Microfinance Repayment Performance in Bangladesh: How to Improve the Allocation of Loans by MFIs

MARIE GODQUIN[*]

TEAM, Université Paris I—Panthéon Sorbonne, and CNRS, France

Summary. — The aim of this article is to produce a comprehensive analysis of the performance of microfinance institutions (MFIs) in terms of repayment. We focus the analysis on the impact of group lending, nonfinancial services and dynamic incentives on repayment performance. We test for endogeneity of loan size and use instrumental variables to correct for it. In the second section of the paper, we use a comparative analysis of the determinants of the repayment performance and of loan size in order to make policy recommendations on the allocation of loans by MFIs. © 2004 Elsevier Ltd. All rights reserved.

Key words — microfinance, social ties, group homogeneity, nonfinancial services, Asia, Bangladesh

1. INTRODUCTION

The primary objective of microfinance institutions (MFIs) is to provide financial services (credit and saving) to the poor in order to release financial constraints and help alleviate poverty. Each MFI tries to maximize its repayment performance, whether or not it is profit-oriented. High repayment rates are indeed largely associated with benefits both for the MFI and the borrower.[1] They enable the MFI to cut the interest rate it charges to the borrowers, thus reducing the financial cost of credit and allowing more borrowers to have access to it. Improving repayment rates might also help reduce the dependence on subsidies of the MFI which would improve sustainability. It is also argued that high repayment rates reflect the adequacy of MFIs' services to clients' needs. They limit the incidence of crosssubvention[2] across the borrowers. Last but not least, repayment performance is a key variable for donors and international funding agencies on which many MFIs still depend for their access to funds.

The first-best level of repayment performance is a perfect (100%) on-time repayment rate. If the maximum repayment rate the MFI can reach given its lending methodology is lower than the targeted 100%, the MFI will use second-level strategies to increase its repayment performance. Such strategies include the allocation of larger loans to borrowers with lower default probability and attempts to reduce the delay in repayment. The MFI will develop incentive mechanisms so as to meet these objectives.

The main factors influencing repayment are either related to information asymmetries, to adverse shocks affecting the borrower, or to the low performance of institutions such as justice or education. Information asymmetries arise when gaining information on the characteristics or on the behavior of the borrower is costly for the MFI. Information asymmetries generate problems of adverse selection—allocation of loans to borrowers with undesirable characteristics such as a high level of risk or inability to take advantage of the loan- as well as moral hazard—the borrower may behave in an undesirable way (make little or insufficient

effort to take advantage of his loan or used it for unproductive purposes). Adverse selection and moral hazard increase the proportion of borrowers who cannot repay their loans on time. Borrowers that have enough money to reimburse their loan might also default strategically. The cost of strategic default might indeed be low if the lending institution has low collateral requirements and if the legal system gives little power to the MFI to enforce contracts. MFIs try to restrict the occurrence of those three types of situations in designing appropriate credit schemes.

In this paper, we wish to contribute to the improvement of MFI repayment performance by examining their determinants with a particular emphasis on ''microfinance innovations'' such as the use of nonfinancial services, group lending, and dynamic incentives. This paper also questions the adequacy of loan allocations (in terms of loan size) based on the comparison of the determinants of the repayment performance to the determinants of the loan size. This work uses an objective repayment variable, i.e., a repayment variable based on the declaration of the borrower (not the MFIs). It addresses the endogeneity problem of the principal of the loan.

The results indicate that the use of nonfinancial services has a positive impact on microfinance repayment performance but that group homogeneity and social ties among group members are not always associated with a better repayment performance.

This article is organized as follows: after a brief presentation of the conceptual framework (Section 2), Section 3 briefly reviews the empirical literature and Section 4 provides details on the context of the case study. Section 5 presents the econometric methodology. The results of the regression models are discussed in Section 6 and the article concludes with implications for policy recommendations and future research.

2. IMPROVING REPAYMENT PERFORMANCE: THE CONCEPTUAL FRAMEWORK

(a) *The first best level of repayment performance*

Credit rationing and collateral requirement are the traditional means used by banks to cope with information asymmetries in the credit market (Stiglitz & Weiss, 1981) but both meth-

ods lead to the exclusion of poor borrowers. To explain the success of microfinance in providing credit to the poor, a large literature uses the principal/agent theory to demonstrate that microfinance contracts lending to joint-liable groups allow the lender to bypass moral hazard (Stiglitz, 1990) and adverse selection (Ghatak, 1999) due to information asymmetries. It is also argued (Besley & Coates, 1995) that joint-liable lending groups help enforce repayment as social interactions make strategic default more costly. Social ties (Besley & Coates, 1995) and group homogeneity (Besley & Coates, 1995; Stiglitz, 1990) are also indirectly linked to repayment performance as they can facilitate peer monitoring and peer pressure or result from an effective peer selection of group members. Regular repayment schedules (Armendariz de Aghion & Morduch, 2000) or dynamic incentives [3] (Besley, 1995) are other appropriate incentive mechanisms used by MFIs to increase their repayment performance. The provision of nonfinancial services as a complement to credit and saving services (Edgcomb & Barton, 1998) not only develops the economic ability of the borrower to repay but also makes the relationship with the MFI more valuable to him. The previous mechanisms are considered to be financial innovations (Edgcomb & Barton, 1998) making it financially sustainable for MFIs to lend to the poor. When the use of such mechanisms fails to enable the MFI to reach a perfect repayment rate and when borrowers are heterogeneous in their default probability, the MFI could also allocate loans of different sizes to the borrowers in order to maximize the value of outstanding debts repaid on time. In the following section, we explain why borrowers are interested in larger loans and why the MFIs should allocate larger loans to borrowers with a lower default probability.

(b) *The second-best perspective: increasing the value of outstanding debts repaid on time*

(i) *The context*

We consider a microfinance institution providing credit to joint-liable credit groups at a uniform interest rate. The MFI deals with credit applications coming from borrowers heterogeneous in their localization, lending group, ability and preferences. The aim of the MFI is to maximize the global net expected return of its borrowers under a zero profit condition.

Where borrowers face high credit rationing, there is a large set of highly productive projects