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Determinants of the Performance of Microfinance Institutions: A Systematic Review

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Microfinance institutions (MFIs) generally aim at improving the access of the poor to financial services while at the same time being financially sustainable. But what do we know about how MFIs reach and combine these two goals? We carry out a systematic review of close to 170 articles discussing the determinants of the financial and social performance of MFIs. The review shows that the most important determinants addressed in the literature are MFI characteristics (size, age, type of organization), their funding sources, the quality of organizational governance and the MFIs' external context such as macroeconomic, institutional and political conditions. The evidence on these issues is rather mixed. Moreover, the direction of the relationship between these drivers and MFI performance depends on the context, particularly the country-specific context. Finally, there is a lack of consensus in the literature on the measurement of financial and social performance. Due to the complexity of the concept, we argue that social performance should only be assessed by using a multidimensional perspective. This can be done either by applying recent and holistic social performance measures such as the SPI4, or at least by using a combination of proxies, such as outreach, gender and rural measures.

Keywords: microfinance, performance, social performance, governance, microcredit.

JEL Classifications: B0, O16, Q14.

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Determinants of the Performance of Microfinance Institutions:

A Systematic Review

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Abstract

Microfinance institutions (MFIs) generally aim at improving the access of the poor to financial services while at the same time being financially sustainable. But what do we know about how MFIs reach and combine these two goals? We carry out a systematic review of close to 170 articles discussing the determinants of the financial and social performance of MFIs. The review shows that the most important determinants addressed in the literature are MFI characteristics (size, age, type of organization), their funding sources, the quality of organizational governance and the MFIs' external context such as macroeconomic, institutional and political conditions. The evidence on these issues is rather mixed. Moreover, the direction of the relationship between these drivers and MFI performance depends on the context, particularly the country-specific context. Finally, there is a lack of consensus in the literature on the measurement of financial and social performance. Due to the complexity of the concept, we argue that social performance should only be assessed by using a multidimensional perspective. This can be done either by applying recent and holistic social performance measures such as the SPI4, or at least by using a combination of proxies, such as outreach, gender and rural measures.

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1. Introduction

Research has shown that having access to financial services is crucial for the poor as this helps them to smooth their consumption, generate business opportunities, and improve their inclusion in the formal economy in the long run (Collins et al., 2009). Yet, a substantial part of the very poor population (and especially women) in emerging economies is excluded from access to the formal financial system. According to Demirgüç-Kunt et al. (2015) in 2014 around 2 billion adults worldwide were still unbanked, that is, they did not have an account with or access to credit from a formal financial institution, such as a bank.

Since the late 1970s, the poor in emerging economies have increasingly gained access to financial services offered by so-called microfinance institutions (MFIs). These MFIs have shown significant growth rates in providing financial services to poor households. Whereas in 1997 these MFIs had around 10 million clients, in 2010 this number had grown to over 200 million (Reed, 2015). These MFIs focus on reaching out to the poor, while at the same time being financially sustainable. In the literature, this has been referred to as the microfinance promise (Morduch, 1999).

One important question is whether microfinance really contributes to improving the well-being of the poor. Several studies have looked into this issue by reviewing the results from impact studies. Examples of these review studies are Bauchet and Morduch (2011), Duvendack et al. (2011), Van Rooyen et al. (2012), Awaworyi (2014), Gopalaswamy et al. (2016) and Maitrot and Niño-Zarazúa (2017). These studies refer to the demand side of microfinance. Yet, until now, no study has systematically evaluated the potential of microfinance to reducing poverty from the supply side. That is, what is the performance of MFIs in reaching out to the poor by providing services poor households need, also referred to as *social* performance, and what determines their success (or failure) in reaching this goal? Moreover, how do MFIs *perform financially*, that is, to what extent are they able to reach out to the poor while at the same time being financially sustainable? Only two review papers have dealt with these issues, but they look at specific topics when evaluating the financial and social performance of MFIs (Reichert, 2018; Chakravarty and Pylyviv, 2017).

In this review article, we focus on the literature that discusses the performance of MFIs. In particular, we provide a systematic overview of research that analyzes the determinants of the financial and social performance of MFIs. Research in this field deals with three main topics, that is, the determinants of MFI performance related to outreach, financial sustainability, and the relationship between the two types of performance.

Reviewing this literature is important. First, in order for MFIs to make a significant and long-term contribution to improving the access of the poor and make them financially inclusive, we need to know more about factors that may help these institutions reaching their financial and social goals. Aiming at maximizing outreach under the condition of being financially sustainable is certainly important, as many MFIs nowadays are still dependent on subsidies from governments, NGOs, etc. In 2010, roughly only 20 to 25 per cent of MFIs reported not having used subsidies to carry out their activities (D'Espallier et al., 2013a). Having MFIs being dependent on subsidies is not a sustainable long-term business model. The outcomes of a review of the determinants of the performance of MFIs can be an important input for policy advice as to how microfinance can contribute to reducing poverty in a financially sustainable way. Secondly, the research on MFI performance is still in its infancy (Mersland and Strøm, 2014). Although quite a number of papers have been published on this topic since the early 1990s (our systematic review resulted in a list of around 170 articles published in academic journals), there is still controversy about the measurement of MFI performance and the interpretation and importance of outcomes reported in these studies. This is a clear indication of a research gap on this topic.

The remainder of this review is structured as follows. Section 2 briefly summarizes the debate about what MFI performance entails. This section goes into discussing and defining the two main goals of MFIs, that is, being financially as well as socially sustainable. Section 3 provides an overview of how performance of MFIs has been measured in the literature. This is followed by a brief discussion in section 4 of the methodology we followed by systematically reviewing the existing literature. In section 5 we summarize the main findings with respect to specific categories of determinants of MFI financial and social performance. In particular, we find that the majority of the articles focus on determinants related to MFI characteristics, financing sources for MFIs, organizational governance, the MFIs' external context and the trade-off between financial and social performance. The review ends with discussing a number of research challenges for future research and conclusions.

2. MFI performance: The debate

The main business model of MFIs is providing financial services to poor households who are excluded from the formal financial system. This is generally seen as their main (social) mission and is referred to as MFIs' outreach (Morduch, 1999). Reaching out to the poor is usually relatively expensive as compared to the supply of financial services by regular commercial banks, which focus on servicing more wealthy clients. Poor clients may live in rural areas, which makes it usually more costly to supply them with financial services due to higher transaction costs. Moreover, in many cases they do not have collateral to pledge when obtaining a loan, which may increase the risks, and therefore the costs for the banks. Offering deposit accounts and other savings products is costly, because the amount poor clients can save is very small while the costs of offering these services for the banks are fixed. Servicing poor clients may also be more costly, because information about their repayment capacity is generally more opaque than for richer clients. This makes the process of screening and monitoring of clients more expensive. Although MFIs have developed methods to reduce these costs (e.g. by offering group loans, making borrowers jointly responsible for the repayment of individual loans)[1], lending to the poor on average is still more expensive and more risky than offering loans to wealthier clients who have a regular income.

The next question is how MFIs finance their activities. As reaching out to the poor is costly, MFIs need a financial strategy enabling them to cover these costs. Given that they have a social mission, donor funding may be one of the sources, next to external commercial funding such as equity and loans, and resources generated through offering savings accounts. The relative importance of these resources may depend on the formal status (or type) of the MFIs. MFIs can be either not-for-profit non-governmental organizations (NGOs), cooperatives, non-banking financial institutions or (for-profit) shareholder-based financial institutions. The amount of financial resources MFIs have access to, in combination with the way these resources are used to offer financial services, ultimately determine the performance of their operations.

Discussing the performance of MFIs is an important issue when evaluating the contribution microfinance can make in reducing poverty and increasing the financial inclusion of the poorest. Financial inclusion refers to individuals, households and firms having access to financial products and services that help them to make transactions, payments, collect savings and pension funds, and obtain credit and insurance (World Bank, 2018). MFIs can make a valuable contribution to increase the financial inclusion of especially the poor by offering products and services that are useful and affordable to them and that are delivered in a

[1] See Ghatak and Guinnane (1999) and Armendariz and Morduch (2010) for overviews of the literature on the economics of group lending.

responsible and sustainable way.[2] The more efficient MFIs are in turning financial resources they obtain into financial products and services delivered to poor households, the bigger their potential impact can be on increasing financial inclusion of the poor. This may help these poor households to cope with the hardship they experience due to the mismatch between their low, highly fluctuating and uncertain income on the one hand, and their daily basic needs on the other (Collins et al., 2009).

What are the choices MFIs make when deciding on how to organize their operations? Should the focus be on outreach to the poor (i.e. *social performance*), given the financial sources available? Or should they focus on generating returns on financial resources (i.e. *financial performance*), given a certain level of outreach? Of course, MFIs can choose various combinations of levels of these two types of performance. Ultimately, answering the above questions is about how to turn (real and financial) resources into the provision of services. In practice, the choice for a particular combination of financial and social performance levels may be linked to the type of MFI. Whereas NGOs may be more inclined to focus on their social mission and prioritize social performance at the cost of reaching financial performance, for-profit microfinance banks on average will most likely attempt to emphasize financial performance, which may result in putting less effort in reaching out to the poor.

The choice MFIs make regarding combinations of financial and social performance and the consequences this has for their operations, has been subject of fierce debate in the microfinance literature and has become known as the *trade-off* discussion. The debate is about whether or not MFIs can stick to their main social mission of outreach and provide services to poor households (i.e. being socially sustainable), while at the same time being financially

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[2] Definition of financial inclusion is taken from the World Bank, see : http://www.worldbank.org/en/topic/financialinclusion/overview (accessed June 9, 2018)

sustainable. That is, they should be able to reach out to poor clients without making net losses and/or without being dependent on subsidies over the medium- to long-term. The reason is that, if MFIs provide services to the poor, while making losses at the same time, their business model will not be sustainable in the long-term. The same holds for the dependence on subsidies, because even if subsidies are available, it is recognized that these resources are limited and may decrease in the future. Therefore, in the microfinance literature people refer to the so-called *double bottom line mission* of improving the lives of the poor while being independent of donor support in the long run (Armendariz and Labie, 2011).

Until the late 1990s, the role of the microfinance business as being focused on providing financial services to the poor was dominant in the thinking about the main mission of MFIs. Since the early 2000s, however, the debate has moved into the direction of emphasizing the importance of developing financially sustainable MFIs. Nowadays, the importance of striving for financial sustainability has been embraced by most parties in the microfinance debate. Donors, policy makers and other financers of microfinance have recently made a shift from subsidizing MFIs institutions towards an increased focus on financial efficiency of these institutions.

Shifting the focus from social to financial performance coincided with a number of important developments the microfinance business was confronted with, especially since the early 2000s. One important development was the apparent success of the microfinance model. MFIs showed high success rates in reaching the poor, while at the same time reporting low levels of repayment problems. Reported loan recovery rates of 95 per cent or higher were no exception. Microfinance thus appeared to be a thriving, sustainable business model. This triggered the attention of investors, looking for socially responsible investment opportunities. Even commercial banks became interested as they saw providing financial services to the poor as a way to create new markets for their activities. These developments contributed to a fast-growing microfinance sector. During 2000-2005, average annual growth rates in terms of the number of clients served by MFIs amounted to 50 per cent; during 2006-2008 growth rates rose further to 70-100 per year (Sinah, 2010; Assefa et al., 2013). The financial crisis contributed to a substantial reduction in microfinance growth (Wagner and Winkler, 2013). Since 2010, growth has revived albeit not at the pace that was observed before the crisis.

The almost unprecedented growth of the microfinance business also contributed to an increased competition and *commercialization*, revealing itself in private, profit-seeking funding sources entering the business model of MFIs. As the number of MFIs grew fast and they all tried to survive, the pressure to sell financial services led to saturation of markets and over-indebtedness of clients in some countries and regions. Competition and commercialization thus contributed to an increased focus on profit making. In the literature, the recent trend of MFIs shifting their focus from social performance towards a stronger focus on profitability has been referred to as *mission drift* (Copestake, 2007; Armendariz and Szafarz, 2011; Mersland and Strøm, 2010).

At the same time, however, there remains variety in MFIs in terms of their financial sustainability. According to Cull et al. (2016), only half of the MFIs listed in the so-called MIX Market dataset are financially sustainable.[3] The number of financially sustainable MFI is probably even smaller since the existing dataset may be biased towards more profitable and established MFIs. In most cases, these are larger, mature, regulated and relatively well-known MFIs (Deutsche Bank, 2007). The non-profit NGOs are still the main type of MFIs, representing almost half of the total number of MFIs (D'Espallier et al., 2017). The median level of financial sustainability does not differ much between non-profit and/or non-governmental organizations on

[3] The MIX market is a global web-based microfinance information platform. It provides financial data, organizational data and profiles of more than 2,000 MFIs located in over 100 countries around the world. See the following webpage: www.mixmarket.org

the one hand and for-profit or microfinance banks on the other hand (Cull et al., 2016). The remaining group of MFIs consist of smaller, start-up organizations, which are still far from being financially sustainable and are therefore (heavily) dependent on subsidies. D'Espallier et al. (2013a) show that only 20 to 25 per cent of MFIs do not receive any donations.

Overall then, during the past three decades, the dominant view regarding the mission of microfinance has shifted from an almost exclusive focus on outreach to the poor, towards an increased focus on profit-making and an emphasis on financial performance. This is at least how thinking among practitioners evolved, making decisions based on their own experience and beliefs, and influenced by the changes that occurred in the microfinance landscape in terms of the financing of MFIs activities and the role played by donors and commercial investors. Yet, what can research tell us about the possible determinants and consequences of both financial and social performance and the potential for a trade-off between these two? Our knowledge on these issues remains scattered, as there is no comprehensive overview of what we know about the performance of MFIs and its determinants. There is thus much room for expanding our knowledge on this topic. The remaining part of this article is devoted to reviewing the academic literature investigating this question. Before going deeper into this literature, we first discuss how financial and social performance has been measured in microfinance research.

3. Measuring MFI financial and social performance

In the literature MFI *financial* performance has been measured in various ways. In most cases, researchers use traditional financial ratios such as the return on equity (ROE) or the return on assets (ROA). These measures are also used in the more general banking literature. ROE is calculated as net operating income divided by the value of outstanding equity; ROA is measured as the ratio of net operating income to the value of total assets of the MFI. In some cases, researchers use other measures of financial performance they borrow from the banking literature, such as loans at risk (a measure of the riskiness of the loan portfolio) or the yield ratio, measured as the total income from interest and fees on the outstanding loan portfolio. However, since detailed, high-quality financial information is usually rather difficult to obtain for MFIs researchers mostly fall back on using ROA or ROE as a measure of financial performance

Next to traditional measures, financial performance is also evaluated by using indicators that are more specific to microfinance. These indicators include measures such as the so-called operational self-sufficiency and financial self-sufficiency. Operational self-sufficiency provides information with respect to the ability of MFIs to cover costs with revenues, that is, it shows to what extent an MFI is able to break even on its operations. It can be assessed by dividing total operating revenues by the sum of total financial expenses on attracting funding, which includes interest paid to depositors and interest and fees on loans from funds or other financial institutions as well as bondholders, and expenses on loan loss reserves and operations. In some cases, a simpler measure of operational self-sufficiency is used, taking the ratio of operating revenues to operating expenses net of loan loss provision expenses and operating expenses.

Financial self-sufficiency is measured as the adjusted total financial revenue divided by the sum of adjusted financial expenses, loan loss provisions and operating expenses. Adjustments refer to correcting for the country-level inflation rate and the implicit and explicit subsidies. These subsidies include concessionary borrowings, cash donations, and in-kind subsidies. The financial self-sufficiency measure indicates the extent to which MFIs are able to operate without ongoing subsidies, including soft loans and grants (Cull et al., 2007).

In microfinance research, *social* performance is related to the social mission of MFIs, i.e. reaching out to the poor by lending to individuals, households and small firms having limited or no access to finance. Studies on the social performance of MFIs mostly focus on two dimensions of outreach, that is, its breadth and depth (Schreiner, 2003). The breadth of outreach refers to the coverage of MFI and is generally measured by the number of clients served by the MFI. The depth of outreach refers to the type or profile of the clients served by the MFI. The two most widely used measures of the depth of outreach are the ratio of active female borrowers to the total number of active borrowers of an MFI and the average size of the loan divided by the GDP per capita of the country in which the MFI resides. The intuition behind the first measure is that female borrowers are generally considered as being among the poorest of the population and that they are most strongly excluded from taking out loans from formal banks. The second measure is a proxy of the average poverty level of clients taking out a loan from the MFI. The poor are expected to take out smaller loans (relative to their income); MFIs may also not be willing to lend larger sums to poorer clients because of the potential risk of non-repayment. Sometimes, measures related to outstanding (number and size of) deposit accounts are used. However, not all MFIs are offering deposit accounts due to regulatory barriers, meaning that the coverage of studies using these measures is generally lower. A minority of studies also use an indicator of the geographical dimension of outreach by taking the percentage of clients living in rural area. The assumption supporting this measure is that the majority of the poor usually live in rural areas.

A specific and growing branch of literature investigating performance focuses on measuring the efficiency of MFI operations. Studies related to this branch of literature analyze how organizations use resources and turn them into goods and/or services, that is, they try to capture the notion of organizational efficiency. This notion of organizational efficiency has been used in the literature discussing non-profit organizations more generally (Callen et al., 2003). The measurement of the efficiency of an organization relates to calculating the maximum level of outputs that can be generated given a certain quantity or costs of inputs. Alternatively, efficiency can be measured by calculating the minimum quantity or costs of inputs to generate a certain output level. The closer the organization is to producing the maximum output level or to minimizing the costs of production, the higher its efficiency.

Most studies use data envelopment analysis (DEA)[4] and/or stochastic frontier analysis (SFA)[5] to measure cost efficiency.[6] DEA and SFA allow for establishing how close the actual costs of the activities of an MFI are to what the costs of a best practice MFI would have been in case it produces identical output under the same conditions. In order to be able to know what the costs of a best practice MFI in producing its services are, a so-called efficient cost function or efficient cost frontier needs to be established. This frontier shows the combinations of output volumes and related minimum levels of inputs costs. Again, the microfinance literature borrows this approach from studies in banking where this approach has been used extensively.

If an MFI is cost efficient, it is located somewhere on the frontier. In this case, the MFI is said to be both technically efficient (meaning that it maximizes production given available inputs) as well as allocatively efficient (i.e. it uses the optimal mix of inputs given the relative price of each input). If an MFI is located somewhere below the efficient cost frontier, however, it is producing its services (technically and/or allocatively) inefficiently. The distance between the location below the frontier and the frontier is a measure of the extent to which the MFI is considered inefficient.

Both DEA and SFA use data on input prices and output of producing units as their information set. DEA determines the frontier as the curve linking output levels for which costs are minimized. SFA estimates the efficient cost frontier, rather than deterministically establish its position, as is the case for DEA. SFA allows for taking into account several factors that may

[4] See Charnes et al. (1978) and Banker et al. (1984) for a detailed and more technical discussion of this methodology.
[5] See Jondrow et al. (1982) for a detailed and more technical discussion of this methodology.
[6] Next to cost efficiency, DEA and SFA can be used to estimate profit efficiency. While cost efficiency is related to the objective of cost minimization, profit efficiency captures profit maximization (Maudos et al., 2002).

determine the position of the cost frontier, next to output levels and input prices. It also allows for measurement errors in the underlying information set. DEA does not allow for measurement error and luck factors. These techniques attribute any deviation from the best-practice MFI to technical inefficiency.

Most studies on the measurement of the efficiency of MFIs focus on cost efficiency (Hermes et al., 2011). The main reason is that according to many observers microfinance's mission should be to reduce poverty. Thus, given the available financial resources MFIs should aim at maximizing their contribution to this goal. Reducing the costs of providing services may maximize their contribution to poverty reduction. Cost efficiency, that is, the extent to which MFIs are efficient in using resources and turning them into services, is closely linked to attaining their goal of making a long-term contribution to helping the poor. Studies using DEA and/or SFA to investigate MFI efficiency generally select measures of financial and social performance similar to the ones discussed above.

To conclude this brief overview, we note that there are several ways MFI performance has been measured in the literature. There seems to be no consensus with respect to what is the best way of measuring financial and social performance. Yet, consensus about the correct measurement of these concepts seems to be crucial in order to be able to come to academically founded conclusions about the drivers of MFI performance and to come up with policy relevant recommendations. Developing good and widely accepted measures of financial and social performance is therefore still a challenge.

4. Methodology and data description

4.1 Method of data collection

In this section, we first shortly discuss the method of data collection (that is, choice of data base to search journal articles, key words used, criteria for selecting articles to be included in the data set, etc.). As a first step, we established the topics we want to focus on when discussing the performance of MFIs and its determinants. In order to make this selection we took the so-called Banana skin reports. These reports are published bi-annually since 2008 and describe the most important challenges MFIs have to deal with based on surveys among representatives of rating agencies, MFI managers and investors asking them what the main challenges are MFIs are confronted with in a given year. A review of these reports shows that some of the most important challenges related to the efficiency of MFIs are the commercialization of and competition within the microfinance business, the governance of MFIs and the type of funding sources MFIs have access to.

Based upon this evaluation of the Banana skin reports we created a list of key words we used when searching for articles in databases. The list of key words consisted of the following terms:

- Efficiency, performance, productivity, trade-off (all related to the outcome variable in the studies, that is, measures of efficiency of MFIs);
- Funding, capital, subsidy, financing, grants, aid (all related to the funding sources of MFIs);
- Governance, boards, board characteristics, mission drift, transformation, ownership structure, transparency (all related to the governance of MFIs);
- Market evolution, market structure, commercialization, competition (all related to the market structure and conditions MFIs have to work in).

We used these key words to search in data bases of articles. We decided to only select peer-reviewed articles. This ensured that the articles ending up in our database had a minimum level of quality. Moreover, it reduced the scope of the search.[7] We chose using the EBSCO database, which is a widely used search machine for finding peer-reviewed journal articles. We also decided to select articles that were published since 1990. We chose starting the search from this year, because research focusing on the efficiency of MFIs started taking off from the early 1990s. Our article search stopped in August 2017. Finally, we only selected articles written in the English language.

Using the above described selection criteria we ended up having 306 articles in our initial sample. We then went through all these articles one-by-one and read the abstracts and introductions to determine what the research was focusing on. We filtered out review articles on microfinance, articles discussing methods of measuring efficiency (instead of reporting efficiency outcomes and their determinants), theoretical and conceptual articles, articles on lending methodologies (such as group lending or individual lending) and individual repayment performance, and articles in which the dependent variable was not MFI efficiency. After carefully evaluating the content of all articles in the database we ended up having 169 articles. This is the set of articles based on which we carry out the systematic review.

We acknowledge that our approach in selecting academic articles only may not provide the full picture of what has been published on MFI performance since the early 1990s. Yet, our survey is not intended to be exhaustive. Instead, it provides a solid sample of published articles, allowing us to describe the most important past developments in the research on MFI efficiency.[8] In this way, our review is also helpful in showing where future research on this subject could, or perhaps even should, focus on, that is, it helps identifying research gaps.

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[7] Using the key words and carrying out a search in Pro-Quest, a database that includes articles, dissertations and theses, e-books, newspapers, periodicals, historical collections, governmental and cultural archives and other aggregated databases, returned almost 2,000 observations.

[8] We follow Noussair and Tucker (2013) who took a similar approach in their review paper.

4.2 Description of the data

Table 1 provides an overview of some of the characteristics of the articles in our dataset. First, the table presents the number of articles published each year. Although we started searching from 1990, the first article analyzing the performance of MFIs was published only in 2001. While in the first twelve years after the first article on MFI performance was published the academic attention for the topic was moderate, from 2013 the research suddenly took off rapidly. Two thirds of the articles were published during 2013-2017. This supports the view that only recently MFI performance and its determinants have gained prominence in academic research. A substantial part of the research focuses on cross-country comparisons of performance and its determinants, as more than half of the articles use data from a worldwide sample of MFIs. At the same time, almost 40 per cent (64 articles) focus on country case studies. The majority of the case studies focus on Asian countries (56 per cent; 36 studies); MFIs in India receive the most attention (21 studies). One third of the country cases (21 studies) deals with MFIs in African countries.

<Insert table 1 here>

The majority of the articles (51 per cent; 87 studies) in our database analyze both financial and social performance and their determinants. As we will discuss later, in fact several studies discuss the potential trade-off between the two types of performance, as there is a hot debate among academics as well as practitioners about whether or not both these aims of MFIs are substitutes instead of complements. Most studies focus on financial performance when they deal with a single type of performance (33 per cent; 55 studies). Interestingly, attention for social performance of MFIs only really starts from 2010. This may be surprising as the social aims of MFIs were at the forefront of discussions about MFIs, especially during the earlier years of the development of the microfinance movement. One reason why attention for social performance increased recently may be the criticism microfinance was confronted with after 2007. MFIs were criticized for their sometimes rather unethical practices, for example in India, and for their increased focus on financial instead of social performance. One example of this was the critique Compartamos was confronted with after their initial public offering in 2007 (Cull et al., 2009).

The vast majority of the studies use quantitative methods to analyze the performance of MFIs (83 per cent; 140 studies). In only 19 studies, qualitative approaches are used to asses MFI performance. With respect to the measurement of performance, most articles use a mix of traditional accounting variables to measure financial and social performance (85 per cent, 142 studies). Popular financial performance variables are, among others, return on assets (ROA), return on equity (ROE), operational self-sufficiency, financial self-sufficiency, etc. In more recent studies researchers started to use more sophisticated measures of performance measurement. Especially since 2012, several studies have used either DEA or SFA in order to measure financial efficiency of MFIs. Still, they account for a minority of all studies investigating the financial performance of MFIs (16 percent; 27 studies).

Regarding social performance measurement, the average loan size (relative to income of the target population), the number of borrowing clients, the number of loans and saving accounts, the number of branches established and the share of loans to female borrowers are used most often. These measures of social performance have been criticized in the literature (Schreiner, 2003; Manos and Yaron, 2009). They only very roughly and indirectly measure the extent to which MFIs reach their poverty goals. Moreover, they usually measure only one type of outreach, that is, the breadth or depth of reaching out to the poor. More sophisticated and complex measures of social performance include the Social Performance Indicators Tool 4 (SPI4) developed by the Social Performance Taskforce (SPTF) and CERISE. This assessment tool provides MFIs the option to perform a detailed self-audit of the extent to which they implement social performance outcomes such as poverty reduction, rural support, reducing gender biases and/or green finance. The tool consists of a large set of standardized questions about the operations of an MFI. These questions are constantly updated, based on the feedback provided by users of the SPI4 tool. The tool was introduced in 2001; by April 2018, some 520 SPI4 audits had been completed covering MFIs in 88 countries (CERISE).[9]

Yet, data allowing for more sophisticated approaches of measuring social performance are often very hard to collect, especially for studies carrying out cross-country comparisons of performance (Hermes et al., 2011), which is why research in many cases relapses into using simpler measures.

Most studies use the MIX market data set as their main source for collecting information with respect to the performance of MFIs (60 per cent; 102 studies). Its extensive nature and easy accessibility makes it a very popular source of data. One potential shortcoming, however, is that it provides data for the larger and more developed MFIs only as it is based on self-reporting, that is, the inclusion of an MFI in the data set is voluntary. Several other studies (28 per cent; 48 studies), specifically those focusing on country case studies, use data from national sources. In a number of countries, regulating institutions and/or microfinance associations collect information about the profiles and performance of MFIs. Finally, some studies use data obtained from rating agencies (11 per cent; 19 studies). Specialized agencies such as MicroFinanza, MicroRate, M-CRIL and Planet Rating provide rating services to MFIs, which they need for attracting financial support from donors and investors as well as to regulators, donors and investors, who use the

[9] Data are taken from the CERISE website ; see : http://www.cerise-spi4.org/benchmarking/ (accessed June 9, 2018).

information to monitor their performance. For a substantial number of MFIs performance data overlap in the MIX Market and the data from rating agencies.

Finally, table 1 shows information about the outlets in which research on the performance of MFIs has been published. While most articles (53 per cent; 89 studies) are published in journals listed in the Web of Science data base (a data base that provides information on the impact of a journal using the Social Science Citation Index (SSCI))[10], a substantial part is to be found in journals not covered by this index. A relatively large number of country case studies have been published in outlets outside the list of journals in the Web of Science database (47 per cent; 80 studies). Among the journals listed in the Web of Science data base *World Development* has been used relatively often as an outlet of research on the performance of MFIs (16 studies). Other popular outlets are *Journal of International Development* (8), *Journal of Business Ethics* (5), *Journal of Banking and Finance* (4) and *Applied Economics* (4). In a few cases, microfinance performance research has been published in top finance and economics journals such as *Journal of Finance*, *Review of Financial Studies*, *Review of Economics and Statistics*, *Economic Journal* (2 studies), *Journal of Economic Perspectives* and *Journal of Development Economics* (2).

5. Data analysis

This section discusses the content of the papers in our database. We discuss articles in various sub-sections based on the topics we have defined as being important in discussion about MFI performance. The discussion of each of these topics starts with an overview of the theory and arguments about how a topic has been related to MFI performance in the literature, that is, it shortly describes the underlying reasoning of the hypotheses tested in these papers. The papers are then discussed with respect to what we they do and what they find.

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[10] The impact factor of the SSCI is a widely accepted measure of the quality of a journal.

5.1 MFI characteristics and performance

Several organizational characteristics have been examined in the empirical literature as to how they may impact the performance of microfinance institutions. In our database, 48 articles discuss the impact of MFI-specific characteristics on their performance. We focus on three key characteristics – the size of MFIs, its maturity or age, and institutional type – as they are discussed most frequently.

Organizational maturity

The relationship between organizational maturity and performance is not unidirectional. On the one hand, life cycle theory suggests that performance may evolve with the maturity of the organization. More mature MFIs may improve their performance thanks to their accumulated experience (that is, they profit from a learning curve effect). These MFIs may also benefit from a first-mover advantage, being able to preempt competitors from accessing resources or valuable market niches, but also create long-lasting cost advantages (Suarez and Lanzolla, 2007). On the other hand, however, young organizations may benefit from recent technologies or innovations when they start their operations, that is, they have the advantage of backwardness. More mature organizations may be stuck in older and less efficient processes that make them comparatively less efficient. Younger MFIs, for example, may more easily adopt new management information systems and develop mobile banking platforms.

Many articles in our database include the age of the MFI in their empirical analysis. In most cases, however, age is used as a control variable. Most cross-country studies find a positive relationship between the age of the MFI and its financial performance (Ayayi and Senne, 2010;

Cull et al., 2007). One exception is Cull et al. (2015) who study Greenfield MFIs and find that they show financial performance comparable to those of the best performing (older) MFIs.

Country studies offer a more mixed picture, however. A few papers study the association between age and the performance of Indian MFIs. Narwal and Yadav (2014) find a negative impact of age on both profitability and outreach. Rai (2015) shows that young Indian MFIs grow faster and hold higher-quality assets. Other studies using Indian data find that age positively influences productivity (Rashid and Twaha, 2013) or efficiency (Wu et al., 2016). Wijesri et al. (2015) find that age positively influences financial and social efficiency in Sri Lanka while Wijesri and Meoli (2015) suggest a negative influence on productivity in Kenya. This result may be due to the dynamic and competitive nature of the microfinance sector in this country. Results are also mixed regarding the influence of age on social performance (D'Espallier et al., 2017) and more specifically environmental performance (frequently considered as a sub-category of social performance). The evidence on environmental performance depends on the geographical context. Allet and Hudon (2015) show that more mature MFIs perform better environmentally in developing countries. Forcella and Hudon (2016) find no significant impact in a sample of European MFIs.

Size

The size of MFIs (measured in terms of their total assets or the value of their loan portfolios) may matter for performance as larger MFIs benefit from economies of scale and scope in providing financial services. Scale and scope economies allow larger organizations to be more efficient, resulting in better financial performance. Larger MFIs may also reach out to the poorer clients, thus increasing the depth of their outreach, once they decide to cross-subsidize such activities by using revenues generated through economies of scale (Armendàriz and Szafarz, 2011). At the same time, however, larger MFIs may also generate portfolio growth due to the targeting of less poor clients. This phenomenon is generally referred to as *mission drift* and is associated with lower social performance.

A few articles specifically address the impact of the size of the MFI on their performance. These articles suggest a positive relationship between the size and the efficiency and/or financial performance of the MFI (Cull et al., 2007; Caudill et al., 2009). A few country studies confirm that larger MFIs are more efficient and/or have better financial performance (Gregpore and Tuya, 2006; Rashid and Twaha, 2013; Bartni and Chitnis, 2016; Gohar and Batool, 2015).

Evidence is more mixed with respect to the relationship between size and social performance. While Kar (2013) finds that larger MFIs have better social performance, Gutierrez-Goira et al. (2016) report no significant relationship and both Narwal and Yadav (2014) and Rao and Reda (2015) find that larger MFIs have lower social performance respectively in India and Ethiopia. Both surveys on the environmental performance of MFIs suggest that larger MFIs have better environmental performance (Allet and Hudon, 2015; Forcella and Hudon, 2016).

To sum up the above overview, the size or scale of operations has a clear and positive impact on the financial and environmental performance of MFIs but not always on their social performance.

Institutional type

Various institutional types are to be found among MFIs. First of all, MFIs may be classified as not-for profit, non-governmental organizations (NGOs). NGOs do not have a bank license, which means they are not allowed to take voluntary deposits. Owners of these MFIs may consist of a variety of stakeholders such as donors, investors, staff and customers. Second, MFIs also include for-profit shareholder companies such as commercial banks and non-banking financial institutions. Finally, MFIs include credit and savings cooperatives, which are owned by their members. The type of organization may impact MFIs' performance. NGOs are expected to have better social performance than for-profit, commercial organizations since social performance is at the core of their existence and mission (Morduch, 1999). The same holds for cooperatives, which are owned by their members. In contrast, NGOs will have lower financial performance as compared to commercially driven organizations.

Several articles analyze the impact of the type of organization on the performance. Most of them use multi-country data confirm that NGOs show lower financial performance but perform better when it comes to social performance as compare to their for-profit counterparts (Gutierrez-Nieto et al., 2007; Cull et al., 2009; Gutierrez-Nieto et al., 2009; Servin et al., 2012; D'Espallier et al., 2013b; Guérin et al., 2015; Gutierrez-Goiria et al., 2016). These results are corroborated in a number of country studies showing that for-profit MFIs have lower social performance (Annim, 2012; Gohar and Batool, 2015). In contrast, however, Mersland and Strøm (2009) and Louis and Baesens (2013) find no significant differences between the two types of MFIs in terms of financial performance. Tchakoute-Tchigoua (2010) reports that for-profit MFIs have even better social performance than NGOs. Barry and Tacneng (2014), finally, show stronger financial and social performance for NGOs using data from MFIs in a number of Sub-Saharan African countries.

A number of studies focus specifically on the performance of cooperatives. One interesting result is that financial cooperatives are frequently found to be more efficient (Abate et al., 2014; Aboagye, 2009; Marwa and Aziakpono, 2015; Tchakoute-Tchigoua, 2010). Chidambaranathan and Premchander (2013) show that member-owned MFIs provide better financial and social returns to their members. Kendo (2017) argues that an increase in size can help cooperatives to reduce their costs.

One specific topic discussed in the literature on the type of MFI is the regulation and transformation process from being an unregulated NGO status to a regulated for-profit shareholder organization. Some studies, such as Hartarska and Nadolnyak (2007), Pati (2012) and Pati (2015), compared regulated and non-regulated MFIs and find no significant difference in financial performance and outreach. More recently, instead of comparing different types of MFIs, studies track the evolution of MFIs after transformation. Chahine and Tannir (2010) find that transformation improves financial performance but hinders poverty outreach, which is suggestive evidence for mission drift taking place. D'Espallier et al. (2017) also find that operational efficiency increases after transformation.

Our summary of the above results suggests that the relationship between MFI-specific characteristics and financial and social performance may not be unidirectional, but may actually depend on contextual variables. In particular, the country-level context seems to matter as outcomes from country-specific studies provide contrasting results. Future research may dig deeper in the role of country-level contextual variables, such as macroeconomic conditions and formal and informal institutions, to better understand the relationship between MFI-specific characteristics and performance.

5.2 MFI performance and financing sources

The financial and social performance of MFIs may be associated with the financing sources to which they have access. In our database 23 studies address the impact of the type of financing source on the performance of MFIs. MFIs may fund their operations by using debt, deposits, equity and/or various sources of subsidies (Bogan, 2012).

Historically, subsidies were the main sources of financing for microfinance. Many MFIs received large amounts of subsidies to cover their start-up costs. Donors paid for expenses that are particularly difficult to finance for newly created institutions. Several MFIs also received subsidies on a more continuous basis to finance their social mission of poverty reduction (Cull et al., 2009). In particular, it was long assumed that subsidies would always be necessary because of the high transaction costs related to very small loan size and the frequent field visits of loan officers to monitor clients (Armendariz and Morduch, 2010). Microfinance pioneers mainly relied on these subsidies. Thus, donor funding could be used to finance costs that cannot be priced by the market and/or that are hard for the MFIs to self-finance.

There is however a risk of excessive subsidization that may generate inefficiency and thus be detrimental and even counter-productive for the efficient operation of MFIs. Excessive subsidization may be related to the notion of soft budget constraints. With excessively high levels of subsidies "...the exact relationship between expenditures and earning has been relaxed because excessive expenditure over earnings will be paid by some other institution, typically the State" (Kornai, 1986, p. 4). Access to cheap financing allows inefficient microfinance managers to be bailed out (Morduch, 2000) and decreases the incentive to be efficient.

In trying to reconcile these different views on the role and impact of subsidies, Armendariz and Morduch (2010) suggest the development of so-called smart subsidies in microfinance. Smart subsidies maximize the social performance of MFIs while at the same time minimizing potential market distortions.

Given the prominence and longstanding focus on subsidies as the main source of finance of MFIs, it may not come as a surprise that most studies on the impact of the sources of financing on MFI performance focus on subsidies. The literature suggests a mixed impact of subsidized funding on financial performance. Several articles support the negative association between subsidies and financial performance. Using the MIX data, Bogan (2012) finds that increased use of grants by large MFIs decreases operational self-sufficiency. Caudill et al. (2009) find that

MFIs receiving lower subsidies operate more cost effectively over time. Other articles derive opposite conclusions and show that there is a positive relationship between obtaining subsidies and financial performance. Lebovics et al. (2016) explain that subsidies help MFIs to achieve high financial efficiency in Vietnam. This result is corroborated in a study by Tahir and Tarim (2013) on the efficiency of Vietnamese MFIs. Tchakouté-Tchigoua (2017) also finds that subsidies enhance financial performance. Other authors argue that it is the level of subsidies rather than the simple fact of subsidization that matters. Hudon and Traça (2013) argue that the relationship between productivity and subsidy depends on the level of subsidies: they positively impact productivity until a certain threshold level of subsidies. Mukherjee (2013) reports a similar result. This study shows that excessive subsidies drive out poor borrowers serviced by MFIs in India.

Several articles on subsidized funding address the link with the social performance of MFIs. Most of them find a positive impact. Cull et al. (2009) argue that many subsidized MFIs have a strong social mission and serve the poorest customers. In their view, subsidized MFIs may be needed to serve the poorest segment of the market. D'Espallier et al. (2013) find that the lack of subsidies worsens social performance. Lebovics et al. (2016) conclude that subsidies allow Vietnamese MFIs increasing their social efficiency. Forcella and Hudon (2016) find that MFIs with better environmental performance also benefit from more donor interest. One exception is Bogan (2012) who finds that there is no relationship between subsidies or any of the other financing variables and the (breath of) outreach of an MFI.

The strong focus on subsidies is accompanied by a lack of studies on the importance of other funding sources, such as deposits, equity and commercial debt for MFI performance. One obvious reason may be that MFIs receiving a large amount of subsidies may not be tempted or pushed to turn to other sources of funding. Subsidies may, for instance, crowd-out savings since

MFIs have little incentive to take deposits (Cozarenco et al., 2015). Yet, favoring the use of subsidies instead of deposits as a funding source also has consequences for the social performance of MFIs. Offering savings is a potentially important instrument to help the poor to get out of poverty or deal with uncertainty, perhaps even more than microcredit (Dupas and Robinson, 2013). Offering savings could thus be related to better social performance. Yet, regulatory restrictions limit deposit collection by MFIs, which negatively affects their financial performance (Bayai and Ikhide, 2016). In a similar vein, Caudill et al. (2009) find that larger MFIs offering deposits operate more cost effectively over time. Savings mobilization can also help MFIs sustain in times of crisis, such as the Indonesian BRI during the East Asian crisis (Patten et al., 2001).

A few studies focus on the relationship between debt finance and MFI performance. The evidence for this relationship is mixed. Gregoire and Tuya (2006) find that financial leverage is negatively associated with cost efficiency for Peruvian MFIs. Hamada (2010) shows that taking more bank loans is positively related to financial performance among People Credit Banks in Indonesia. Hartarska and Nadolnyak (2007) in a cross-country analysis report that less leveraged MFIs perform better with respect to their financial and social performance. Mersland and Urgeghe (2013) find that commercial lending to MFIs is positively related to financial performance while subsidized lending is related to better social performance, confirming the general conclusion that subsidies are mainly positive in terms of social performance. Bayai and Ikhide (2016) find that low cost financing sources in terms of equity of Southern African MFIs support their financial sustainability. According to Daher and Le Saout (2015) the most profitable MFIs are also well-capitalized and have low costs. Annim (2012) studies the financing of Ghanaian MFIs and shows that when they use more of their own funding (equity) they also tend to target non-poor clients more, thus reducing their social performance. Finally, some studies look at the determinants of the costs of financing. Garmais and Natividad (2013) find that being rated strongly cuts the cost of financing, particularly for commercial lenders. Rated MFIs also lend more efficiently.

It may seem surprising that, although microfinance has become more commercial over time, the emphasis of the literature on the funding sources of MFIs and the relationship to their performance is still on subsidies. The increased commercialization of the sector also has opened opportunities to diversify their sources of funding. The few papers on savings suggest that the offer of savings seems a promising avenue to improve both financial and social performance of microfinance. Future research therefore could delve deeper into the consequences of a diversification of funding for the financial and social performance of MFIs.

5.3 MFI performance and governance

One important MFI-specific characteristic that has been discussed quite extensively in the literature dealing with the performance of MFIs is the importance of their governance structure. Governance refers to how the rights/claims and obligations are divided among the stakeholders of the institution. It deals with who owns the institution and who is responsible for the daily management of the institution, and what (internal as well as external) mechanisms are in place to make sure that the interests of the stakeholders are taken care of by the management of the institution. According to the Banana Skins reports, published by the Centre of study for Financial Innovation (CSFI)[11], governance is one of the main concerns MFIs have to deal with when offering financial services to the poor.

[11] The Banana Skins reports have been published since 2008 by CSFI. In these reports CSFI ranks the most important challenges MFIs have to deal with, based on surveys among various participants in the microfinance business (e.g. practitioners, investors, regulators, etc.).

Governance has been discussed extensively in the context of publicly listed as well as non-listed private for-profit companies. In this context, researchers refer to corporate governance. The governance of for-profit companies is different from non-profit organizations to which the majority of MFIs belong. Governance of these organizations may be perceived differently as compared to the for-profit corporate sector as non-profit organizations explicitly deal with multiple aims or goals, that is, they may have more than one mission. Whereas for-profit corporations usually mainly focus on shareholder interests such as profits and value maximization (e.g. they apply the shareholder model of governance), non-profit organizations have to balance between social and financial performance when taking decisions. This also holds for MFIs. The main challenge for the MFI's management and board is to take into account the interests of different stakeholders when taking decisions. The governance of the organization is an important determinant of how management will be able to deal with this challenge. Consequently, governance may influence MFI performance.

In total 19 papers in our database discuss aspects of governance and their impact on MFI performance. These papers discuss various aspects such as the role of top management teams and boards in decision-making, the importance of transparency and disclosure in providing information to support screening and monitoring efforts, and the importance of the external regulatory context as a determinant of the performance of MFIs. Most papers discuss the role of boards as determinants of performance. Very few papers concentrate on the importance of transparency and disclosure. A few papers discuss other aspects of governance.

Boards

The discussion of boards focuses on the role of board structure and board demographic characteristics, and their impact on MFI performance. One important board characteristic studies focus on is the diversity of board members. In particular, gender and nationality of board members are discussed. According to agency theory diverse boards are better able to monitor management because a more diverse board is, at least potentially, also more independent from management, allowing for higher quality of monitoring and better organizational performance. According to the resource-based theory, diverse boards may also contribute to better outcomes because they consist of members with different backgrounds and networks, leading to a larger knowledge base and to more ideas to discuss proposals and solve problems.

Several papers in our database exclusively deal with the impact of having female board members. As microfinance is a business model in which the focus is on lending to the poor who in many cases happen to be women, this may be a potentially important topic. Augustine et al. (2016), Bassem (2009), Chakrabarty and Bass (2014), Mersland and Strøm (2009), Strøm et al. (2014) and Vishwakarma (2017) find evidence that having female board members is associated with better financial performance. Gohar and Batool (2015), Hartarska et al. (2015), Mori et al. (2015) and Périlleux and Szafarz (2015) find similar results when focusing on social performance of MFIs. Having women on board thus has positive impact on both financial and social performance! A few studies investigate the importance of independent boards (Kyereboah-Coleman and Osei, 2008; Mori et al., 2015) and find that more independent boards improve both financial and social performance. Similar results are also reported for boards with international board members (Mersland et al., 2011; Mori et al., 2011).

Only a few articles focus on characteristics of the CEO of the institution, e.g. whether or not he/she is also the chair of the board (i.e. CEO duality) and whether or not he/she is the founder/owner. Moreover, a few studies deal with the remuneration of the management and CEOs in particular. In the literature on corporate governance, CEO duality is generally associated with reduced organizational performance, as it provides CEOs with power to divert resources and use them for their personal benefit. With respect to CEOs being the founder/owner of the organization, evidence from studies on listed companies has shown that the link with performance is non-linear. During the early years, the founder/owner may contribute to improved performance, because as founder/owner the CEO will use his/her expertise and his/her involvement in the success of the organization. Yet, if the founder/owner is CEO for too long, this may be associated with lower performance, since he/she may become too involved and may obstruct necessary changes.

Two studies have looked into the consequences of CEO duality (Gohar and Batool, 2015; Kyereboah-Coleman and Osei, 2008) and find that this negatively affects financial and social performance of MFIs. One study (Mersland et al., 2015) investigates the contribution of the CEO being the founder/owner of the institution, showing that this positively contributes to financial and social performance.

To conclude our discussion on boards, it seems that empirical studies on the role of boards in explaining MFI performance find results similar to studies focusing on the role of boards in listed companies. This suggests that boards of MFIs and the roles they perform within the organization do not differ much from those of corporate organizations.

Disclosure and transparency

Disclosure and transparency are important topics in governance, also in the context of microfinance. They are particularly relevant when taking an agency perspective regarding governance and its impact on organizational decisions and outcomes. Disclosing information reduces the information asymmetry between management and stakeholders of the organization. This may positively affect organizational performance.

Perhaps surprisingly, only two studies in the microfinance literature have dealt with the importance of disclosure and transparency. Augustine (2012) finds that higher transparency has a positive impact on MFI performance irrespective of the ownership structure or the institutional environment. This result is confirmed in a study by Quayes and Hasan (2014). These studies confirm the general claim in the corporate governance literature about the importance of transparency and disclosure for organizational performance.

Given the potential importance of transparency and disclosure for MFI performance, more research seems desirable. For example, studies may look into the type of information disclosure is particularly relevant for MFI financial versus social performance.

Other governance topics

A number of papers take a broader perspective when investigating the relationship between governance and MFI performance, i.e. they investigate not only ownership, board structure or transparency, but also other governance characteristics. In particular, some studies focus on the remuneration of management, as this is an important topic in the governance literature. In line with agency theory, remuneration can be used to align incentives of management and owners. In particular, performance-based remuneration is used to incentivize management to focus on maximizing organizational performance. Two studies analyze remuneration policies (among other governance mechanisms) and find no relationship with MFI performance (Bassem, 2009; Hartarska, 2005). This may suggest that either performance-based pay is not used extensively in the microfinance business, or that this governance instrument does not work in the context of microfinance.

Finally, a number of studies address the relationship between what they call external governance and MFI performance. These studies focus on the role of financial market regulations, rating agencies and general institutional quality (such as the rule of law, the quality of country-level governance, etc.). We discuss these studies when summarizing the literature on the relationship between external conditions and MFI performance (see section 5.4).

To conclude, the literature on the relationship between governance and performance is huge and many governance aspects that may also be relevant for MFIs have until now hardly been touched upon in research. Examples are CEO remuneration, board dynamics (i.e. the interaction between board members, as well as between boards and management, when taking decisions), the importance of transparency and disclosure, the role of activism and collective action among stakeholders in influencing decision making, etc. These and other topics may receive more attention in future research as governance seems an important aspect determining organizational outcomes, also for MFIs.

5.4 MFI performance and the external context

In the previous sub-sections we discussed MFI-specific (or internal) factors that may influence their efficiency. Several studies have investigated whether and to what extent the external (that is country) context has an impact on the performance of MFIs. In our database 45 studies discuss the relationship between MFI performance and the country context. This may signal that the country context is seen as a potentially important factor. Among other things, these studies focus on macro-economic conditions, the domestic financial system, the institutional environment and the political context as potential determinants of MFIs performance. Macroeconomic conditions, and especially the country's institutional environment, receive by far the most attention.

Macroeconomic conditions

The macroeconomic context may affect MFI performance in several ways (Ahlin et al., 2011). A growing economy may increase incentives of small-scale entrepreneurs to invest and/or extend existing projects and business opportunities resulting in higher demand for MFI services and/or improving repayment performance of MFI borrowers. In both cases, MFI performance may be positively affected. At the same time, however, a growing economy may also reduce demand for services from MFIs as households and entrepreneurs are able to finance projects from profits and/or are able to access finance from formal channels, such as banks. Consequently, MFIs' financial performance may be negatively affected.

In case the economy is stagnating or experiencing crisis, demand for MFI services may rise as poor households and micro-entrepreneurs lose their jobs in the formal economy and have to rely more on their activities in the informal economy. A stagnating or even declining economy may also lead to deteriorating incomes, however, leading to less demand for savings accounts and loans, as business opportunities are scarce. Moreover, with deteriorating incomes accompanying a crisis, borrowers may have more difficulties to repay their loans to the MFI. Finally, MFI performance may also be unrelated to the macroeconomic context. This is the case if most clients of MFIs concentrate their activities in the informal economy and the formal and informal economy are unrelated.

The study by Ahlin et al. (2011) is by far the most extensive in terms of analyzing the consequences of the macroeconomic environment on MFI performance. It shows that the macroeconomic context matters for the success of microfinance, but the relationship very much depends on the country-specific macroeconomic context. One finding is that MFIs do better in terms of financial performance in times of economic growth, because this reduces defaults. Yet, another finding suggests that MFIs' growth in social performance is slower whenever a country's labor force participation is higher and/or the manufacturing sector is stronger. Under these macroeconomic conditions, demand for microfinance is lower. A few other studies also look at the impact of the macroeconomic environment, but in most cases this is not their main focus. The results of their findings are mixed. Whereas Ashta and Fall (2012), Sainz-Fernandez et al. (2015) and Xu et al. (2016) find a positive association between the macroeconomic environment and the financial performance of MFIs, Campbell and Rogers (2012) find the opposite.

Several other studies focus on the impact of financial and economic crises on MFI performance. The topics addressed in these studies are quite diverse. Daher and Le Saout (2015) find that financial performance of MFIs declined due to the international financial crisis of 2007-2009. Wagner and Winkler (2013) report similar findings. Monroy and Huerga (2013) add to these findings by showing that listed MFIs seemed to have performed during the financial crisis. Patten et al. (2001) find that Indonesian MFIs did financially relatively well during the Asian crisis of the late 1990s thanks to the design of their financial products, which were focused on the ability and willingness to repay of their clients. In addition, as many of these microloan borrowers were active in rural areas, they were also more insulated from the crisis as compared to the corporate loan borrowers in the urban areas. In contrast, Marconi and Mosley (2006), reviewing Bolivian MFIs during the economic crisis of 1998-2004, show that adverse macroeconomic conditions adversely affected their financial performance. This was partly due to their focus on lending to the services sector, which was hit hardest by the crisis, as well as due to the fact the government bailed out MFIs that had debt repayment problems, thereby creating moral hazard behavior.

The domestic financial system

MFI performance may be positively associated with the level of development of the financial system of a country. First, in a more developed financial system commercial banks may become engaged in offering financial services for the poor, especially if these activities have been shown to be profitable for MFIs. This leads to increased competitive pressure, forcing MFIs to reduce costs. Second, the presence of commercial banks may lead to positive spillover effects as MFIs may copy modern and more efficient banking techniques. Third, a more developed domestic financial system allows MFIs having better access to financial services themselves.

MFI performance may also be negatively associated with financial system development. First, the presence of commercial banks may lead borrowers substituting their financial services from MFIs for services from commercial banks, because of lower costs, more choice and more flexibility. Second, competition may have an adverse effect on the repayment performance of MFI borrowers, if they take up multiple loans from different financial institutions (McIntosh et al., 2005). This increases costs and thus lowers financial performance of MFIs. Finally, if formal financial markets are weakly developed, this may increase demand for financial services from MFIs, which help increase the performance of MFIs.

Only a few studies have looked into the relationship between the development of the domestic financial system and MFI performance. The evidence seems mixed. Ahlin et al. (2011) argue that MFIs in countries with more developed financial systems show better financial performance. This is corroborated by the findings of Xu et al. (2016). These studies suggest that the formal financial and microfinance sector are complements rather substitutes. In contrast, Vanroose and D'Espallier (2013) find that the financial and social performance of MFIs is higher when the country's financial system is weaker, suggesting substitution, rather than a complementarity between the two. Cull et al. (2013) draw a similar conclusion. They show that MFIs have stronger social performance when the financial system is more developed.

An issue related to the role of financial system development is the impact of competition in microfinance on their performance. A few studies have investigated this issue. McIntosh et al.

(2005) show that increased competition reduces financial performance, because clients take out multiple loans. Assefa et al. (2013) provide evidence that competition among MFIs is negatively associated with their outreach and repayment performance. This suggests that competition may have a detrimental rather than a positive effect on MFI performance. McIntosh et al. (2005) argue this may be due to lacking institutional frameworks, such as credit bureaus that may help MFIs sharing information about delinquent borrowers. In contrast, Halouani and Boujelbène (2015) find that competition boosts financial performance, but has no impact on social performance of MFIs. Their study is based on a one-country case, i.e. South Africa.

The institutional context

The country's institutional environment has received a lot of attention as one of the determinants of MFI performance. MFI performance may, at least partly, be driven by formal institutions, such as laws, regulations, and market structures, as well as by informal institutions, such as norms, values and cultural beliefs. In particular, the institutional environment may determine the possibilities and/or restraints entrepreneurs are confronted with when operating existing or starting new business activities. This also may have consequences for the performance of MFIs. On the one hand, well-developed institutions such as clear property rights, strong rule of law and an effective government that is able to formulate business-friendly policies and that contributes to reducing corruption may be important prerequisites for successful small-scale businesses. In such an environment the demand for financial services of MFIs may rise, contributing to their overall performance.

On the other hand, however, well-developed institutions may also make doing business more difficult. In particular, an effective government may also mean a large amount of rules and regulations, leading to higher costs for small-scale entrepreneurs, reducing their demand for financial services. Moreover, effectively reducing corruption means reducing possibilities for small-scale business to avoid all kinds of costly government rules and tax payments and/or may make it more difficult to get access to government services that are difficult to obtain without paying bribes. Once again, this may reduce their demand for financial services of MFIs, thus lowering their performance.

The empirical evidence on the association between the external environment and MFI performance is rather mixed. Several studies focus on the regulatory environment of a country. They refer to the existence and quality of financial regulation for MFIs, as well as to the existence of rating agencies and/or credit bureaus that also target MFIs. Most of these studies find that the regulatory environment has either no or a negative impact, especially on social performance (Ahlin et al., 2011; Anku-Tsede, 2014; Halouani and Boujelbène, 2015; Hartarska and Nadolnyak, 2007; Pati, 2012; Pati, 2015; Bakker et al., 2014; Mersland and Strøm, 2009; Estapé-Dubreuil and Torreguitart-Mirada, 2015). This indicates that regulation of MFI may actually hamper rather than help them in providing their financial services to the poor in a cost efficient way. A few studies, however, also point at positive associations between financial regulation and MFI performance. Arsyad (2005), Bassem (2009), Boehe and Cruz (2013) and Gohar and Batool (2015) find that financial regulation is associated with better social performance; Bassem (2009) and Emeni (2008) claim this positive association also holds for financial performance. Cull et al. (2011) shows that the link between regulation and performance may depend on the type of the MFI. They claim that, whereas profit-oriented microfinance institutions respond to supervision by maintaining profit rates and curtailing outreach to women and customers that are costly to reach, NGOs reduce profitability but maintain outreach. With respect to the existence of rating agencies and/or credit bureaus, studies generally find positive effects on both financial (Bassem, 2009; McIntosh et al., 2010; Saenz-Fernandez et al., 2015) and social performance (Annim, 2012; Bumacov et al., 2014).

A few studies focus on the role of informal institutions as determinants of MFI performance. Some show that MFIs with a religious background have a better social performance (Casselman et al., 2005), but underperform on financial performance, although their funding costs are generally lower than those for profit-oriented MFIs (Mersland, et al., 2013). Other studies investigate the role of culture, trust, norms and values, and social capital. Burzynska and Berggren (2015) show that MFIs in countries with higher levels of trust and a more collectivist culture have better financial performance. Arsyad (2005), Churchill (2017) and Postelnicu and Hermes (2016) provide evidence that high social capital is associated with better financial and social performance.

Several studies investigate the importance of the quality of the country's institutional context in a broader context (sometimes referred to as good governance), taking into account the rule of law, the efficiency of governmental institutions and the control of corruption. In particular, they look at the type of law system, the quality (i.e. independence and enforcement) of the law system, the extent to which the government uses financial markets to obtain policy goals, the extent of bureaucratic burden and red tape, etc. Ashta and Fall (2012) find a positive correlation between measures of good governance and the growth of MFIs. Silva and Chávez (2015) make a similar claim by pointing out that MFIs in countries with better governance are affected less by the global financial crisis of 2007-2008. In particular, they point at the importance of a strong rule of law. Quayes and Joseph (2017) corroborate this result. On a closely related issue, Daher and Le Sahout (2015) stress the importance of strong property rights and low levels of government interference in financial markets. Chikalipa (2017) finds a positive relationship between the lack of rules constraining business and MFI performance in sub-Saharan

Africa. Finally, Barry and Tacneng (2014) argue that the link between institutional quality and MFI performance depends on the type of MFI. While a weak rule of law results in NGO superiority, stronger institutional quality may encourage banks to cater to more borrowers.

A few studies address a country's political system as part of the institutional context that may influence MFI performance. Two dimensions of a political system are potentially important for the performance of MFIs. First, if politicians can be held accountable, this may lead to policies that are supportive to doing business in general, leading to higher demand for MFI services. In contrast, if the political system is less transparent, economic actors may turn to the informal sector, which increases demand for microfinance. Second, the stability of the system matters for the performance of MFIs. In politically instable environments, doing business becomes more difficult, which may decrease demand for services from MFIs. At the same time, however, political instability may also stimulate economic activity in the informal sector, which increases demand for MFI services.

Only two papers address the importance of the political context for MFI performance. According to Ault and Spicer (2014) NGOs have better social performance than commercial MFIs in weak states. Sainz-Fernandez et al. (2015) show that political stability reduces the likelihood of financial crises for MFIs. They investigate this as part of a broader analysis of the importance of the external environment. Since many MFIs are active in countries with politically weak systems, it seems that more research on the relationship between political factors and MFI performance is definitely needed.

5.5 Trade-off between financial and social performance

Several studies addressing the performance of MFIs focus on the potential trade-off between financial and social performance. Debates on the trade-off between social and financial performance are not recent and became prominent in the 2000s with the commercialization of the microfinance business. There may be several reasons for assuming a trade-off between financial and social performance of MFIs. First, serving very poor people may be costly because of higher operating expenses or more expensive delivery mechanisms to reach them when they live in more remote areas. Second, very poor clients may not be able to cope with expensive financial services or require smaller loans that carry higher unit costs. Therefore, financial sustainability ultimately goes against the goal of serving large groups of poor borrowers. This approach stresses that serving the very poor is not compatible with a focus on financial performance, that is financial and social performance are substitutes. In contrast, however, it has been argued that improved financial performance may go hand in hand with better social performance. The central argument is that reaching a large number of customers allows MFIs to benefit from economies of scale, thus improving their financial performance. Moreover, MFIs showing financial sustainability are better able to attract funding from the private investor, which may be used to improve their outreach.

Results from the literature on the existence of a trade-off between financial and social performance provide a mixed picture. On the one hand, a number of studies suggest a negative relationship between outreach and financial performance (Cull et al., 2007; Hermes et al., 2011; Annim, 2012; Zerai and Rani, 2012; Hartarska et al., 2013; Louis and Baesens, 2013, Abate et al., 2013; Pedrini and Ferri, 2016; Abdullai and Tewari, 2017). On the other hand, however, several studies find no evidence for a trade-off. In some cases, studies even report a positive relationship between financial and social performance (Gutierrez-Nieto et al., 2009; Gutierrez-Nieto et al.,2011; Louis et al., 2013; Kar, 2011; Kar, 2013; Adhikary and Papachristou, 2014; Gakhar and Meetu (2014); Kaur, 2016).

Some studies stress that the presence of a trade-off depends on context-specific factors. Hartarska (2005) suggests that the existence of a tradeoff between outreach and financial performance depends whether or not stakeholders are represented on the board of the MFI. Bassem (2009) suggests that the existence of a trade-off depends on the size of the board and on the proportion of unaffiliated directors. Hartarksa et al. (2014) claim that gender diversity in the board is an important contextual variable that may lead to a trade-off. These studies indicate that governance, and especially the board, is an important driving mechanism. Ultimately, the board is responsible for deciding on whether the focus will be on financial or social performance, or a combination of both aims. Other contextual factors are found by Tchakoute-Tchigoua (2012) who shows it may depend on the loan methodology used. Piot-Lepetit and Nzongang (2014) find evidence for the existence of a trade-off, but only for a minority of MFIs in Cameroon.

Reichert (2018) performs a meta-analysis of the literature on the trade-off between financial and social performance. He synthesizes 623 regression outcomes. His main finding is that the presence of trade-off strongly depends on the measurement of performance used in the empirical analysis. Aggregating all outcomes, he finds that a trade-off is more likely to be reported in studies that use measures of the cost efficiency of MFIs and/or when they focus on the depth and cost of outreach and that there is no evidence for a trade-off when measures of profitability and financial risk are used. This outcome corroborates the observation we made earlier in section 3, that is, that the measurement of financial and social performance is crucial, but also still challenging in the literature on the performance of MFIs.

6. Challenges and conclusions

The performance of microfinance institutions is a hot topic in the development and finance literature. While most systematic reviews or research reviews tackle microfinance from the demand side and analyze the impact of microfinance on clients, this study offers a review of the literature based on the supply side, focusing on the performance of microfinance institutions. The empirical literature on the performance of MFIs is rather extensive. Using a systematic review approach, we ended up having a data base of close to 170 studies investigating the determinants of MFI performance.

Compared to other types of social enterprises and hybrid organizations, MFI performance has received much more attention. This may be related to the fact that the role microfinance can play in achieving poverty reduction has been at the forefront of discussions in development aid debates at least since the late 1990s. One clear manifestation of this is the fact that in 2006 Grameen Bank and Muhammad Yunus, founder of Grameen Bank, were awarded the Nobel Peace Prize for their efforts to help reducing poverty by developing microfinance solutions. It may also have to with the availability of data available from sources such as the MIX Market platform and rating agencies specializing in analyzing MFIs. Thanks to these data sources, performance measurement of MFIs has been carried out using various performance measures and methodologies.

At the same time, however, although many studies have looked into performance measurement and determinants of MFI performance have been published, there is still controversy about how financial and social performance of these institutions can best be measured. As discussed, in many cases standard measures have been borrowed from the finance and banking literature. Measures of financial performance include simple accounting ratios and measures of cost effectiveness. Some more advanced techniques, such as DEA and SFA, are used more recently, relying on measures of efficiency of operations. These techniques have also been borrowed from the banking literature. Given the heterogeneity of measures used and the lack of consensus about how performance should be measured, there is much room for more research on developing measures that particularly apply to the microfinance business.

There is also a need for improving our measurement of social performance. Most of the measures that are currently used in research are no more than rough proxies (D'Espallier et al., 2017). Some researchers suggest developing new performance measures that may better capture social performance of MFIs. Yaron (1992), for example, suggests a composite index, "the outreach index", which takes into account several dimensions of social performance such as the average loan, the number of clients reached etc., and convert them into one number.

Given the complexity of the concept, we suggest that analyses of social performance should not be restricted to using a single dimension. Instead, social performance should be appraised by using a multidimensional perspective. Analyses of social performance should therefore include a variety of indicators or proxies related to the different groups of clientele of MFIs. Such an approach stresses the need to use various measures of social performance such as measures of outreach, gender and geographical location of poor clients. The recent and holistic methodologies developed by the Social Performance Taskforce (SPTF) in collaboration with CERISE, such as the Social Performance Indicators 4 (SPI4) , represents a new opportunity for researchers to improve the analysis of social performance. Yet, we acknowledge it may take time to have comparable datasets that could replace the very extensive databases provided by the MIX Market and rating agencies.

For the future of the research on the financial and social performance of MFIs it is absolutely crucial that there is consensus about the correct measurement of these concepts. Only then we can to come to conclusions about the drivers of MFI performance that may also help designing policy relevant recommendations. Developing good and widely accepted measures of financial and social performance is one of the major future challenges for researchers in the field of development finance.

Our systematic review summarized the main findings of studies looking into the determinants of financial and social performance of MFIs. One conclusion from this summary is that MFI-specific characteristics such as maturity, size and type of organization, the type funding sources available (and in particular subsidies), governance structures and conditions external to the MFIs are the main drivers of financial as well as social performance. Another conclusion is that the direction of the relationship between these drivers and MFI performance very much depends on the context. In particular, the various outcomes from country-specific and multi-country analyses clearly indicate that country-contextual factors may play a significant role in determining whether the link between the various drivers and MFI performance is positive, negative or non-existent. Future research may dig deeper into developing contextual analyses of MFI performance as most studies until now are one-dimensional, that is, they focus on one variable determining MFI performance, without taking into account the possibility of interaction effects with other (contextual) variables and/or carrying out sub-sample analyses.

The review also showed that a substantial number of studies on the performance of MFIs is related to discussing the trade-off between financial and social performance. Results on the presence of such a trade-off are mixed, suggesting that there is no straightforward answer to the question whether or not a trade-off actually exists. One reason explaining the diversity of results may be the multiplicity of measures and techniques used to assess financial and social performance. As discussed, a recent meta-analysis shows that evidence concerning the existence of a trade-off depends on the measures used for financial and social performance. Moreover, the literature suggests that the diversity of results on the presence of a trade-off may depend on context-specific factors, such as the MFIs’ governance structure, lending methodology used, etc.

Finally, our research review revealed several areas and issues that have been studied less in the literature. In particular, we highlighted research gaps with respect to the consequences of the diversification of funding available to MFIs for their financial and social performance. Moreover, we pointed at the importance of governance related factors. Examples are the use of incentive-based pay for loan officers, CEO remuneration, board dynamics (i.e. the interaction between board members when taking decisions), the importance of transparency and disclosure, the role of activism and collective action among stakeholders in influencing decision making, etc. Finally, we suggested more research on the role of the political system and stability for MFI performance as many MFIs are active in countries with politically weak systems. These topics deserve more attention in future research as they are potentially important drivers of MFI performance.

As a final remark, one key conclusion of our review is also that MFIs focusing on outreach and MFIs with a focus on maximizing profits may co-exist in the market, that is, there is room for both types of MFIs in the market. While some MFIs are very profitable and tend to compete with traditional financial institutions, others still try to maximize outreach and focus on the very poor clients.

Table 1: Characteristics of the articles in the data base

	Methodology			*Geographical*			*Journal quality*	*Type of performance*			*Type*
Year	*DEA*	*SFA*	*Other*	*Country*	*Regional*	*World*	*(1=Scopus)*	*Financial*	*Social*	*Both*	*Mix*
2001			1	1			1	1			
2003			1	1			1			1	
2004			1	1			1			1	
2005			4	2	1	1	4	1	1	2	1
2006		1		1			1	1			
2007	1		4	1		4	5	2		3	2
2008			4	3		1	4	1		3	
2009	1		7	3	2	3	7	3		5	3
2010			12	4		8	12	6	1	5	5
2011		1	7	3		5	8	3	1	4	3
2012	1	1	11	5	1	7	11	4	3	6	11
2013	2	1	24	6	3	18	24	10	5	12	18
2014	2	1	20	9	2	12	19	7	3	13	13
2015	5	1	24	13	2	15	27	8	6	16	20
2016	7		14	10	4	7	16	6	5	10	16
2017		2	8	1	3	6	8	3	1	6	10
Total	19	8	142	64	18	87	149	56	26	87	102

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