

Practice What You Preach: Microfinance Business Models and Operational Efficiency

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Summary. — The microfinance sector has room for pure for-profit microfinance institutions (MFIs), non-profit organizations, and “social” for-profit firms that aim to pursue a double bottom line. Depending on their business model, these institutions target different types of borrowers, change the size of their loans and adjust their loan pricing. We introduce a simple approach that accommodates a wide range of business models and allows us to estimate the operational efficiency of MFIs. Our empirical results show that MFIs with a high depth of outreach are most efficient, resulting in higher levels of outreach and profits for the same input mix.
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1. INTRODUCTION

At the center of the current debate about the future of microfinance, is the question whether microfinance institutions (MFIs) should be profit-oriented, privately funded, self-sustaining businesses or socially minded, subsidized, non-profit organizations (Morduch, 2000). The discussion revolves around the often-implicit disagreement regarding how MFIs can operate most efficiently, and with that the lack of consensus regarding what constitutes operational efficiency in microfinance in the first place.

Should MFIs be compared based on their profitability or based on their outreach, i.e., the extent to which they try to provide financial services to those that were previously deprived of these services? The answer to that question is important, as it helps MFIs direct efforts to improve their performance and informs (institutional) investors and donors regarding MFIs’ (relative) performance.

Taken at face value, however, it appears that in the microfinance industry, there may be room for more than one business model. For-profit and non-profit firms coexist, and increasingly in the same (regional) market. The coexistence of these firms has shaped and will continue to shape the evolution of the microfinance industry.

In any market where for-profit and non-profit firms coexist, questions about fairness, efficiency, and competitiveness arise. And views differ. Whereas some argue that non-profit firms can arise endogenously in a neoclassical setting (Lakdawalla & Philipson, 2006) and may help overcome an existing market failure (Hirth, 1999), others argue against comparing for-profit and non-profit firms against the same (neoclassical) benchmark (Pauly, 1987), instead suggesting that utility maximization rather than profit maximization explains behavior in markets with mixed preferences (Lin, Dean, & Moore, 1974).

As the microfinance industry has spread across the globe, both for-profit and non-profit MFIs are faced with the same questions: what is the optimal amount of outreach, and what is a proper yield on my loan portfolio? Some non-profit institutions have proven to be more profitable than their for-profit peers, while the latter sometimes outclass their non-profit peers when it comes to outreach, suggesting that microfinance

indeed accommodates not just very different business models (profit maximization, outreach maximization), but also different mixtures of these business models. What we do not yet know, of course, is which of these business models will prove to be successful in the end.

However, what we do know is that the (non-) existence of a common benchmark is important, as benchmarks create strong incentives (Bogetoft, 1994). We also know that the notion of utility maximization is not necessarily incompatible with pure profit maximization (Kroll, Levy, & Markowitz, 1984), and that the observed choices of firms with different preferences are likely to reflect their utility functions (Smith, 1976). As Leibenstein (1966, 1978) argued and Stigler (1976) contested, firms with different preferences can have a common benchmark but show differences in performance as a result of effort discretion and non-maximizing behavior (Perelman, 2011).

In this paper, we use Leibenstein’s notion of the X-inefficiency that results from not reaching that common benchmark to assess the viability of different business models in microfinance. In order to arrive at a theoretically consistent measure of X-inefficiency, we need to carefully model the production process of microfinance institutions. We develop and estimate a simple model where institutions produce an output that maximizes financial revenue (yield), an output that maximizes depth of outreach (average loan size) and an output that maximizes the breadth of outreach (the number of loans). There can be substitution among these outputs, which are chosen for a given a set of inputs (labor, capital). Comparing each MFI, given its mix of outputs, to a (virtual) benchmark

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MFI with the same mix, we can then ask a number of important questions.

First, we ask whether and to what extent there is a trade-off between each objective (i.e., each output), assuming that all inputs have been used efficiently. At the production frontier, how much depth of outreach has to be sacrificed for a higher yield? Is it possible to combine increases in the *depth* of outreach, i.e., reducing the average loan size, with a wider *breadth* of outreach, i.e., reaching more (poor) borrowers? Our paper contributes to the literature by estimating the substitutability of outputs - related to outreach and yield - to measure these tradeoffs while controlling for existing slack in MFIs' production in either direction. Doing so is important, as we may otherwise over- or under-estimate trade-offs: think for example of an MFI that is trying to maximize outreach (depth and breadth), but does so rather inefficiently. Not accounting for that poor performance would lead to an overestimation of the trade-off between financial and social performance, since inefficient MFIs may be able to improve along both dimensions.

Second, we ask whether the operational efficiency of MFIs depends on their level of outreach. Are MFIs that serve a smaller number of richer borrowers more efficient than institutions that serve a large number of the very poor? Is it possible to efficiently offer small, but cheap loans? Our paper contributes to the literature by estimating the efficiency of MFIs in a setting that accommodates their multi-output nature. Measuring efficiency in this setting is important, as it allows both MFIs, investors and donors to benchmark institutions *given* their target market, scale, and revenue level. For example, an institutional investor wishing to invest in microfinance as part of its CSR strategy can invest in the most efficient among the MFIs that focus on outreach.

Third, and related, we ask whether differences in efficiency between MFIs with the same level of outreach depend on their social and financial orientation. We use information on the social performance profile of each MFI to answer a number of important questions. Is lending to women indeed a good way to increase outreach and how important is it to provide educational programs (Dowla & Barua, 2006; Karlan & Valdivia, 2011)? What is the nature of the risk-return relationship in microfinance (Mersland & Strøm, 2009)? What is the effect of repeated lending (Armendáriz de Aghion & Morduch, 2000)? Is it possible to efficiently serve the rural poor (Hoff & Stiglitz, 1990)? And finally, is social performance management a good idea (Copestake, 2007)? Our paper addresses these issues in a coherent framework, measuring the effects of operational changes and uncovering the different business models (for-profit, outreach maximization) that appear to explain the performance of different types of MFIs. Importantly, our analysis can help repudiate the claim that a panacea exists to "fix" microfinance: what may work for one institution may not work for another one. However, institutions with a similar output mix may be able to learn from industry best practices.

In order to answer each of these questions, we estimate a multi-output, multi-input production frontier. We use an output distance model (Cuesta & Orea, 2002), control for unobserved institutional differences using a "true fixed effects" stochastic frontier model (Greene, 2005a), and condition efficiency on a number of choice variables following Battese and Coelli (1988). We use the Microfinance Information Exchange (MIX) data, and compare 1,146 MFIs over the period from 2003 to 2010. Our analysis encompasses both strictly for-profit MFIs and firms with a social mission.

Our results show that an increase in average loan size does not only decrease depth, but also breadth of outreach, as

evidenced by the negative output substitution elasticity with the number of loans. In fact, this negative relationship becomes more pronounced as the average loan size increases.

Interestingly, on average, disbursing larger loans implies a lower yield on the gross loan portfolio. Larger loans are also correlated with higher personnel and financing costs. We find support for this finding in the literature, as Mersland (2009) shows that the lower operating costs reported by for-profit MFIs are just an artifact of larger loans. As a matter of fact, we find that NGOs have lower costs per loan. According to Gutiérrez-Nieto, Serrano-Cinca, and Molinero (2007a), NGOs that rely on voluntary work have low personnel costs and thus are able to efficiently offer a large number of small loans.

In addition, we find that, contrary to Hermes, Lensink, and Meesters (2011), some MFIs can indeed combine the depth and breadth of outreach, and operate with above average levels of efficiency. However, efficiency quickly decreases as the loan portfolio becomes larger. These findings are in line with the theoretical predictions of Mersland (2009): NGOs and credit cooperatives are more efficient as they are able to lower the costs of market contracts. Such institutions are not profit maximizers and mainly operate via group loans, this makes them better equipped to cope with highly inefficient markets and asymmetric information. Roberts (2013) shows empirically that a stronger profit orientation leads to higher interest rates, but is also associated with higher costs.

Finally, we find that MFIs that specifically target the poor, lend to women and provide educational programs are more efficient. The latter finding contradicts Cull, Demirgüç-Kunt, and Morduch (2007) and Mersland and Strøm (2011) who show that MFIs that focus on lending to women are less profitable and less efficient, respectively. Repeated lending increases efficiency, whereas targeting rural markets has a negative effect on efficiency.

The remainder of this paper continues as follows. In Section 2, we review the existing literature on microfinance and the performance of MFIs. In Section 3, we introduce our analytical framework, empirical model, and estimation strategy. In Section 4, we discuss our data set. Section 5 contains our results. We conclude in Section 6.

2. BUSINESS MODELS IN MICROFINANCE

Once considered the panacea for pulling the un-bankable out of poverty, microfinance has recently come under heavy scrutiny from the public, media, and regulators. The limits of the model developed by Mohammed Yunus are not new to the academic literature. Issues of sustainability, trade-offs between social and financial goals and, more recently, efficiency have been the subject of extensive research by both academics and practitioners. The body of research on microfinance is, nevertheless, very broad in terms of objectives, methodologies, and empirical techniques. In this section, we review some of the main findings as they relate to our paper.

Morduch (1999b), in questioning the self-reported success of Grameen Bank, is among the first to challenge the notion of microfinance as a sustainable solution to poverty. When taking a closer look at the bank's financial reports, he finds that the repayment rates are not as good as they claim to be. Furthermore, he finds that, despite reporting profits, Grameen has constantly been subsidized. The findings of Morduch call into question the idea of microfinance as a profitable and yet socially oriented business.

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