The trade-off between profitability and outreach in microfinance

Maurizio Caserta\textsuperscript{a}, Simona Monteleone\textsuperscript{b}, Francesco Reito\textsuperscript{a,}\textsuperscript{*}

\textsuperscript{a} University of Catania, Department of Economics and Business, Italy
\textsuperscript{b} University of Catania, Department of Education, Italy

\textbf{A R T I C L E   I N F O}

\textbf{JEL Classification numbers:}
D81
L14

\textbf{Keywords:}
Microfinance
Outreach
Mission drift

\textbf{A B S T R A C T}

The focus of this paper is on the alleged shift of microfinance programs from targeting poor borrowers towards wealthier clients and profitability. In a simple moral-hazard setting, we determine the equilibrium financial contracts offered by a for-profit and a not-for-profit microfinance institution (MFI). We show that: i) with a for-profit MFI, mission drift does not necessarily occur if borrowers are offered a combination of individual and joint liability contracts; ii) with a not-for-profit MFI, poor individuals are never crowded out by wealthier entrepreneurs.

1. Introduction

In recent years, the microfinance literature has often claimed that many microfinance institutions (MFIs) have increased their attention towards financial sustainability and profitability. Namely, there seems to be a shift, known as mission drift, from the classic outreach to poor borrowers to a new focus on (relatively) wealthier clients.\textsuperscript{1} Armendariz de Aghion and Szafarz (2011) argue that the drift is well described by the dynamics of the average loan size provided by MFIs. They relate mission drift to the increase on the loan size received by borrowers, when this increase is justified neither by cross-subsidization among different risk-type clients nor by progressive lending. The authors posit that this tendency is motivated by the profit-seeking behavior of MFIs, which can find it more attractive to lend to richer individuals who ask for larger loans. Besides, perhaps due to lack of collateral, poorer borrowers are in general served by joint liability programs, while richer borrowers often receive individual loans. This empirical evidence is discussed in Mada- jiewicz (2003), who finds that in microfinance the proportion of group loans declines with wealth in favor of individual loans. Additional evidence is reported by Ahlin and Townsend (2007), who show that in microfinance the proportion of group lending is declining with borrowers’ wealth in favor of individual and more profitable loans.\textsuperscript{2} More to the point, Cull et al. (2009) and Hermes et al. (2011) argue that lending to the poor entails higher transactions costs, and thus profitability can be achieved only at the expense of outreach.

However, the literature is not unanimous about the emergence of mission drift in microfinance. Empirical support for the non-existence of mission drift can be found in the cross-country analysis of Mersland and Strom (2010), and in Gonzalez-Vega et al. (1997), who show that the commercialization of BancoSol in Bolivia has not reduced the depth of outreach. Quayes (2012) even describes a positive correlation between social welfare and profitability. Frank (2008) reports some evidence that, in Latin America, regulated MFIs offer larger loans than unregulated MFIs. These larger loans can be seen as a natural evolution of microfinance practices, which should support dynamic and growing economies where entrepreneurs need to widen their business activities. She also argues that the shift towards profitability can be motivated by the need to decrease the reliance on donor funding, which is highly volatile and unpredictable. Similar results are reported by Hartarska and Nadolnyak (2007), and Kar (2013). Raihan et al. (2017) show that, although the emergence of the Microcredit Regulatory Authority in Bangladesh in 2006 has led to an increase of about 28 percent on the size of micro-loans, this has also contributed to higher capital accumulation and employment opportunities. And, clearly, the extent of outreach may also depend on

\textsuperscript{*} Corresponding author.
E-mail addresses: caserta@unitn.it (M. Caserta), simonamonteleone@unitn.it (S. Monteleone), reito@unitn.it (F. Reito).

\textsuperscript{1} Banco Comportamos in Mexico started as a non-profit NGO, and is now a publicly traded for-profit MFI. Grameen Bank and ASA in Bangladesh have recently shown that it is possible to implement a sustainable and profitable business model for MFIs. In 2011, ASA, which is a donor-free institution, had a gross loan portfolio of 638.6 million USD and an average loan balance per borrower of 152.7 USD (http://www.asa.org.bd/about.html).

\textsuperscript{2} On the same topic, Cull et al. (2009), using a sample of 124 MFIs, report that individual-based institutions lend an average loan of 1220 USD, while group-based institutions (or village MFIs) lend on average 148 USD.

https://doi.org/10.1016/j.econmod.2018.01.003
Received 13 July 2017; Received in revised form 20 November 2017; Accepted 3 January 2018
Available online xxxx
0264-9993/© 2018 Elsevier B.V. All rights reserved.

Please cite this article in press as: Caserta, M., et al., The trade-off between profitability and outreach in microfinance, Economic Modelling (2017), https://doi.org/10.1016/j.econmod.2018.01.003
the specific strategy of poverty reduction chosen by MFIs. Table 1 considers four of the largest MFIs, ranked by a proxy for outreach (as a percentage of the poorest among borrowers). Note that, despite the large difference in the outreach parameter between Grameen Bank and Compartamos, they both share a similar mission.

This paper extends the work of Caserta and Reito (2013), and proposes a simple moral-hazard model in which some individuals need outside financing to undertake their investment projects. The probability of project success depends on the unobservable effort exerted by the entrepreneur. Loans are provided by a single MFI, and we will consider the two cases of for-profit monopolistic MFI, and non-profit benevolent MFI. The MFI can offer two types of debt contracts: standard individual liability contracts, which are characterized by a collateral requirement; joint liability contracts, in which the MFI requires borrowers to form groups of two, and where borrowers are liable for each other’s loan repayment. In the model, mission drift can occur if the MFI decides to finance investments with individual liability contracts. In this case, the MFI obtains the full-information (first-best) profit on borrowers with an endowment higher than a given collateral threshold. This implies that, if the availability of loanable funds is not large enough, poor individuals with little or no endowment may be the first ones to be excluded from the microcredit market. If, instead, joint liability contracts are offered by the MFI, the extent of mission drift depends on the borrowers’ cost of exerting high effort. Specifically, if the cost is relatively low, the contract will earn the MFI the first-best profits without the need to use collateral to secure the loan. Hence, the MFI can lend to individuals irrespective of their initial wealth, and mission drift is not a concern. The MFI can also offer a combination of individual liability contracts for richer individuals, and group lending contracts for poorer individuals. The combination of individual and group lending contracts is analyzed in Navajas et al., (2003), and Burton (2011). Table 2 shows the composition of the two main types of micro-lending contracts in 663 MFIs, as reported in the MIX database. With “No Individual Liability”, we refer to all possible forms of group lending mechanisms. Note that 45.7% of MFIs offer both individual and joint liability contracts.

If the effort cost is relatively high, the project output produced in case of success is not sufficient to pay both individual and joint liability under group lending. Group members are then required to post some of their endowment as collateral, and poor entrepreneurs may end up being crowded out. However, we show that, in this latter case, the collateral needed by the MFI to obtain the full-information profits is lower than that under individual liability contracts. Thus, the MFI can realize the same expected profits on loans to richer and to some of the poorer borrowers, and the extent of mission drift is lower.

Another result of the paper is that mission drift is not a concern under a not-for-profit MFI. The benevolent MFI does not need any collateral on loans if its zero-profit condition can be satisfied at the incentive-compatible interest rate. Thus, the issue of mission drift may be independent of whether a profit motivated lender operates or not. This conclusion is similar to the one obtained by Ghosh and van Tassel (2011), with the difference that, in their paper, the entry of profit-oriented donors in the microfinance industry may force MFIs to drive more attention to profitability in order to attract external funds. In contrast, this paper does not consider the presence of donors and shows that, as long as the output produced by poor borrowers is sufficient to cover the individual or joint liability payments, more outreach does not always result in a lower portfolio return for MFIs.

The theoretical model is close to Madajewicz (2011), with some significant differences in the structure and conclusions. There, lenders are in perfect competition and the financial contract is chosen by borrowers, who receive the entire surplus from trade. Borrowers may prefer joint liability contracts if they are very poor, and then shift to individual contracts whenever they accumulate the collateral needed by MFIs to break even on larger loans. Therefore, the model by Madajewicz (2011) does not refer to a mission drift, and seems to well describe the increase in average loan size due to the incentive mechanism of progressive lending.

The rest of the paper is as follows. Section 2 introduces the model. Section 3 derives the equilibrium contract terms under a for-profit MFI. Section 4 discusses the case of a non-profit MFI. Section 5 summarizes the main results, suggests some policy implications, and concludes.

2. The setup

Consider a simple risk-neutral, one-period economy. There is a large number of potential entrepreneurs identified by their observable endowment \( w \in [0, w_{\text{Max}}] \). Each firm has access to an investment project, whose expected return is related to the variable amount of resources invested, \( I \), and the level of effort exerted by the entrepreneur. Specifically, the expected return is

\[
p_I y_I(I) \text{ in case of high effort, or } p_I y_L(I) \text{ in case of low effort.}
\]

With high effort the project succeeds with probability \( p_L \) and yields \( y_I(I) \), whereas with low effort it succeeds with \( p_L < p_H \) and yields \( y_L(I) < y_I(I) \) for each \( I \). With the complementary probabilities the project fails and produces nothing. Assume that \( y_H(I) > y_L(I) \), strictly concave, \( y_L'(I) < 0, \) and that \( y_H(I) = 0, y_L(I) = 0 \). Low effort is costless, while high effort entails a cost \( e(I) \), with \( e'(I) \geq 0 \). The justification for the increasing effort costs is that large firms may be more complex and difficult to manage than small firms. The endowment is illiquid, but can be used as collateral. Loans are provided by a single microfinance institution (MFI). We will analyze in sub-section 3.1 the case of a for-profit monopolistic MFI, and then in sub-section 3.2 the case of a non-profit benevolent MFI. The MFI can offer two alternative forms of debt contracts, individual liability and joint liability (group lending) contracts. The individual contract is a standard debt contract, \( [I, R(I), C(I)] \), where \( I \) is the loan size, \( R(I) \) is the (gross) repayment, and \( C(I) \) is the collateral

---


4 Empirical examples of monopolistic, for-profit MFIs are reported in Armendariz de Aghion and Sazafraz (2011), and de Quitt et al. (2011). Both papers also develop a theoretical model in which the MFI is monopolistic (for another theoretical paper with profit-motivated MFIs, see Gaba and Roy Chowdhury, 2013).

---

5 A list of the symbols used in the model is given after the body of the paper.

---

### Table 1

<table>
<thead>
<tr>
<th>MFI</th>
<th>Country</th>
<th>Legal Status</th>
<th>Outreach (%)</th>
<th>Main Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grameen</td>
<td>Bangladesh</td>
<td>Regulated</td>
<td>4.43</td>
<td>Poverty Reduction</td>
</tr>
<tr>
<td>ASA</td>
<td>Bangladesh</td>
<td>NGO</td>
<td>3.31</td>
<td>Income Generation</td>
</tr>
<tr>
<td>BRI</td>
<td>Indonesia</td>
<td>Regulated</td>
<td>1.44</td>
<td>Financial Services to small entrepreneurs</td>
</tr>
<tr>
<td>Compartamos</td>
<td>Mexico</td>
<td>Regulated</td>
<td>0.55</td>
<td>Create Development</td>
</tr>
</tbody>
</table>

### Table 2

<table>
<thead>
<tr>
<th></th>
<th>No Joint Liability</th>
<th>Joint Liability</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Individual Liability</td>
<td>20 (3.0%)</td>
<td>81 (12.2%)</td>
<td>101</td>
</tr>
<tr>
<td>Individual Liability</td>
<td>259 (39.1%)</td>
<td>303 (45.7%)</td>
<td>562</td>
</tr>
<tr>
<td>Total</td>
<td>279 (42.1%)</td>
<td>384 (57.9%)</td>
<td>663</td>
</tr>
</tbody>
</table>
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات