambia	4	0	0.00 %	South Africa	14	4	28.57 %
Georgia	23	1	4.35 %	Sri Lanka	1	0	0.00 %
Ghana	14	0	0.00 %	Tajikistan	16	0	0.00 %
Guatemala	28	0	0.00 %	Tanzania	23	8	34.78 %
Guinea	3	2	66.67 %	Togo	13	13	100.00 %
Haiti	13	3	23.08 %	Trinidad and Tobago	2	0	0.00 %
Honduras	34	6	17.65 %	Tunisia	3	0	0.00 %
India	82	1	1.22 %	Uganda	49	11	22.45 %
Indonesia	1	1	100.00 %	Venezuela	21	10	47.62 %
Jordan	12	4	33.33 %	Vietnam	4	0	0.00 %
Kazakhstan	11	4	36.36 %	Zambia	4	0	0.00 %
Kenya	31	8	25.81 %	Total sample	1525	425	27.87 %

Table 1 displays the distribution of the firm year observations with respect to the country and the regulatory status. The data sample for the study consists of 403 MFIs from 73 countries, in total 1,525 firm year observations. The observations are from the 2000 to 2009 period with the vast majority being from the last four years. The sample is hand collected from rating reports from the five microfinance rating agencies MicroRate, Microfinanza, Planet Rating, Crisil and M-Cril. The rating reports are available on www.ratingfund.org.

Table 2: Earnings Quality as Measured using Accounting-Based Earnings Attributes

Panel A: Descriptive Statistics and Earnings Smoothness

	Mean	St. Dev	Q1	Median	Q3	n
Total sample	0.007	0.118	-0.009	0.023	0.062	1525
Regulated MFIs	0.009	0.087	-0.004	0.021	0.052	425
Non-regulated MFIs	0.007	0.128	-0.012	0.024	0.067	1100
P-value of the difference:		0.000				

Panel B: Earnings Persistence and Predictability

	Slope coefficient	Adj. R ²	n
Total sample	0.511***	42.28 %	1134
Regulated MFIs	0.518***	50.92 %	320
Non-regulated MFIs	0.511***	41.05 %	814
P-value of the difference:	0.921	0.017	

Panel C: Earnings Management and Timely Loss Recognition

	Change in earnings			Small profits	Large losses
	Mean	St. Dev	n		
Total sample	0.020	0.089	1134	9.2 %	4.1 %
Regulated MFIs	0.011	0.048	320	11.5 %	2.6 %
Non-regulated MFIs	0.023	0.101	814	8.3 %	4.6 %
P-value of the difference:		0.000		0.048	0.070

Table 2 lists the results from the empirical tests of accounting-based earnings quality metrics. Panel A displays the mean, the standard deviation, the first quartile (Q1), the median, the third quartile (Q3), and the number of

observations (n) of earnings scaled by the end of period assets. The standard deviation of scaled earnings is applied as a proxy variable for earnings smoothness (shaded column). Panel B presents the results from the regression $\text{Earn}_{i,t} = \beta_0 + \beta_1 \text{Earn}_{i,t-1} + \epsilon$, where Earn is the earnings scaled by the end of period total assets. The slope coefficient β_1 is applied as a proxy variable for earnings persistence, whereas the adjusted R^2 is our proxy variable for earnings predictability (shaded columns). One (*), two (**) and three (***) asterisks denote the conventional 10%, 5% and 1% significance levels, respectively, of the regression coefficients. Panel C displays the mean, the standard deviation, and the number of observations (n) of the change in earnings scaled by the end of period assets. The standard deviation of the change in scaled earnings is applied as a proxy variable for earnings management (shaded column). A second proxy variable for earnings management is the proportion of small profits, defined as earnings scaled by the total assets between 0 and 0.01 (shaded column). The proportion of large losses, defined as earnings scaled by the total assets smaller than -0.2, is a proxy variable for timely loss recognition (shaded column).

Table 3: Rating Relevance

Variable	Total sample	Regulated MFIs	Non-regulated MFIs	P-value of the difference:
EARN	15.87***	31.83***	13.46***	0.021
LN(ASSETS)	1.41***	1.80***	1.38***	
OEX_PORTF	-1.53**	0.80	-1.99***	
PAR30	-11.27***	-12.95***	-11.62***	
<i>CONTROLS:</i>				
HDI	2.96***	3.87***	2.76**	
AGE_MFI	-0.06***	-0.07***	-0.03	
<i>Indicator var:</i>				
Year	Yes	Yes	Yes	
Agency	Yes	Yes	Yes	
Pseudo R ²	19.72 %	29.02 %	18.26 %	
No. obs	380	112	268	

Table 3 analyzes the relevance and the information content of earnings by examining the influence of the scaled earnings on the microfinance ratings (shaded row). The table reports the regression coefficients, the explanatory power (pseudo R²), and the number of observations from the following regression model:

$$RATE = \beta_0 + \beta_1 EARN + \beta_2 LN(ASSETS) + \beta_3 OEX_PORTF + \beta_4 PAR30 + \beta_5 CONTROL + \varepsilon$$

RATE is the ratings score assigned to the MFI by the microfinance rating agency. The rating scales have been mathematically converted into a uniform scale, where the rating scores are assigned values between 0 and 1 (Beisland and Mersland, 2012). *EARN* is the earnings divided by the end of period total assets. *LN(ASSETS)* is the log of total assets, *OEX_PORTF* is the operating expenses relative to the total loan portfolio, *PAR30* is the Portfolio at Risk>30 (the relative proportion of the portfolio that is over 30 days in arrears), and *CONTROL* is a vector of control variables. *CONTROL* includes the Human Development Index (*HDI*), the number of years since the institution began microfinance activities (*AGE_MFI*) and indicator variables for the year of observation and the rating agencies. One (*), two (**) and three (***) asterisks denote the conventional 10%, 5% and 1% significance levels, respectively, for the regression coefficients. Due to the ordinal nature of the rating scores, the regression is estimated using an ordered logistic regression (Green, 2003).