ELSEVIER
www.elsevier.com/locate/worlddev

World Development Vol. 31, No. 12, pp. 2085–2114, 2003

Printed in Great Britain
0305-750X/$ - see front matter

doi:10.1016/j.worlddev.2003.09.004

Microfinance in Times of Crisis: The Effects of Competition, Rising Indebtedness, and Economic Crisis on Repayment Behavior

ULRIKE VOGELGESANG *
McKinsey & Company, Inc., Stuttgart, Germany

Summary. — This paper analyzes repayment determinants for loans from Caja Los Andes, a Bolivian microlender. The analysis focuses on the influence of recent changes in Bolivia. In particular, we examine the effects of the rapidly growing supply of microloans, the increasing competition, a rising level of indebtedness among microentrepreneurs, and the recent economic crisis. Our results show a twofold influence structure of competition and indebtedness. First, clients with loans from multiple sources at the same time are found to be more likely to default than others. Second, clients with given characteristics have an overall better repayment behavior in areas with higher competition and a higher supply of microloans.

JEL classification: O12, O16, O22, G21
Key words — microfinance, indebtedness, repayment, credit scoring, South-America, Bolivia

1. INTRODUCTION

Since the late 1970s, development policy has increasingly taken recourse to microfinance to improve the access to financial services for poor households (Morduch, 2000). [1] In recent years, however, an increasing number of microlenders finds it hard to maintain high repayment rates. While many microlenders were the sole source of reasonably priced loans in their early years of operation, today clients frequently can choose between a few lenders and the need to remain in good standing with a single lender has decreased. In a few areas, notably in Bangladesh and Bolivia, the microfinance market is close to saturation. Chaudhury and Matin (2001) report estimates of market coverage between 43% and 59% in Bangladesh. For Bolivia, (Rhyne, 2001, pp. 19, 31) estimates that between 25% and 33% of all microenterprises obtain microfinance loans. Besides the high supply of loans in the Bolivian microfinance market, the economic environment has been characterized by severe difficulties since 1998. Consumer credit companies (most of which are out of the market today) have distributed loans to many microentrepreneurs. These borrowers had increasingly high debt levels and repayment obligations, which they frequently could not fulfill. Since the end of 1998, the economy has slowed down with negative growth in 1999 and a low level of economic activity since.

The Bolivian microfinance institutions have faced a strong increase in late payments during these years. During 1996–2000 the percentage of overdue capital rose from 2.6% to 12.3% for BancoSol and from 4.0% to 7.7% for Caja Los Andes, the two largest Bolivian microlenders (ASOFIN, 2000). After its strong initial success, microfinance seems to have reached a level where the institutions need to develop new strategies to maintain their good performance in a more competitive environment. If microfinance is to offer long-term services, it has to prove that it works in nonmonopolistic environments and that it can maintain high

* This paper has been written during my Ph.D. studies at the University of Mannheim. I am indebted to Gabriel Schor from IPC GmbH, Frankfurt and the staff of Caja Los Andes for their generous support. Further thanks go to Axel Börsch-Supan, Martin Hellwig, Mark Schreiner, Christopher Ksoll, Joachim Winter, seminar participants at the University of Mannheim and an anonymous referee for many helpful comments. Final revision accepted: 25, April 2003.

repayment incentives even in the face of increasing saturation and competition.

In the face of these developments, it is essential to select clients cautiously and to provide sufficient incentives for repayment. The analysis in the next sections analyzes the repayment behavior of clients from one bank in Bolivia, Caja Los Andes. Our focus lies on the discussion of the increase in late payments in recent years. Can we attribute this increase to the effects of the economic crisis beginning in late 1998, the overindebtedness of many clients, or the rising competition? Which of these factors dominates? From a statistical point of view, the changes in the microfinance environment discussed above lend themselves readily to an econometric analysis. Most of the important changes are exogenous and their effects can be identified since there is variation over time and also between different geographic locations in Bolivia.

The paper continues with a discussion of repayment incentives and related literature in Section 2. Section 3 presents the theoretical model underlying our analysis and Section 4 briefly describes the data set used. Section 5 discusses econometric issues and presents the results; Section 6 concludes.

2. OVERVIEW OF REPAYMENT INCENTIVES AND RELATED LITERATURE

We can single out four major incentives for a timely repayment. First, all loans are secured by collateral and/or personal guarantees, where collateral typically consists of household items such as TV sets or business goods and machinery. If the client does not repay the loan, the collateral is confiscated. The collateral is selected based on the client's valuation and not on the resale value which increases the client's repayment incentives.

Second, if the client does not repay the loan, he or she loses access to future loans. Caja Los Andes does not grant consecutive loans for defaulting clients and for clients with frequent late payments. In addition, the client obtains a bad credit record with the Bolivian banking supervisory authority. All registered banks and an increasing number of nonregulated microlenders can access this information and will not grant loans to this client in the future. [2]

Third, conditions of the loan improve for clients with timely repayment. Loan sizes increase and repayment schedules become more flexible. Eventually, clients can obtain an automatic credit line. These improved conditions reduce the nonpecuniary costs of the loan for the client. Finally, the client's income needs to be sufficiently high to enable him to repay on time. If the repayments are too high or if his revenues are lower than expected he cannot repay the loan on time. In case of low business revenues, alternative sources of income are crucial for his ability to repay.

There is a body of literature that asks whether it can be optimal for a bank to behave as described above. In particular, when can it be optimal to offer relatively small loans to new clients although larger loans tend to be more profitable? When can it be optimal for a bank not to grant consecutive loans if the first loan is not repaid fully or not on time?

A characteristic crucial for the analysis of microfinance markets is the difficulty of finding adequate collateral. Ghosh and Ray (1999) analyze a market for loans where there is no collateral and there are no credit histories. They show that it is optimal for banks to distinguish between old and new clients and thus to generate "inside" reputation mechanisms. New clients are offered small loans to test their repayment behavior. Once the first loan has been repaid, clients are offered larger loans at better conditions making it desirable to repay each loan in order not to lose the preferred client status. This behavior closely corresponds to patterns observed in microfinance markets.

Due to the relatively widespread availability of credit records in the Bolivian microfinance market, reputation effects play a considerable role beyond the borrower–lender relationship. In an early analysis of the provision of loans without collateral, Allen (1981) shows that reputation effects lead to the existence of incentive compatible lending contracts even in the absence of collateral. The model assumes that the termination threat (i.e., the threat not to extend another loan if the current loan is not repaid) is credible due to reputation building by the lender, for example. As a consequence, a borrower repays as long as the present value of future loans is higher than the current payment due.

Reputation building by the lender plays an important role in microfinance markets. In a study of five microlenders, Churchill (1999) finds that the signals given to other borrowers