Credit Risk Assessment and Loan Allocation Among Microcredit Borrowers in Rural Bolivia

Silvia Linggi

Executive Summary

One of microfinance's main purposes is to help poor people in developing countries gain access to credit, since they do not meet the formalities required by conventional credit institutions. Microfinance institutions' loan granting processes therefore differ from those observed in conventional credit institutions. Bolivia is a country where microfinance has been flourishing since the late 1980s. Its macroeconomic background has made it an ideal country for successful microfinance business. The purpose of this thesis is to analyze the credit risk assessment and loan allocation among microcredit borrowers in rural Bolivia within a successful Bolivian microfinance institution, Fondeco.

Primary data was gathered from Fondeco in order to analyze their credit risk assessment and loan allocation process. The collected data has been used to establish a dataset which includes information concerning the overall portfolio of the organization as well as specific borrower and loan characteristics. Additionally, a random sample with 118 observations generated by ASFI (the Bolivian financial system supervisor) has been drawn containing detailed information with respect to borrower's income and assets. This sample has been tested for its representativeness of the portfolio as a whole, and due to the fact that it results to be biased with "good" borrowers, its use was limited to the qualitative aspect of the analysis. The data collected involves confidential information, and has therefore been handled with utmost discretion while maintaining the restrictions set by the institution and the signed non-disclosure agreement.

There are two main components to this thesis. The first one being its qualitative aspect to it, which involves the description of the data collection process, the collected data itself, and a guide into Fondeco's internal credit risk assessment process. The second component is the quantitative aspect and uses the collected data to analyze a specific borrower and loan characteristic in association to realized credit risk.

The quantitative part of this thesis first investigated the specific borrower characteristic, gender and its association to credit risk. There is a lot of literature involving discussions and investigations concerning the relationship between gender and credit risk. However, these studies have shown contra-

dictory results and due to this a conflict arises when trying to generalize the results. A chi-square test was conducted to analyze the association between gender and realized credit risk. The variable used as realized credit risk is a dummy variable created from the gathered data, which takes the value of 1 if a borrower has fully defaulted and the value 0 otherwise. The results suggest that within Fondeco's portfolio there is no significant association between gender and realized credit risk.

The second investigated variable involved a specific loan characteristic. Since Fondeco's credit risk assessment process involves two stages, one being product type risk assessment, it was in their interest to know if the specific loan characteristics, product type proved to have any association with realized credit risk. In order to analyze this association a logistic regression was conducted once again using the dummy variable of realized credit risk as the dependent variable. The independent variable, product type, was converted to a set of binary indicator variables, taking the value of 1 if the loan corresponded to that product type and 0 otherwise. The results suggest that there is a significant association with certain product types and realized credit risk. This finding proves to be very crucial for Fondeco because it suggests that they may have to adjust their product type risk assessment process.

The collected data contains massive specific borrower and loan characteristics' information and is therefore invaluable and instrumental for future research. The analysis of the relationships between all characteristics and realized credit risk go beyond the scopes of this thesis, leaving plenty of opportunity for future research.