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Microfinance institutions and efficiency[☆]

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Abstract

Microfinance Institutions (MFIs) are special financial institutions. They have both a social nature and a for-profit nature. Their performance has been traditionally measured by means of financial ratios. The paper goes beyond simple financial ratios using a data envelopment analysis (DEA) approach to measure the efficiency of MFIs.

Special care is taken in the specification of the DEA model. We take a methodological approach based on multivariate analysis. We rank DEA efficiencies under different models and specifications; e.g. particular sets of inputs and outputs. This serves to explore what is behind a DEA score.

The results show that we can explain MFIs efficiency by means of four principal components of efficiency, and this way we are able to understand differences between DEA scores. It is shown that there are country effects on efficiency; and effects that depend on non-governmental organization (NGO)/non-NGO status of the MFI.
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1. Introduction

Microcredit is the provision of small loans to very poor people for self-employment projects that generate income. It is a new approach to fight poverty. In its heart are new financial institutions, often non-profit organisations, whose aim is to serve those people who would not have access to a loan from a traditional trading bank.

The fact that Microfinance Institutions (MFIs) tend not to operate in the same way as traditional banks does not mean that they are not interested in profitability and efficiency issues. However, existing tools to assess the performance of traditional banking institutions may not be appropriate within this new context.

How can we assess if a MFI is efficient? How should we compare MFIs? How far is existing knowledge on traditional financial institutions appropriate in order to understand the behaviour of MFIs? These are the issues that are addressed in the current paper.

The paper starts with a discussion of microcredit and its role in the fight against financial exclusion. Existing tools for the assessment of performance in MFIs are next reviewed and some lessons are drawn from this review. It is suggested that data envelopment analysis (DEA) is an appropriate tool for the assessment of MFI performance. There is, however, an issue to be resolved: how should the DEA model be specified? Which inputs and which outputs should it contain? A methodological approach based on multivariate analysis is applied in order to select appropriate model specifications, understand the way in which the relative efficiency of a

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MFI is determined by the choice of model, and to produce a ranking of MFIs in terms of efficiency. The methodology is applied to the analysis of 30 Latin American microcredit institutions. The paper ends with a concluding section that lists and discusses the findings.

2. Microcredit and microfinance institutions

It has long been argued that commercial banks have not provided for the credit needs of relatively poor people who are not in a condition to offer loan guarantees but who have feasible and promising investment ideas that can result in profitable ventures [1]. Meeting this need is of interest to governments, charitable institutions, and socially responsible investors. New financial institutions have arisen that are in touch with the local community, that can obtain information about the loan taker at low cost, and that often are not only interested in profit but also on the creation of jobs, women's employment, development, and green issues. These new financial intermediaries, the MFIs, provide small loans to poor people who can offer little or no collateral assets. But the provision of such microcredit is not limited to not-for-profit organisations. Traditional financial institutions can, and often do, make loans to the deprived as part of a socially responsible investment policy.

The best known innovation arising from microfinance programs is peer group loan methodology, in which members accept joint liability for the individual loans made. This joint responsibility approach results in low levels of default, but there are other reasons for successful repayment rates: dynamic incentives, regular repayment schedules and collateral substitutes [2].

Microcredit institutions have mushroomed in countries with less developed financial systems. The Microcredit Summit Campaign formed by donors, policymakers and more than 2500 MFIs, claimed to have helped 41.6 million of the poorest people around the world by 31 December 2002 [3]. Their goal is to reach 100 million of the world's poorest families by 2005. Moreover, the United Nations declared 2005 as the Year of Microcredit.

According to Von Pischke [4], modern microcredit evolved from its origins in the mid 1970s to the present day from some organisations that offered loans and savings to individuals at the margins of the financial markets. Some examples of microcredit initiatives are: FINCA and ACCION International, two US organisations whose area of activity is Latin America; the rural units of Bank Rakyat Indonesia (BRI), one of the few institutions that receive no subsidies; and Grameen Bank in Bangladesh, now acting in more than 50 countries.

3. Assessing microcredit institutions

Microcredit emerges as a new approach to fight poverty. But, is the money lent by MFIs efficiently managed? There is much literature on bank efficiency, but very little on microfinance efficiency. Should we assess microfinance institutions efficiency the way banks do, taking into account financial inputs and outputs? This tends not to be the case: Morduch [2] observes that discussions on microcredit performance almost ignore financial matters.

Yaron [5] suggested a framework, based on the dual concepts of outreach and sustainability, that has become popular in the assessment of MFIs performance. Outreach accounts for the number of clients serviced and the quality of the products provided. Sustainability implies that the institution generates enough income to at least repay the opportunity cost of all inputs and assets; [6]. It is difficult to think of a sustainable MFI with poor financial management; [7]. Sustainability has two levels: operational and financial (see, for example [8]).

Microfinance industry evolution stresses more and more the importance of financial viability. A set of performance indicators has arisen, and many of them have become standardised, but there is by no means general agreement on how to define and calculate them. A consensus group composed of microfinance rating agencies, donors, multilateral banks and private voluntary organisations agreed in 2003 to some guidelines on definitions of financial terms, ratios and adjustments for microfinance [8]. The ratios fall into four categories: sustainability/profitability, asset/liability management, portfolio quality, and efficiency/productivity. These measures derive from the financial ratio analysis implemented in conventional financial institutions. In what follows, we will concentrate on efficiency ratios. Table 1 shows a list of 21 ratios issued by Microrate, used to assess the performance of MFIs and their definitions. These are grouped in terms of portfolio quality, efficiency and productivity, financial management, profitability, productivity and others.

The efficiency/productivity ratios reflect "how efficiently an MFI is using its resources, particularly its assets and personnel" [8]. Thus, efficiency ratios compare a measure of personnel employed with a measure of assets. Institutions can choose as assets either average gross loan portfolio, or average total assets, or average performing assets. CGAP describes as performing assets "loans, investments, and other assets expected to produce income". Personnel may be defined as the total number of staff employed or the number of loan officers. In this paper we are going to use a different definition of efficiency, based on DEA, as defined by the micro economic theory of production functions.

4. DEA efficiency and financial institutions

The efficiency with which financial institutions conduct their business has long been studied. Efficiency assessment is based on the theory of production functions. The standard definition of efficiency is due to Pareto-Koopman; see [9]. There are two main approaches to efficiency assessment: parametric frontiers and Data Envelopment Analysis (DEA). Berger and Humphrey [10] provide a comprehensive review of methods and models up to 1997.

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