Economics and Sociology
Occasional Paper No. 2346

MICROFINANCE MARKET NICHES AND CLIENT PROFILES IN BOLIVIA

by

Claudio Gonzalez-Vega

Richard L. Meyer

Sergio Navajas

Mark Schreiner

Jorge Rodriguez-Meza

and

Guillermo F. Monje

June 1996

Revised December 1996

Rural Finance Program
Department of Agricultural Economics
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210-1099

Abstract

This paper presents and interprets descriptive statistics generated from data obtained in a survey of clients of five microfinance organizations believed to be among the best in Bolivia. These lenders represent different combinations of organizational design, lending technology, and market area of operations. Two are regulated financial intermediaries and three are NGOs. Two operate in rural areas (PRODEM and Sartawi) and three operate in urban areas (BancoSol, FIE, and Caja Los Andes). Two offer individual loans and three grant loans through joint liability groups. The paper discusses household-enterprise profiles of a sample of 622 clients and identifies terms and conditions of loan contracts with these organizations to evaluate the depth and quality of their outreach.

The interpretation seeks to establish connections between key characteristics of the clients and features of the lending technologies that lead to the matching of classes of borrowers with particular organizations and that influence the choice of market niches. Data on loan sizes suggest the existence of different but broadly overlapping market niches associated with three tiers of clients. The sharpest distinction is between urban and rural clients. The matching between clients and organizations also reflects a weak but positive correlation between levels of poverty and loan sizes. According to an index of basic needs fulfillment of their clients, these organizations can be ranked as: FIE and Caja Los Andes (first tier), BancoSol (second tier), and PRODEM and Sartawi (third tier). The same ranking is obtained when clients are ordered according to loan size, the ratio of loan size to the value of sales, and the value of monthly sales. The three tiers of clients are associated with different socio-economic features of their household-enterprises: sex, education, household size, access to electricity, water supplies, and sewage facilities, employment-generating capacity of the enterprise, informality and separation of household and enterprise, occupations and the like. The development of lending technologies that do not rely on standard financial statements and collateralizable assets is a formidable innovation that explains the outreach and sustainability of these organizations.

Differences in the guarantees required for loans dominate distinctions in lending technology. Trade-offs between loan size, interest rates, and guarantee requirements attract different subsets of the clientele. Joint liability seems to be appropriate for very poor people, but group borrowers eventually outgrow this relationship. Caja Los Andes and FIE have shown that it is possible to supply individual loans to poor people and be profitable. Most clients are satisfied with the services received. The lowest satisfaction concerns loan sizes and loan-size rationing may be widespread. At least in urban areas, increasing competition will force these organizations to improve their services and adjust loan sizes. All of these organizations are expanding the frontier of microfinance by developing lending technologies for a much poorer clientele than is reached by collateral-based lenders. This is a formidable achievement.

MICROFINANCE MARKET NICHES AND CLIENT PROFILES IN BOLIVIA[1]

by

Claudio Gonzalez-Vega, Richard L. Meyer, Sergio Navajas,
Mark Schreiner, Jorge Rodriguez-Meza, and Guillermo F. Monje[2]

I. Introduction: Microfinance in Bolivia

Over the past decade microfinance programs have made considerable progress in Bolivia. Indeed, several microfinance organizations have achieved substantial gains in the two key indicators of success in reaching the poor with financial services: outreach and sustainability (Yaron, 1994). At least 120,000 clients are being served by a growing number of these organizations, several of which are striving to cover their costs, minimize default losses, and become financially viable and institutionally self-sustainable. In recent years a few of these organizations have become formal, regulated financial intermediaries, and a few others seriously intend to follow this path of institutional transformation. This paper describes the profiles of a sample of clients drawn from five of these Bolivian microfinance organizations which have achieved comparative success in terms of outreach and sustainability. The main purpose of the paper is to illustrate the characteristics of their clients and the depth of outreach achieved by these five organizations.

---

[1] This paper presents results based on data collected in a survey of clients of five microfinance organizations in Bolivia in November-December of 1995. Funding for the survey was provided by the Mission in Bolivia of the Agency for International Development, under purchase order No. AID 511-0000-0-00-6005. This paper is part of a series of studies of five Bolivian microfinance organizations undertaken by the Rural Finance Program at The Ohio State University. See footnote 3 for a list of sponsors of the broader research project.

[2] Gonzalez-Vega is Professor of Agricultural Economics and of Economics and Director of the Rural Finance Program, Meyer is Professor Emeritus of Agricultural Economics, and Navajas, Rodriguez-Meza, and Schreiner are Graduate Research Associates, all at The Ohio State University. Monje obtained his Ph.D. in Rural Sociology at Ohio State in 1995. The individuals and organizations that made possible this research project are too numerous to cite here, but the authors want to express their gratitude to Steve Smith, Kimberly A. Brown, and Gabriela Salazar de Santa Cruz at USAID/Bolivia, as well as Fernando Prado, Miguel Hoyos (FUNDAPRO), and numerous representatives of the five microfinance organizations studied, whose tireless collaboration made these efforts both fruitful and enjoyable. The authors are responsible for all errors of omission and interpretation.

This paper is part of a larger research project by the Rural Finance Program at The Ohio State University, namely *Progress in Microfinance: Lessons from Bolivia*.[3] The goal of the broader project is to explore and compare key dimensions of the evolution of five microfinance organizations widely believed to be among the best in Bolivia. The purpose of the investigation is to derive lessons for other microfinance programs in Bolivia and in other developing countries. Emphasis is placed on identifying strengths and limitations of alternative lending and deposit mobilization technologies and on deriving implications of different organizational designs for outreach and self-sustainability.

Analysis of the progress of microfinance organizations in Bolivia is both challenging and attractive because of the success of several organizations despite their wide variety of institutional structures, lending technologies, and paths of historical evolution. Moreover, because a few of these organizations have at least five years of experience, researchers can analyze key dimensions of their evolution over a reasonably long time period.

The specific purpose of the survey of borrowers was to generate socio-economic profiles of the clients to help sketch the boundaries of the market niches of these organizations. Identifying their market niches will allow some assessment of the intensity of competition among these organizations and of the extent to which particular market niches may be approaching saturation. The analysis will also seek to establish a connection between key features of the clientele of each organization and the lending technologies used.

This paper analyzes data from this survey of borrowers in an attempt to identify differences and similarities among the clienteles of the five microfinance organizations and to determine the extent to which the market niches actually served by these organizations are differentiated or overlap. The paper also explores differences in the terms and conditions of the clients' loan contracts with these organizations and any changes in the clients' sources of credit associated with their access to the services of these organizations.

The survey covered not only the current loan and household-enterprise situation of borrowers who had loans outstanding at the time of the survey, but also all loans received by these borrowers throughout their entire history with the microfinance organization where they were a client at the time of the survey. These data facilitate an understanding of the evolution of the terms and conditions, especially loan sizes, interest rates, and terms to maturity, of the loan contracts with the microfinance organization. In addition, these data provide comparative insights about the quality of the outreach of each organization as perceived by the clients. Information was also obtained about other sources

---

[3] Financial assistance for the broader project was received from Interdizciplinäre Projekt Consult (IPC) in Frankfurt, Germany, the Organisation for Economic Co-operation and Development (OECD), the United States Agency for International Development, both the USAID Mission in La Paz and the Cooperative Agreement on Financial Resources Management (FIRM), and the Department of Agricultural Economics at The Ohio State University. The authors gratefully acknowledge this support but assume full responsibility for the results of the project.

of credit at the time of the first contact with the microfinance organization and about financial transactions with other intermediaries in the present. These data will allow some discussion of how well the microfinance organizations are responding to the clients' demands for financial services.

The profiles of the clientele are an interesting dimension of the study especially because they are proxies for the depth of outreach of these organizations. Outreach results from the provision of a wide array of financial services to large numbers of the poor. Breadth of outreach refers to the number of clients from the target group being served. Depth of outreach refers to success in overcoming difficulties in reaching marginal target groups with financial services. Depth of outreach is usually proxied by the level of poverty of the borrowers: the poorer the client, the greater the depth of outreach. Quality of outreach refers to the variety of services supplied at low transaction costs to the clients (Christen *et al*., 1995). Several important and at times surprising results about outreach are revealed by the analysis of the data presented in this paper.

II. Five Microfinance Organizations

Five comparatively successful microfinance organizations were selected for study. The different organizational types and lending technologies of these five microfinance organizations are outlined below:

(a) **BancoSol** (Banco Solidario, S.A.), a quasi-private commercial bank.

This financial intermediary implements a group-lending technology largely in an urban setting. Because it serves more clients (currently over 60,000) than any other microlender, BancoSol has the broadest outreach of any microfinance organization in Latin America. In addition, it has achieved full independence from subsidies.[4] Just like any other Bolivian bank, BancoSol operates under the prudential supervision of the Superintendency of Banks and Financial Institutions (Rock, 1996). Although it is a regulated commercial bank, its portfolio is mostly composed of very small loans granted on the basis of joint liability offered by members of borrowing groups of poor people. In implementing its lending technology BancoSol has been able to keep the level of arrears at outstandingly low levels and to generate profits. These profits have been reinvested in broadening the organization's outreach even further.

Although BancoSol is fully chartered as a private commercial bank, its owners include a local non-government organization (PRODEM) and several international organizations: ACCION International, Calmeadow Foundation, Societe D'Investissement et Development International, and the Rockefeller Foundation, as well as the Inter-American Investment Corporation, affiliated with the Inter-American Development Bank. These non-private shareholders own 75 percent of the stock, while the rest is held by private Bolivian businesses and individual businessmen.

---

[4] Gonzalez-Vega *et. al.* (1996) present a detailed discussion of the challenges resulting from the rapid growth and the gradual achievement of subsidy independence of BancoSol.

(b) **PRODEM** (Fundación para la Promoción y Desarrollo de la Microempresa), a non-government microfinance organization.

The successful operations of this non-government organization (NGO) during 1987-1991 eventually led to the creation of BancoSol in early 1992 and to the sale of PRODEM's outstanding urban branches to BancoSol. Although PRODEM is BancoSol's most important shareholder and maintains a complex symbiotic relationship with this bank, as an independent organization PRODEM now implements a group-lending technology with a focus on expansion into rural areas. In its earlier days PRODEM made the key technological contributions that later on gave BancoSol a head start in its successful operation in urban areas. The challenge for PRODEM today is how to achieve the technological innovation needed for successful replication or adaptation of its lending methodology to a rural clientele. This is an even more difficult task.

(c) **Caja Los Andes** (Caja de Ahorro y Préstamo Los Andes, S.A.), a quasi-private regulated, non-bank financial intermediary.

This financial intermediary resulted from the formalization and upgrading of a successful non-government microfinance organization: PROCREDITO. Although chartered as a private financial intermediary (*fondo financiero privado*), the owners of Caja Los Andes are a local NGO (PROCREDITO) and several international organizations, namely the Corporación Andina de Fomento, with funds provided by the German Government (GTZ), the Swiss Technical Cooperation (COTESU), and the Inter-American Development Bank, as well as a few Bolivian individuals as minority owners but with funds provided by PROCREDITO to be invested on its behalf. In contrast to PRODEM, which continued to provide financial services after investing in the creation of BancoSol, PROCREDITO ceased independent financial operations and for all practical purposes metamorphosed itself into Caja Los Andes.

Chartered as a non-bank regulated intermediary, Caja Los Andes has implemented an individual-client lending technology in an urban setting. With this methodology it has been able to keep arrears at outstandingly low levels and to generate profits. In late 1995, Caja Los Andes began to expand its individual loan operations into rural areas by adapting a lending technology developed by Financiera CALPIA in El Salvador (Gonzalez-Vega, 1996a). Moreover, a few months after the survey, Caja Los Andes followed BancoSol to become the only other Bolivian microfinance organization that formally offers voluntary deposit services to its clientele. Caja Los Andes also operates a successful gold pawnshop window.

(d) **FIE** (Centro de Fomento a Iniciativas Económicas), a non-government microfinance organization.

FIE is another NGO that successfully implements an individual-client lending technology in an urban setting. Both FIE and Caja Los Andes are ideologically committed to an individual-client lending technology, and both have a successful record of implementing it.[5] Beyond the perception that individual transactions may be more convenient and in other ways welfare-improving for clients, these organizations have shown that making individual loans to the target population can be profitable, as argued by Schmidt and Zeitinger (1994).

Created by concerned citizens without little external help, FIE recently expanded from its original focus of lending almost exclusively for “production” (manufacturing activities) into lending also for trading. This organization also separated its training services from its financial operations, which include leasing in addition to regular microlending. This microfinance organization is considering transforming itself into a regulated non-bank financial intermediary (*fondo financiero privado*) and has started negotiations with the Superintendency of Banks and Financial Institutions to this effect.

(e) Fundación **Sartawi**, a non-government microfinance organization.

This microfinance organization, affiliated with the Lutheran Church of Bolivia, operates entirely in rural areas and it offers mostly group loans to people in distant communities. *Sartawi* is an *Aymara* word that means moving ahead, progressing (*levantarse, ir hacia adelante*). This NGO has been actively seeking to strengthen its organizational design to achieve long-term viability and has recently considered merging with a larger organization (Agrocapital), in order to jointly seek a charter as a *fondo financiero privado*.

In recent years the Bolivian authorities have offered several opportunities for microfinance organizations to become formal, regulated intermediaries (Trigo, 1996). One instance of this positive attitude was the granting of a commercial bank charter to BancoSol, despite the non-traditional composition of its portfolio, characterized by the absence of real collateral. Another instance of this attitude was the introduction of non-bank charters specifically designed to promote the formalization of microfinance organizations. Taking advantage of this opportunity, Caja Los Andes was created as the first private financial fund (*fondo financiero privado*). FIE has taken concrete steps to request a charter as a *fondo financiero privado* as well. This charter places the intermediary under the jurisdiction of the Superintendency of Banks and Financial Institutions and allows it to mobilize deposits, with the exception of checking accounts. The charter does not authorize the institution to engage in international transactions or in credit card operations and it restricts the size of any loan to no more than 3 percent of its equity. The minimum capital required is smaller than mandated for banks.

---

[5] During an interview, Pilar Ramírez, one of the founders of FIE, expressed the view that “if wealthier borrowers are not required to form groups in order to gain access to loans, why should the poor be forced into it?” To the extent that these two organizations have been able to show that individual loans can be profitably supplied to poor people, this is an important question. Unfortunately, this issue cannot be discussed further here.

External inputs have been important in the development of these microfinance organizations. PRODEM and BancoSol have maintained a close affiliation with the international networks of ACCION International and Calmeadow Foundation and have benefitted from significant support from USAID. BancoSol is the only one among the five, however, that is now totally independent of subsidies. Caja Los Andes has received support mostly from the German Government (GTZ) via technical assistance by the consulting firm IPC. It has also benefitted from subsidized liabilities and equity contributions.

While FIE has not had similar affiliations, thus making progress without substantial external technical assistance, about half of its liabilities are subsidized funds from various donors. All of FIE's equity consists of donated funds or retained earnings. In recent years, however, about half of its liabilities have been loans from public institutions and from private individuals at market rates of interest. In turn, the main supporters of Sartawi have been the Lutheran Church of Bolivia and Plan Internacional. Recently, all of these organizations except Caja Los Andes have received various forms of technical support from USAID.

All five of these microfinance organizations show strong elements of success. Their outreach and actual or potential self-sustainability are significant compared to other programs in Bolivia and to many microfinance organizations in other developing countries. They have, nevertheless, strengths and weaknesses in different areas and for different reasons. Among them, BancoSol and Caja Los Andes have stronger organizational structures for the implementation of cost-effective financial intermediation technologies that offer both loans and deposit facilities. These two organizations appear poised to sustain significant levels of outreach and self-sustainability.[6] Different degrees of support, mostly in the form of technical assistance, could bring the other three organizations to the same level of performance as the two leaders. All have the potential to become models of success for microfinance programs in Bolivia and other developing countries.

III. Objectives and Methods

To understand key determinants of observed differences in outreach and sustainability across these five microfinance organizations better, it is critical to analyze the socio-economic and financial profiles of their clienteles. The nature of the financial services demanded and the costs of providing these services are strongly influenced by circumstances of the clienteles and by the evolution of their loan contracts with the organizations. The depth of outreach of these Bolivian microfinance organizations cannot be judged fully without some understanding of the target market, the range and quality of the financial services offered to the clientele, and the nature of the financial options available to these clients. These topics are explored here by analyzing data from a survey of clients.

---

[6] Given the outstanding accomplishments of these organizations, an intriguing comparative analysis can be attempted about the use of group-loan and individual-lending technologies. Gonzalez-Vega *et al*. (1996) provides an in-depth analysis of BancoSol and Gonzalez-Vega *et al*. (1997) is a comparative analysis of the five organizations.

The survey of clients was designed to explore key characteristics of the borrowers and their financial transactions. For this purpose, independently drawn random samples of clients were obtained for each organization studied. Because of budget constraints, the survey considered only clients in La Paz and El Alto for those organizations with urban operations (BancoSol, Caja Los Andes, and FIE) and only clients in the *Altiplano* around Lake Titikaka, near La Paz, for those organizations with rural operations (PRODEM and Sartawi).[7] Thus, clients of the growing network of branches of some of these organizations in other parts of the country were not included in the survey and the results presented here are thereby not representative of their entire portfolio.

The population to be surveyed consisted of all clients in the areas under study with active loans as of September, 1995. This choice excluded past clients who did not have active loans at the time of the survey. While this choice was justified by budget constraints, some questions (such as reasons for leaving a program) cannot be examined. Some results from the data may also be subject to self-selection bias because only those clients who had been sufficiently satisfied with the services received were still in the active portfolio. Also, clients who were not successful in their business ventures may have dropped out because of a lack of opportunities to generate income and repay loans. Since the probability of failure may be correlated to some of the socio-economic features investigated here, a bias may be introduced in the results.

The five microfinance organizations provided lists of clients meeting the criteria for the survey and totaling 52,189 names. The target was to obtain 500-600 valid interviews, equivalent to about 1 percent of the relevant population. Although this representation was maintained overall (1.2 percent), the sampling procedure resulted in a sample as high as 3.0 percent of the borrowers from a particular organization (PRODEM) and as low as 0.8 percent of the borrowers of another organization (BancoSol) being selected for interviewing. This was the case because the proportion of the population of borrowers from a given organization to be included in the sample was adjusted to obtain a sufficient number of observations to make reliable inferences about each organization. That is, the overriding consideration was not the proportion of the total population sampled, but rather obtaining enough interviews for each organization to reduce sampling errors.

The sample was drawn according to the size of each branch. Table 1 shows the number of branches considered and of borrowers sampled by organization in La Paz, El Alto, and the *Altiplano*. Table 1 also shows the number of borrowers selected in the original sample as well as the number of interviews successfully completed by location. The sample included 20 percent additional names

---

[7] The clients of the Alto Lima branch of BancoSol in El Alto were not considered because administrative changes underway in the branch made it impossible to collect data there.

selected for use as replacements if the borrowers in the original sample were not found.[8] The efficiency of the field work was 92.4 percent and it generated a total of 622 observations.[9]

Once the potential interviewees were identified, the loan officer associated with each client completed a questionnaire concerning the client's credit history with the organization. A total of 694 loan officer questionnaires were completed. A second questionnaire was then administered to the borrowers. Table 2 shows the number of clients interviewed per organization as well as the number of loan officer questionnaires (72) not matched by a borrower interview. This situation arose for a number of reasons, such as for example when clients could not be located for an interview in spite of several visits to their home or worksite. The majority of the interviewing was conducted during November and December of 1995, with a few interviews completed during January, 1996.[10] Although access to certain locations was difficult, special efforts were made to reach the borrowers selected and, in general, once the respondents were located and their initial resistance was overcome, they collaborated thoughtfully. The borrower interview lasted about one hour, in addition to the time consumed by interruptions when the borrowers attended to their customers.

The authors believe that the data obtained from these instruments are highly reliable. First, field workers made repeated efforts to locate the borrowers, often visiting their place of work or home several times before giving up and replacing the borrower with another client from the substitute list. This effort reduced sample-selection error. Second, the questionnaire was redesigned after a pre-test, incorporating both the suggestions of officers of the microfinance organizations and the experiences of researchers in the field. Third, the loan-officer questionnaires were completed by the loan officers themselves with the use of the organization's loan dossiers for each client. Thus, the loan history data were corroborated by both the loan officer and the organization's written records. Because these data refer to the entire length of the organization-client relationship, they

---

[8] The sample selection was made using a random number generator. Given the remoteness of the localities and dispersion of its clientele, before the random selection was made for Sartawi the list of borrowers was broken down into subsets of clients according to the date the borrowers were scheduled to visit local towns and make payments. These dates were set by Sartawi to coincide with local market fairs. Given repeat visits by the interviewers during a month, all the borrowers in the list had the same probability of being selected.

[9] Due to missing values or when the concept is not applicable to a particular household, the statistics reported here may result from less than 622 observations.

[10] Guillermo F. Monje directed the field work. Franz Hochtatter and Enrique Aguilar supervised 12 interviewers divided into two teams. Interviewers were selected because they had substantial experience in survey work and several spoke Spanish and Quechua. The interviewers were: Luis Fernando Castañeda, Willy Castro, Concepción Choquetarqui, Isidora Coria, María Luisa Cuentas, Marisol Guzmán, Celia Kantuta, Palmira Maldonado, Ruth Marín, Edwin Pocorí, Verónica Quispe, and María Sánchez. Daniel Navajas assisted in the selection of the sample and was also in charge of the construction of the electronic data base.

provide an insightful picture of the evolution of loan terms and conditions, especially loan size, for each client. Fourth, the supervisors reviewed all questionnaires carefully, sending several with suspicious data back for repeat interviews. Fifth, errors of data entry were meticulously tracked down. Sixth, the interviewers, aware that borrowers may be sensitive to questions about loans and finances, consciously tried to create an atmosphere of trust early in the interview when non-sensitive questions about household demographics were asked before moving on to more sensitive topics.

IV. Client Characteristics

The basic demographic features of their clients do not differ much across the five organizations. This implies that these lenders serve comparatively similar although somewhat differentiated market niches, as will be shown under the discussion of loan sizes. The greatest distinctions emerge along the rural/urban dimension of the household-enterprises of the clients. This important distinction suggests that different criteria may be necessary in assessing the cost functions and other dimensions of the lending technologies of urban versus rural programs and that these differences should be kept in mind during the rest of the analysis. The basic characteristics of the clients and of their enterprises are presented in Tables 3, 4, and 5 and are discussed below.

Age

In urban areas the average age of a client is 38 years (Table 3, item 1). In rural areas PRODEM serves younger clients (35 years old on average), and Sartawi reaches older clients (43 years old on average). Almost two-fifths of the clients in urban areas are between 35 and 45 years old (Table 3, item 2).[11] More than one-half of PRODEM clients are younger than 35 years and almost one-half of Sartawi clients are older than 45 years. Except for Sartawi, at most one quarter of the clients of these organizations are 45 years or older.

Given the average age of their borrowers, these microfinance organizations and their clients can look forward to the development of client-organization relationships that may last for decades. This long-term horizon represents a strong incentive for the borrowers to protect their reputations with good repayment records and for the organizations to maintain both a high quality of services and a strong image of permanency in order to enhance the value of this relationship for the borrowers. In general, organizations with better services and a stronger image of viability appear to benefit from lower arrears and losses from default, *ceteris paribus* (Gonzalez-Vega, 1994).

Sex

The highest concentration of women clients in the portfolio is observed at BancoSol (78 percent), followed by Caja Los Andes (62 percent). As shown in Table 3 (item 3), among the urban organizations this proportion is lowest at FIE (44 percent). The rural organizations show even lower

---

[11] Given the evolution of the demand for financial services over the life cycle of the household-enterprise, producers at an economically active age will predominate in the portfolio.

concentrations of women in the portfolio. This might be expected given that men control most (cash) agricultural activities. Women are 32 percent of the clients of PRODEM and 27 percent of the clients of Sartawi.

None of the five organizations specifically targets loans to women. Therefore, rather than representing explicit gender policies, the distribution of their portfolios according to sex reflects features of the clienteles attracted to each program. These features reflect the market areas where the organizations operate and the comparative advantages of these organizations in serving certain types of clients. These advantages result, in turn, from specific features of their lending technologies. When schedules of frequent loan repayment, such as weekly payments, are required for the monitoring of borrowers according to these lending technologies, traders can generate the cash flow turnover needed for frequent payments more easily than other types of producers. Women, in turn, predominate in trading activities in urban Bolivia.[12] For these reasons, women will also predominate in the portfolios of microfinance organizations.

Household size

Household size was defined as the number of people who live together. The households of microfinance clients tend to be large. About three-quarters of the households have five or more members, including the client. In urban areas, the proportion of households with five or more members ranges from a low of 68 percent for FIE to a high of 78 percent for BancoSol clients (Table 3, item 9). Rural households tend to be a bit larger. The proportion of households with five members or more is 76 percent for PRODEM and 79 percent for Sartawi.

Large households allow for a diversity of occupations among family members and result in complex demands for financial services. A diversity of occupations increases creditworthiness by allowing different sources of cash flows for repayment and by permitting activity diversification for risk reduction. In addition to a complex financial management, the fungibility of funds within the household-enterprise makes it very difficult to attribute impacts to any individual loan or household activity. These difficulties make studies of credit impact costly to implement.

Household composition

Men are normally considered to be heads of household in Bolivia. Because a higher proportion of BancoSol borrowers are women, a lower proportion of its borrowers are heads of household among the clients of these organizations. Only 42 percent of BancoSol clients consider themselves as heads of household (Table 3, item 4). This proportion is higher for Caja Los Andes (52 percent) and highest for FIE (72 percent), the organization with the lowest participation of women among those operating in urban areas. The even higher proportion of clients who are heads of household in rural areas is correlated with the higher proportion of male borrowers in PRODEM and Sartawi.

[12] In some cases, women can attend group meetings more easily than men and may enjoy externalities from participating in these meetings.

In fact, a ranking of the organizations by the proportion of borrowers who are heads of household is exactly the reverse of a ranking by the proportion of borrowers who are women.

The connection between gender and being head of household is confirmed by the specific data on women clients. The proportion of women clients who are heads of household is generally low. It is higher for BancoSol (26 percent), however, but even this proportion is much lower than for the clientele (women and men) at large (Table 3, item 4). The proportion of women who are heads of household is only 18 percent for clients of FIE and Caja Los Andes and much lower in rural areas. That a higher proportion of BancoSol women clients are heads of household may imply greater vulnerability, because this suggests a single-parent household or perhaps a client who is a widow. These households tend to be poorer and to have less stable sources of income and may not be able to borrow from other (non-group) microfinance organizations.

Household labor supply

The survey results reflect the typical composition of poor households in La Paz and El Alto. In a high proportion of these households at least three household members work, usually in different occupations in order to address risks through activity diversification. The proportion of households with at least three workers ranges from a low of 71 percent for FIE clients (despite a greater proportion of manufacturing producers) to a high of 84 percent for clients of Caja Los Andes (Table 3, item 10). A similarly high proportion of households with at least three working members is observed in rural areas, where income diversification activities are also important as a strategy for managing risk, and where this proportion is highest for Sartawi clients (81 percent).

In many urban households, the typical arrangement is for men to be engaged in manufacturing or in seasonal construction and for women to be involved in trading. Although women frequently market the output of their husband's manufacturing activity, they also diversify their sources of income by marketing other domestic and foreign products (Table 5, item 6). Access to loans and to deposit facilities thus assists in the liquidity and risk management of the whole household.

For some purposes, knowing the borrower’s sex may be important, but it is incorrect to assume that the client is the only beneficiary of the loans or the only decision-maker in the household whose choices are influenced by access to credit from the microfinance organization. This is particularly true when there is no separation of accounts nor of flows of funds between the client’s household and business, as shown in Table 5 (item 7). Receiving a loan represents an increase in the whole household’s command over resources and because of the fungibility of funds the impact of the loan cannot be identified without understanding the overall household choices with the loan (actual) and without the loan (counterfactual).

Education

Interesting distinctions among clients also emerge with respect to levels of education. Among the three urban programs, BancoSol clients are less well educated: 8 percent have no schooling at all, compared to 6 percent for clients of Caja Los Andes and 1 percent for FIE clients (Table 3, item 5). Moreover, another 25 percent of BancoSol clients have completed at most the third grade compared to 13 percent for clients of Caja Los Andes and only 9 percent for FIE clients. At the upper end of the distribution, 16 percent of FIE clients and 11 percent of the clients of Caja Los Andes have more than a secondary education, compared to only 3 percent for BancoSol clients.

Women are less educated in general in Bolivia and differences in client education are correlated with the concentration of women in BancoSol's portfolio. These differences may also reflect greater poverty among the clientele of this organization (Navajas *et al*., 1996). They may also be associated with the greater presence of FIE clients in manufacturing. Lower levels of education tend to characterize the jobs in petty trading in which women predominate. The lower levels of education of women are shown in Table 3 (items 7 and 8). In the case of BancoSol clients, 39 percent of the women but only 17 percent of the men reached the third grade at most. These proportions are 25 percent (women) and 10 percent (men) for clients of Caja Los Andes and 17 percent (women) and 4 percent (men) for FIE clients. The proportions of men with the highest levels of education are higher than for women in all cases.

Even lower levels of education characterize rural areas in Bolivia. As expected, therefore, the clients of these microfinance organizations are less well educated in the rural areas than in the urban areas. Among PRODEM and Sartawi clients, 14 percent have no schooling at all and another 19-20 percent did not reach beyond the third grade (Table 3, item 5). It is interesting to note, however, that BancoSol clients are almost as poorly educated as the clients of these rural organizations. The disadvantages of women are particularly pronounced in rural areas. For PRODEM clients, 63 percent of the women but only 20 percent of the men reached the third grade at most. These proportions are 61 percent (women) and 23 percent (men) for Sartawi clients (Table 3, items 7 and 8). The proportions of better-educated men are considerably higher than for women.

Principal occupation

The concentration of clients in the portfolio of a microfinance organization who are women and are poorly educated is highly associated with the concentration of loans for trade. Trading is the main occupation for 63 percent of BancoSol clients, 49 percent of borrowers of Caja Los Andes, and only 33 percent of FIE customers (Table 5, item 1).[13] PRODEM has a tradition of lending to

[13] The concentration of loans for trade in the portfolio of these microfinance organizations has been ideologically troubling for those who criticize trading as not being a productive activity. This criticism ignores not only the complexity and interrelations of the household economy but at least two other considerations. First, trade is indeed productive because providing information, transportation, and transaction opportunities in La Paz adds value to domestic and foreign goods produced far from the city. Second, many women market the output of their husbands, thereby adding value to their joint enterprise. A policy to reduce the share of loans for trade would also reduce the share of loans disbursed to women. If the gender of the borrower matters, this policy to not favor trading would also hurt women.

borrowers with trading activities, so the proportion of its clients whose main occupation is commerce is 50 percent, while this proportion is only 28 percent for Sartawi clients. Sartawi, in turn, has a tradition of lending for agricultural activities, especially cattle fattening and cattle trading.

The concentration of BancoSol's portfolio in women, rather than being the outcome of specific targeting policies, is thus a reflection of the predominance of Bolivian women in urban trading. BancoSol's lending technology of making short-term loans with frequent payments requires a quick turnover of borrower cash flows that leads to this concentration in trade loans. Frequent payments are used by the organization to facilitate the careful monitoring of borrowers (Gonzalez-Vega *et al*., 1996).

At the other extreme, the concentration of FIE’s portfolio in loans to clients whose main occupation is manufacturing (49 percent) leads to a lower proportion of women clients and to a higher proportion of heads of household among its clientele. These patterns are replicated in rural areas, where the greater concentration of borrowers in agriculture at Sartawi (53 percent) leads to a predominance of male, head-of-household borrowers among its clientele.

Trading is the main occupation of women who are clients of all five in these organizations. The proportion of women clients whose main occupation is trade ranges from 57 percent for FIE and Sartawi to 72 percent for BancoSol (Table 5, item 2). In contrast, production (either manufacturing or agriculture) is the main occupation of men. The proportion of men engaged in production ranges from 38 percent for BancoSol to 68 percent for FIE clients. PRODEM (46 percent) and BancoSol (32 percent) are the only two organizations with high proportions of male clients in trade as well (Table 5, item 3). These results suggest that it may be easier to form borrowing groups among people engaged in trading rather than manufacturing or agriculture. In addition to patterns of cash flows that allow regular contributions, one explanation may be that traders are often located close to each other, while other activities may be more dispersed. Proximity reduces the transaction costs of participation in ROSCAs.

Multiple occupations

Between one-half and two-thirds of the urban clients and over three-quarters of the rural clients of these organizations have more than one occupation (Table 5, item 4). Multiple occupations may be the result of efforts to diversify sources of income in a risky environment. BancoSol clients engaged in petty trade are least likely to have a secondary occupation. In contrast, manufacturing producers and farmers show a greater inclination to have multiple sources of income.

Trade is the most important secondary activity for the clients in all five microfinance organizations (Table 5, item 5). The data suggest that, with the exception of Sartawi clients, between 80 and 90 percent of the clients of these organizations engage in trading as a primary or as a secondary occupation. This reflects an inclination of microentrepreneurs to market their own products. Trade also appears to be highly remunerative given the Bolivian environment and other opportunities available, especially to women. Both in the urban informal sector and in the rural areas, trade represents an integral part of the economic activities of the household. In rural areas, active trading in livestock is a major strategy for the management of liquidity and the accumulation of reserves for precautionary purposes. Trading activities are particularly compatible, in turn, with the nature of the lending technologies of these organizations.

Except for BancoSol clients, most traders market their own production. This proportion is highest for FIE (68 percent), which is consistent with the larger proportion of manufacturing clients served by this organization (Table 5, item 6). Trading own products is also significant in rural areas, especially for Sartawi clients, among whom 74 percent market their own output. For this reason, Sartawi and PRODEM schedule loan repayments to coincide with regional trading fairs where their clients generate cash through sales of their products. The importance of these cash flows from trading suggests that there may be a strong untapped demand for deposit services in these rural areas.

Among those borrowers with trading activities, the proportion who market domestically-produced goods is high compared to those who market imported goods (Table 5, item 6).[14] Thus, trader-borrowers market mostly the output of their own household production, followed by the marketing of other goods produced in Bolivia, and some foreign goods. Casual observation of street vendors reveals a wide variety of merchandising patterns. Some vendors specialize in domestic products (*e.g.*, fruits and vegetables), others in imported products (*e.g.*, cosmetics and clothing), and others in a mixture (*e.g.*, potatoes and pantyhose).[15] An abundant supply of imported foreign goods, however, provides traders with opportunities to diversify their stock. In all cases, value is added in attempts to meet consumer demands and incomes are generated for households of the poor.

Housing conditions and ownership

Housing conditions are one social indicator expected to be highly correlated with the wealth and income status of clients of these organizations. While in rural areas most clients live in houses that are separate structures, in urban areas at least two-fifths of them live in rooms in collective housing arrangements (*conventillos*). A higher proportion of FIE clients live in apartments (17 percent) compared to clients of the other organizations (Table 4, item 1).

In urban areas, the average size of the residence ranges from 1.8 rooms for BancoSol to 2.1 rooms for FIE clients (Table 4, item 2). Residences are smallest for PRODEM clients in rural areas (1.6 rooms per household). The small size of their residences, in spite of the large size of their households, is indicative of their poverty (Navajas *et al*., 1996). Over three-quarters of these households have five members or more.

---

[14] The percentages of borrowers trading different types of products add over 100 percent because many clients typically trade more than one type of product.

[15] Many domestically-produced goods are sold as imports and the use of fake brand labels is extensive. Some microentrepreneurs actually specialize in producing labels.

About half of the clients surveyed in urban areas own their residence. This proportion ranges from 49 percent for BancoSol clients to 58 percent for clients of Caja Los Andes (Table 4, item 3). This difference is consistent with the lending technology of Caja Los Andes, which places importance on the client having an established place of residence. It may also reflect socio-economic differences among the clienteles of these organizations. In the rural areas, the proportion of clients who own their residence is significantly higher (84 percent for Sartawi and 88 percent for PRODEM). This may reflect, in part, the consequences of land reform programs.

Access to public services

Client access to running water, electricity, and sewer is heavily determined by location because social infrastructure is much better developed in urban areas than in rural areas. In urban areas over 90 percent of the clients of these organizations have running water and electricity, while this proportion is considerably less (just over 60 percent) in rural areas (Table 4, item 4). In urban areas, however, the proportion of BancoSol clients with access to running water is considerably less than for clients of FIE and Caja Los Andes. This suggests that BancoSol clients are poorer (Navajas *et al*., 1996).

Sewage facilities are less common in general, with a clear distinction between BancoSol (57 percent) and other urban microfinance clients (about 75 percent). This distinction again suggests that BancoSol clients may be poorer than clients of FIE and Caja Los Andes. Access to sewage facilities is almost non-existent in rural areas. The results for Sartawi are similar to those for PRODEM clients for all three of these public services indicators.

Migration

A high proportion of the clients of these organizations consider themselves to originate in the area of their present residence. This is the case for two-thirds of those now in urban areas and the proportion is even higher in rural areas (Table 3, item 12). Immigration has been intense in and around La Paz, so the informal economy has grown rapidly and suburban areas, such as El Alto, have mushroomed in population. It was expected, therefore, that recent migrants would make up a larger proportion of clients than these data report. The explanation may be that stability of residence is an important determinant of perceived creditworthiness by these microfinance organizations. Stability is also likely to be an important determinant of the ability to find other persons willing to offer joint liability in group loans.

The importance of residential stability in client selection is further confirmed by the fact that the average length of time the client has lived in the area is quite high: it ranges from 17 years (PRODEM) to 25 years (Sartawi) in rural areas and from 19 years (FIE) to 24 years (Caja Los Andes) in urban areas (Table 3, item 13). Note that if the average age is about 40 years, and the clients have lived from 20 to 25 years in the area of their present residence, the average age at the time of migration was 15 to 20 years old. Therefore, these clients are well established relative to more recent migrants.

Rural-urban links

Almost one-fifth of urban clients own land in rural areas, which suggests that they maintain strong urban-rural linkages (Table 3, item 14). Some of these urban microfinance organizations indicated that there is a surge in the demand for loans at the times of planting. This not only reveals the clients' diversification strategies to deal with risk, which include both urban and rural activities, but also the permeating consequences of the fungibility of money. Multiple urban and rural household-enterprise activities suggest even greater difficulties in evaluating the impact of loans on productivity and welfare. The five microfinance organizations recognize, however, the nature of fungibility and look at the global household-enterprise in their evaluations of creditworthiness and in the design of the terms and conditions of their loan contracts..

About 80 percent of rural clients claimed to own land, although it was not clear if this was under individual or collective forms of tenure (Table 3, item 14). The value of land potentially offered as loan collateral is reduced by tenure patterns and attenuated property rights such as communal ownership and legal limitations for land reform beneficiaries.[16] Moreover, many of these owners will not likely have formal titles to their land. Surrendering such titles when they have them represents, however, an important form of collateral substitute in urban areas, given the high costs of formalization of mortgage contracts. Some microfinance organizations have discovered that simply requesting the client to deposit the title documents with them acts as a strong deterrent to default, regardless of the legal value of such requirements, as the client could always obtain a duplicate of the documents from the authorities and no foreclosure is possible without judicial process.

Informality of economic activities

The urban clients of these microfinance organizations operate largely in the informal economy of La Paz and El Alto. Several indicators reflect this. First, in the urban areas less than one-half of the clients have a business operated separately from the household. This proportion ranges from a low of 44 percent for BancoSol to a high of 52 percent for FIE clients (Table 5, item 7). In rural areas, only one-third of the clients claimed such separation, a finding which is consistent with agriculture being their primary activity. In all organizations except BancoSol, the separation of household and business accounts and cash flows is slightly more frequent among women than among men clients.

The lack of separation of household and business accounts and cash flows suggests that financial management is undertaken jointly for the household (on the basis of consumption decisions) and the enterprise (on the basis of production and investment decisions). When a loan is granted in this environment, the opportunities for the marginal reallocation of funds that are allowed by the fungibility of money are significant. When this is the case, targeting loans by the use of funds does

---

[16] Recent legislation passed after the survey has allowed land reform beneficiaries to mortgage their land.

not make sense. Instead, in establishing loan repayment capacity microfinance programs must consider the household-enterprise unit in its entirety. Demands for financial services and levels of creditworthiness result from the interactions between the decisions of the household and the decisions of the enterprise, and microfinance organizations must take this non-separability into account.

Second, the informality of these microenterprises is reflected by the fact that only a small proportion of them pay federal taxes (*Registro Unico de Contribuyentes*). These taxes are paid by about one-third of the clients of FIE and Caja Los Andes and by less than one-quarter of BancoSol clients (Table 5, item 13). Moreover, this is true for less than 10 percent of PRODEM and Sartawi clients in rural areas. From the perspective of these microlenders, the formality associated with paying taxes is not necessary for establishing the creditworthiness of borrowers of very small loans.

Third, 48 percent of BancoSol clients are members of some union or association, but not all pay union dues (Table 5, item 12). About two-fifths of the clients of Caja Los Andes and of FIE have such affiliation, which may be highly correlated with trading activities. Prime street vending locations along the sidewalks in La Paz and El Alto are managed by informal trader associations. This is also the reason why approximately two-thirds of the urban borrowers pay fees to the municipality, mostly for operating permits. Borrower possession of these permits is important to these lenders only to the extent to which the permits secure some stability for the client's business. Rural clients frequently join producer associations and village organizations.

Accounting records

Lack of financial statements and other written records constrains access to conventional formal loans as much as lack of traditional collateral. The development of lending technologies that do not rely exclusively on standard financial information and on collateralizable assets is a formidable innovation. This technological innovation is the central factor explaining the depth and breadth of the outreach achievements of these microfinance organizations (Gonzalez-Vega *et al*., 1996)

Reflecting the informality of their businesses, many clients of these microfinance organizations do not even keep written accounts of their revenues and expenses. This is more frequently the case among clients of BancoSol (63 percent) than among clients of Caja Los Andes (51 percent) and FIE (42 percent). From this perspective, informality is even more pronounced in the rural areas, where 76 percent (Sartawi) and 84 percent (PRODEM) of the clients do not keep written records (Table 5, item 8). There are no major differences between women and men in this connection (Table 5, item 9).

Although the lack of written records may not negatively affect the management of their microenterprises, as these entrepreneurs carefully and flexibly take advantage of their opportunities even without such formal records, the absence of these records reduces the ability of the clients to signal creditworthiness in formal financial markets (Sanchez, 1996). In the absence of such records the lending technology developed by these microfinance organizations shifts the burden of establishing creditworthiness to the loan officers. This may be accomplished through visits to the home and/or workplace of the client (*e.g.*, Caja Los Andes) and/or through the knowledge of the client by other group members who participate in the process of screening on behalf of the lender (*e.g.*, BancoSol).

Employment

An argument frequently made in support of the promotion of microenterprises is their potential to create employment for poor people. The survey revealed that the enterprises of the clients of these organizations are a source of employment for several persons other than the borrowers. When the urban clients of these organizations employ others, on the average they employ two or three remunerated permanent workers, one or two temporary workers during seasonal peaks, and one relative without explicit remuneration (Table 5, item 10). Rural clients who employ others on average employ one or two relatives without explicit remuneration, one permanent worker, and four or five temporary workers in response to the nature of agricultural activities.

Not all enterprises employ all of these categories of workers. Considering all enterprises in the sample, both the enterprises of the self-employed and those of employers, the average number of workers employed besides the clients themselves is about 1.2 employees for BancoSol borrowers (Table 5, item 11).[17] In addition to the client, on average employment generation was higher among FIE clients (2.2 extra workers) and borrowers of Caja Los Andes (2.1 extra workers). These differences in employment generation are consistent with the larger proportion of trading clients in BancoSol's portfolio. In rural areas, Sartawi clients generated more employment beyond their own job (1.7 extra workers) than PRODEM clients (1.3 extra workers).

Although there is no information about how much of this reported employment can be attributed to the client's access to microloans, clearly the financial transactions with these microfinance organizations help sustain some job-generating enterprises. Furthermore, this employment can have important welfare benefits because it is logical to expect that poor entrepreneurs would most likely employ other poor people. Access to loans may also provide some of these firms with flexibility to hire additional workers when needed to take advantage of special opportunities. Furthermore, given the fungibility of funds, loans from these organizations facilitate activities of household members engaged in other occupations different from the client's enterprise.

Value of sales

An alternative way to evaluate the size of a microenterprise is to estimate the total value of sales, but this approach is subject to numerous difficulties of measurement and interpretation. The difficulties include the pronounced seasonality of sales and the different rates of turnover in inventories that are typical of different subsectors of economic activity. Moreover, given different

---

[17] These figures result from adding all categories of workers and do not weight temporary workers differently from permanent workers.

profit margins, the value of sales is only a crude proxy for the entrepreneur's net income.[18] The data presented below, therefore, must be interpreted with extreme caution and are only suggestive of enterprise size.

The data reported here are estimates made by loan officers based on information in the client's files and adjusted to dollars as of December 1995.[19] The clients of Caja Los Andes reported the highest monthly average sales (US$ 2,720). The sales of the clients of FIE follow close behind (US$ 2,352), and the clients of BancoSol have monthly average sales of less than half as much as the other two urban organizations (US$ 1,059). In view of the greater proportion of BancoSol clients engaged in petty trade, their enterprises are expected to be smaller. Given the rapid turnover of the inventory of goods of small traders, however, the ratio of monthly sales to assets (inventories) is typically very high. The relative size of these enterprises, therefore, is even smaller than is reflected by these comparisons of monthly sales.[20]

The average value of sales is even lower for the clients of PRODEM (US$ 778).[21] The lower levels of monthly sales reported for rural clients are not necessarily a reflection of greater poverty, because rural producers have greater access to self-production and other in-kind incomes than do

---

[18] The demands for financial services of different enterprises depend on a combination of factors which include sales volume and inventory turnover. For example, a market woman who sells US$ 50 each day and turns over her inventory daily will report monthly sales of about US$ 1,500. Her working capital requirements, however, will be about US$ 50. A furniture maker who completes one bedroom set worth US$ 750 every two weeks will also report monthly sales of US$ 1500, but he will require working capital of about US$ 750. The loan officers of these organizations develop an intimate knowledge of the typical volumes of sales and the working capital requirements of different activities.

[19] Monetary values have been expressed in terms of dollars because it is a stable currency whose purchasing power is more widely known than is the purchasing power represented by one boliviano. Monetary values have been converted to represent purchasing power as of December, 1995 because the purchasing power of a given number of units of a currency changes over time due to inflation. Inflating boliviano values for earlier dates by a factor equal to the inflation rate between those dates and December, 1995 and then converting the bolivianos to dollars at the exchange rate prevailing as of December, 1995 puts all values in comparable units.

[20] Size of loan demanded should also be smaller than for non-trading enterprises by a greater proportion than is implied by the differences in monthly sales among the clients of these organizations.

[21] The typical shortcomings in measuring sales values may be less acute in this study because the data were provided by loan officers, except for Sartawi which does not compile such information on clients. Data on Sartawi clients are not provided for this reason.

urban clients. Cash sales are necessary, however, to service the frequent loan payments required by these organizations. The need to generate these cash flows may in part explain the predominance of traders among the clients of these microfinance organizations even in rural areas.

Median values for monthly sales are considerably lower than average values (Table 5, item 14). This suggests that average values are influenced by a few larger producers (outliers) and that the typical clients operate smaller enterprises than is reflected by average sales volumes. The ranking of the organizations, however, is preserved. The clients of Caja Los Andes report the highest typical (median) value of sales (US$ 1,735), followed by FIE clients (US$ 1,240). Again, the median sales of BancoSol clients (US$ 646) are less than one-half and the median sales of PRODEM clients (US$ 419) are less than one-third of the figures for FIE and Caja Los Andes.

These distinctions are reflected, according to sex, by the distributions of the clienteles of these organizations by levels of monthly sales (Table 5, items 16 and 17). The proportions of BancoSol clients with less than US$ 1,000 of monthly sales (60 percent of the men and 73 percent of the women) are much higher than for the other two urban organizations (Table 5, items 18 and 19). These proportions are 40 percent for men and 39 percent for women in the case of FIE clients and only 16 percent for men and 36 percent for women for clients of Caja Los Andes. In rural areas, 72 percent of men and 81 percent of the women clients of PRODEM reported monthly sales of less than US$1,000.

Three facts stand out. First, Caja Los Andes appears to be more cautious and lends to clients with low values of sales less frequently than the other organizations. The lending technology of Caja Los Andes emphasizes the determination of this value more than is typical for the other lenders.[22] The proportions of clients of Caja Los Andes with monthly sales over US$ 2,000 (58 percent of men and 36 percent of women) are higher than for the other organizations (Table 5, items 16 and 17). BancoSol, in contrast, tends to lend to clients with lower values of sales. The proportions of clients with sales above US$ 2,000 are only 17 percent for men and 11 percent for women for BancoSol clients.

Second, the proportions of women clients with low values of sales are higher than for men for all four organizations. Similarly, the average and the median values of sales are higher for men than for women, particularly for clients of Caja Los Andes. Among clients of Caja Los Andes, the average (US$ 3,506) and median (US$ 2,393) sales for men are much higher than the average (US$ 2,251) and median (US$ 1,363) sales for women (Table 5, item 14). Such differences of the monthly value of sales according to sex are much less pronounced among FIE clients and almost non-existing among BancoSol clients. The differences are large, however, for PRODEM clients.

---

[22] The degree of detail used in these estimates by the loan officers, however, varies across these organizations. This may in part explain, for example, the wider range of sales values observed for clients of Caja Los Andes, where such estimations are more accurate.

Third, low values of sales are more frequent in rural areas than in urban areas. This reflects both the lower levels of income and the higher degrees of self-sufficiency of rural household-enterprises. Differences in sales value also reflect differences in occupations. For both women and men, sales values are higher in trade than in other occupations (Table 5, line 15).[23] This is true for all four organizations and may reflect the more rapid turnover of inventories in trading. Sales in manufacturing and in agriculture are higher than sales in service activities, which are associated with the lowest monthly revenues generate by these broad categories of occupations.

Credit deepening

The value of monthly sales can be compared to the size of loans received. This reflects both the relative burden on the clients of debt service as well as the extent to which loan supplies may be approaching (maximum) repayment capacity. Credit deepening reflects the relationship between credit and the value of output (sales). Given equivalent sales values and credit demands, borrowers better able to signal their creditworthiness will get larger loans. This is typically the case for the clients as their relationship with the microfinance organization matures and as a solid credit history is accumulated. For a given client, therefore, loan sizes increase as the client makes progress along a sequence of transactions with the same organization, even if the value of sales does not grow as rapidly (Gonzalez-Vega *et al*., 1997).

This is only part of the story, however, since the importance of loan size relative to monthly revenues also depends critically on the term to maturity of the loan. To evaluate the burden of debt service, what matters is the size of the monthly payment compared to sales, not the size of the loan at the time of disbursement. Manufacturers are expected to get larger loans, at longer terms to maturity, which may still require a monthly payment equivalent to the payment of a smaller, shorter-term loan for a trader.

Credit deepening may be crudely proxied by the ratio of the amount disbursed for the most recent loan to the client's monthly sales.[24] For clients of Caja Los Andes, the median of the ratio of loan size to the value of monthly sales was 32 percent (Table 6, item 9). For FIE clients the median was 59 percent and for BancoSol clients it was 63 percent.[25] Keeping all these qualifications in mind, the lower loan-to-sales ratio for clients of Caja Los Andes, despite the lower relative importance of loans for trade in its portfolio compared to BancoSol, may again suggest a more conservative

---

[23] For male clients, the value of sales for each occupation is almost identical for FIE and Caja Los Andes. This is not the case, however, for women: the value of their sales in manufacturing and in services is much higher at Caja Los Andes.

[24] A more accurate measurement of credit deepening would correct for differences in terms to maturity. See Gonzalez-Vega *et al.* (1997).

[25] Median values are used for the comparison because some outlier observations severely distort the average as representative of a typical borrower.

attitude in the determination of loan sizes.[26] This would be consistent with this organization's efforts to keep arrears and loan losses at minimum levels, which is in part accomplished by keeping loan size smaller compared to the client's potential repayment capacity (if reflected by monthly sales) than is usual for other organizations.

BancoSol and FIE, in contrast, appear ready to accept a level of indebtedness closer to repayment capacity. Because the relationship between loan size demanded and the value of sales can be expected to be lower in the case of clients engaged in trading rather than in manufacturing, the data suggest that BancoSol loans may be even closer to (maximum) repayment capacity than is true for the other two organizations. This ability may reflect the role of group formation in screening potential borrowers. In the case of BancoSol, however, there is much less correlation between loan sizes and levels of poverty (Navajas *et al*., 1996).

Over three-quarters (79 percent) of the clients of Caja Los Andes and about one-half of FIE, BancoSol, and PRODEM clients receive loans equivalent at most to 60 percent of the value of monthly sales. This may suggest that loan-size rationing is frequent, particularly among clients of Caja Los Andes (Table 6, lines 10 and 11). Clients with unsatisfied demands for credit may seek other loans from additional lenders.

V. Loan Characteristics

This section reports on our analysis of the characteristics of the most recent loan disbursed to the clients of the five microfinance organizations surveyed.[27] The data were compiled from the loan officer questionnaires. The loans that were still outstanding when the interviews took place had been disbursed at different times during the months before the interviews. Moreover, the characteristics reported for the most recent loan are not necessarily representative of all the transactions in the entire stream of loans disbursed to a client during the period of relationship with the organization. As borrowers obtain repeat loans, loan features change due to the nature of the lending technologies used by these organizations and due to changing borrower demands. Generally, terms and conditions tend to improve as the relationship with the organization ages and the borrower moves along a sequence of repetitions. Due to the mix of clients sampled, the most recent loan reported could be the first loan for first-time borrowers or the twentieth loan for a long-established client. Important

---

[26] This may also reflect more precise sales data, given the more detailed and accurate screening technology used by Caja Los Andes.

[27] Results based on the sample may differ from results that would be obtained from the entire population of borrowers in the portfolio of these organizations either because of sampling errors or because clients in the sampled branches differ systematically from clients at other branches. In addition, the results are strongly influenced by the stage of the borrower along the evolution of the client-organization relationship (i.e., the number of loan repetitions that have occurred.) See Gonzalez-Vega *et al*. (1997).

differences among the clients of the five organizations are shown in Tables 6 and 8 and are described below.

Average loan size

Loan sizes matter as a potential proxy for the borrowers' level of poverty, as a reflection of the extent to which supply may be fully responding to demand, and as a determinant of the average costs of lending (Gonzalez-Vega *et al*., 1997).

The extent to which levels of poverty and loans sizes are correlated has not been established in general. Data from the survey, discussed elsewhere, results in a positive but fairly weak correlation between an index of basic needs fulfillment and loan sizes for individual clients within each organization (Navajas *et al.*, 1996). This index of basic needs fulfillment is the inverse of an index of poverty. Therefore, when measured for the set of clients in each organization, the poorer the client, the smaller the loan received. The Spearman correlation coefficient between this index of poverty and loan size is 37 percent for the pooled sample for the five organizations. The correlation is stronger in urban areas than in rural areas.

Comparisons across organizations also suggest that organizations whose clients score higher, on average, on the index of basic needs fulfillment record higher average loan sizes. This correlation is strong. According to this information, the clients of these organizations can be ranked from FIE, Caja Los Andes, BancoSol, and PRODEM-and-Sartawi, (which cannot be distinguished from this perspective) in order of increasing poverty (Navajas *et al*., 1996). As will be shown below, these organizations can be ranked in the same order according to loan size.[28]

This correlation is not inevitable. Average loan size reflects other factors besides poverty of the client. Among these, one prominent determinant of loan size is the willingness of the lender to grant loans close to the borrower's perceived repayment capacity. These five microfinance organizations differ in the extent to which they engage in such loan-size rationing (Gonzalez-Vega *et al*., 1997). The resulting degree of rationing reflects features of the lending technology (the accuracy and comparative costs of screening tasks) and the organization's aversion to arrears.

Other aspects to consider in evaluating loan sizes are the terms to maturity of the loans and the length of the client-organization relationship. For a given repayment capacity, longer terms to maturity allow for larger loans. For a given repayment capacity, loan-size rationing declines as the organization-client relationship ages. Constraints on the availability of loanable funds faced by these microfinance organizations and similar liquidity crises may also explain differences in loan sizes.

---

[28] Caja Los Andes ranks ahead of FIE, however, if the organizations are ranked by the value of monthly sales of their clients. This reflects the more conservative creditworthiness criteria used at Caja Los Andes than at FIE.

Differences in average loan sizes can have profound implications for the average costs of lending and, in turn, for the success of these organizations in achieving self-sustainability.[29] The total costs of lending tend to be independent of loan size. Thus, average costs decline as these costs are diluted over larger loan balances. Indeed, when loans are very small, average costs decline sharply even with increases in loan sizes that are small in absolute terms. As loan size grows, the resulting reduction in average costs gets smaller and smaller.[30]

Loan sizes are reported in this and the next section in four different ways. First, they are reported as the average and median sizes at the time of disbursement of the loans outstanding at the time of the survey. Second, they are reported as the average and median sizes of all the loans disbursed to the sample clients during the first nine months of 1995. Third, they are reported as the average and median sizes of all the loans received by these clients throughout their whole relationship with the organization that supplied the most recent loan. Fourth, they are reported on the basis of the total population of clients with loans disbursed during 1994 for each organization.

Among the borrowers in the sample, at the time of disbursement the clients of FIE received, on average, the largest loans that were still outstanding at the time of the survey (US$ 1,224).[31] The second largest average loan size (US$ 1,053) was observed for the clients of Caja Los Andes (Table 6, item 1). On average, the most recent loan received by the BancoSol clients surveyed was much smaller (US$ 602). As expected from their lower value of sales and likely lower incomes, average loan size was even smaller for the clients of PRODEM (US$ 301) and smallest for the clients of Sartawi (US$ 228). While modest in absolute amounts, these differences in loan size are quite substantial in relative terms. Compared to the average size of Sartawi loans, on average FIE loans were 5.4 times larger, loans from Caja Los Andes were 4.6 times larger, BancoSol loans were 2.6 times larger, and PRODEM loans were 1.3 times larger. Differences of this order have dramatic implications for the average costs of lending and on the intermediation margin (spread) needed for sustainability without subsidy.

The amounts reported above, however, reflect an upward bias as estimators of an average of the size of all loans disbursed during the year because of the sequential loan size growth that characterizes the lending technologies of these organizations. During 1995 several loans may have

---

[29] The size distribution of loans in a portfolio must also be analyzed to determine if a sufficient number of large loans are being made to offset the high costs of making very small loans.

[30] If the total costs of granting one loan are $100 and loan size is $200, average costs are 50 percent. Average cost can be reduced to 40 percent (a gain of 10 percentage points) simply by increasing loan size to $250. Another increase of $50, to a loan size of $300, will reduce average costs to 33 percent (by less than 10 percentage points).

[31] The amounts reported here correspond to the size at the time of disbursement, not to the balances still outstanding, of loans that were outstanding at the time of the survey (September 30, 1995).

been made to the same client, with the most recent loan being the largest. Thus, when considering all the loans that had been granted to the borrowers interviewed during the nine months of 1995 prior to the survey, somewhat different magnitudes are observed (Table 6, item 2). From this perspective, average loan size was US$ 807 for FIE clients, US$ 734 for clients of Caja Los Andes, US$ 460 for BancoSol clients, US$ 266 for PRODEM clients, and US$ 202 for Sartawi clients. The differences are comparatively smaller than for the current loan but are still substantial.[32] Compared to the average size of loans for Sartawi clients, loans to FIE clients are 4 times larger, loans to clients of Caja Los Andes are 3.7 times larger, loans to BancoSol clients are 2.3 times larger, and loans to PRODEM clients are 1.2 times larger.

Finally, when we consider all the loans received from their present microfinance lender by the borrowers in the sample throughout their entire relationship with the organization, the same ranking of the organizations is preserved (see Table 6, item 3). Compared to the average size of all loans disbursed to the Sartawi clients in the sample, those for FIE clients were 5.1 times larger, those for clients of Caja Los Andes were 3.9 times larger, those for BancoSol were 2.5 times larger, and those for PRODEM clients were 1.4 times larger.[33]

These three sets of data on loan sizes contribute to the identification of the market niches of these organizations in the areas of the study and suggest the existence of three tiers of clients in terms of loan sizes.[34] The first tier would be represented by the clients of FIE and Caja Los Andes, who include a smaller proportion of borrowers engaged in petty trading and who tend to receive larger loans at longer terms to maturity. The second tier would incorporate the clients of BancoSol, mostly women engaged in trading, who get smaller loans at shorter terms on average. These loans are about one-half to two-thirds the size of loans for clients in the first tier. The third tier accounts for the clients of PRODEM and Sartawi in rural areas, who are granted even smaller loans. These loans are about one-fourth the size of loans for clients in the first tier and about one-half the size of loans for clients in the second tier.

---

[32] This result suggests that loan sizes increased faster during the year for the organizations granting the larger loans. The last loan was 52 percent larger than the average loan for the year for FIE clients, but only 13 percent larger for Sartawi clients. All values are expressed in dollars as explained in footnote 19.

[33] The average and median sizes of all loans received are generally higher than for only those granted in 1995. This reflects a reduction of loan sizes in recent years compared to 1993, at least for some organizations. It also reflects the recent addition to the portfolio of a large number of first-time borrowers, whose loans are smaller.

[34] Product differences (loans of different sizes and different contract terms and conditions) define market niches. The assumption here is that different clientele types are matched to these different financial products. The data on client levels of poverty tends to confirm this matching assumption.

In terms of loan sizes, therefore, there are three distinguishable but closely overlapping market niches. The data on client levels of poverty tend to confirm the clientele differences implicit in this three-tier market structure (Navajas *et al*., 1996). The three tiers of the market are close enough, however, to suggest strong opportunities for some of the clients of one organization to obtain loans in another.[35] As the microfinance market begins to become saturated, particularly in La Paz and El Alto, competition among these organizations is becoming very intense. The impact of proximity on both borrower and lender transaction costs results in strong competition, on the one hand, among the three urban organizations and, on the other hand, between the two rural organizations.

The three-tier differentiation of the clienteles in the areas of the study is less evident nationwide. For this assessment, the average loan size data from the sample observations can be compared to data for the whole portfolio of these organizations (Gonzalez-Vega *et al*., 1997). For the twelve-month period ending December 31, 1994 the average size of loan disbursed for the whole population of borrowers was US$ 670 for FIE clients, US$ 588 for BancoSol clients, US$ 523 for clients of Caja Los Andes, US$295 for PRODEM clients, and US$ 220 for Sartawi clients. In the cases of FIE and of Caja Los Andes, these averages for the whole portfolio are lower than for the sample. These data suggest a clear distinction between at least two different market niches: the urban and the rural clienteles.

Some of the differences between the 1994 portfolio data and the 1995 sample data on loan sizes reflect the fact that the survey was confined to clients in La Paz, El Alto, and parts of the *Altiplano*, while some of these microfinance organizations have branches in other parts of the country, where loan sizes may be different. Most likely, newer, more rural branches serve both poorer clients and clients earlier in their sequence of loans, who therefore receive smaller loans than urban, richer, and more established clients. These may not be the case, however, at some of BancoSol's new urban locations in other cities outside La Paz, where an attractive clientele is being served. Also, BancoSol deliberately slowed down the growth of loan sizes during 1995, compared to the expansion year of 1994 (Gonzalez-Vega *et al*., 1996).

Generally, however, the size of rural loans is significantly smaller than the size of urban loans. The smaller size of loans is one of the main reasons for the higher average costs of lending in rural areas. These higher average costs, combined with greater difficulties of implementing group-credit technologies that must rely on frequent loan payments for the monitoring of borrowers, suggest the importance of the new experiments with group loans being implemented by PRODEM in rural areas. Similarly important are the efforts of Caja Los Andes in bringing individual loans to rural areas. Successful implementation of microlending technologies in agricultural settings would represent a critical technological step in expanding the frontier of microfinance.

Median loan size

---

[35] Indeed, although there are differences among the means of loan sizes, substantial portions of these distributions overlap due to the widespread distributions of loan sizes.

To compare the depth of outreach of these microfinance organizations, the median is a better indicator than the mean or average because the median is influenced less by outliers.[36] The median represents the characteristics of the typical client better. When median loan sizes are analyzed, the rankings of the organizations reported above for average loan sizes are maintained. The differences among the organizations are less pronounced, however, suggesting less differentiation of their market niches than was implied above.

The same sets of survey data as in the previous section are discussed here. For the most recent loan received, median sizes of US$ 572 were observed for FIE clients and of US$ 525 for clients of Caja Los Andes. This contrasts with a median size of US$ 350 for BancoSol clients and suggests that there are indeed three tiers of clients (Table 6, item 1). As expected, median loan sizes were smaller for rural than for urban organizations, but they were not very different between the two rural organizations. Median sizes were US$ 221 for PRODEM and US$ 215 for Sartawi clients.[37]

From the perspective of median loan sizes, the separation of market niches is less pronounced. Compared to the median size of the most recent loan for Sartawi clients, the median for FIE loans was 2.7 times larger, for loans of Caja Los Andes 2.4 times larger, and for BancoSol loans 1.6 times larger. For PRODEM loans it was the same. These smaller relative differences for median loan sizes (as compared to differences in means) suggest that distinctions are not that pronounced among the **typical** clients of the three urban organizations, although some portions of their clienteles may differ. These data also suggest that the clients of the two rural organizations are extremely similar. The clients of BancoSol typically receive, nevertheless, smaller loan amounts than borrowers from the other two urban organizations.

The typical or median loan sizes are even smaller when one considers all loans disbursed to the sample borrowers during the first nine months of 1995 (Table 6, item 2). The median loan size was US$ 429 for FIE clients, US$ 366 for clients of Caja Los Andes, US$ 258 for BancoSol clients, US$ 216 for PRODEM clients, and US$ 175 for Sartawi clients. The ranking of the organizations observed earlier is preserved. Compared to the median loan size for Sartawi, FIE loans are 2.5 times larger, loans from Caja Los Andes are 2.1 times larger, BancoSol loans are 1.5 times larger, and PRODEM loans are 1.2 times larger, resulting in an even narrower range of differences in loan sizes. These comparative results are also true for the whole string of loans granted to these borrowers over their entire relationship with the organization. In this case, loan sizes ranged from US$ 537 for FIE clients to US$ 180 for Sartawi clients (Table 5, item 3).

---

[36] The median is the value that separates the distribution of borrowers in the sample into two groups of identical size. One-half of the borrowers have loan sizes smaller than the median, and one-half of them have loan sizes larger than the median.

[37] A test for statistically significant differences in median loan sizes suggested that the loans from Caja Los Andes and FIE come from the same statistical population of loans and that the loans of PRODEM and Sartawi come from the same population (Navajas *et al.,* 1996).

In summary, from the perspective of the typical borrowers, these organizations appear to operate in similar market niches with three slightly different tiers of clients. The main distinction emerges from urban-rural differences, with rural loans being significantly smaller. In turn, among the urban organizations, BancoSol clients appear to be poorer and to receive smaller loans than clients of the other two organizations and thus occupy an intermediate tier. In all cases, however, these organizations are serving comparatively poor people, who most likely will never have access to loans from traditional banks, but they are not necessarily reaching the poorest of the poor (Navajas *et al.*, 1996). Whether the poorest of the poor are creditworthy cannot be established here. If they are not, however, they should not be granted loans (Gonzalez-Vega, 1994).

Variability of loan sizes

The narrower range of differences among median values compared to differences among average loan sizes suggests, furthermore, that the dispersion of loan sizes is narrower for the organizations granting the smaller loans. Conversely, the organizations granting larger loans show a wider dispersion of loan sizes. The latter have to be concerned, therefore, with offering a broader range of loan contracts that respond to the more complex demands of a more diverse clientele.

In effect, as shown in Table 6 (item 4), the standard deviation of loans sizes is much greater in the cases of Caja Los Andes (2,090) and FIE (1,745) than for BancoSol (657). The standard deviation is even smaller for PRODEM (188) and Sartawi (138). Similarly , the coefficients of variation of loan size range from 1.98 for Caja Los Andes to 0.61 for Sartawi.[38] The greater variability of loan sizes at Caja Los Andes and at FIE is more sharply shown by the ratio of the standard deviation with respect to the median of loan sizes (Table 6, item 4). A ranking of organizations according to this indicator results in an order identical to that generated by a ranking according to loan sizes, namely Caja Los Andes (3.98), FIE (3.05), BancoSol (1.88), PRODEM (0.85) and Sartawi (0.64). Therefore, Caja Los Andes and FIE grant a wide range of loan sizes, while PRODEM and Sartawi grant a much narrower range of loan sizes and occupy a more focused market niche.

This lack of differentiation among loan products reflects both demand (*e.g.*, poverty) and particularly supply considerations, especially for Sartawi, where uniform loan contracts reflect efforts to keep costs within manageable bounds. BancoSol, in turn, has been experiencing a widening of the range of its clientele and is now facing the challenges of product development that this expansion implies.

Distribution of loan sizes

---

[38] The coefficient of variation is obtained as a ratio of the standard variation with respect to the mean of the observations. It is a pure measure of dispersion, because variation is scaled with respect to the mean.

The depth of outreach of microfinance organizations is reflected in the proportion of their portfolios granted in the form of very small loans.[39] The higher this proportion, the greater the depth of outreach, and the more formidable the cost challenges that the organization faces when it attempts to be sustainable. From this perspective, the two rural organizations and BancoSol among the urban microlenders stand out.

As shown in Table 6 (items 5 and 6), 74 percent of Sartawi, 53 percent of PRODEM, and 34 percent of BancoSol clients had current loans at the time of the survey that had been disbursed in amounts of less than US$ 250. These proportions are 27 percent for Caja Los Andes and only 14 percent for FIE. When the ceiling is raised to US$ 500 loans, almost all rural clients (96 percent of Sartawi and 88 percent of PRODEM clients) and two-thirds of BancoSol clients (63 percent) fall in the category of borrowers of small loans. This is also true for almost one-half of the clients of Caja Los Andes (49 percent) and two-fifths of FIE clients (39 percent).

Three important facts are worth highlighting. First, all five Bolivian organizations studied are true microlenders and devote substantial portions of their portfolio to loan transactions with a disbursement value of less than US$ 500. Outstanding balances are even smaller.

Second, the two rural lenders not only need to overcome the greater costs associated with less density of population and a less developed infrastructure as well as the potentially higher risks from agriculture, but they also grant a much greater proportion of very small loans.

Third, the loan sizes typical of group-lending organizations (*e.g.*, BancoSol) are smaller than the loan sizes typical of individual-loan organizations (*e.g.*, FIE and Caja Los Andes). Borrowers may not be willing to offer joint liability for larger loans, while poorer people may not possess assets to offer as collateral for individual loans.

These organizations differ, furthermore, according to the size of the loans they are willing to grant to first-time borrowers (Gonzalez-Vega *et al*., 1997). As shown in Table 6 (items 7 and 8), most Sartawi clients (88 percent) and BancoSol clients (78 percent) received a first-time loan of less than US$ 150. This was also true for 54 percent of PRODEM clients, 41 percent of clients of Caja Los Andes, and 22 percent of FIE borrowers. The proportions of first-time loans of less than US$ 250 were also very high, ranging from the high values of 98 percent for Sartawi and 93 percent for BancoSol borrowers to the lower value of 30 percent for FIE borrowers. All of PRODEM and Sartawi first-time loans were below US$ 500. At the other end of the distribution, 20 percent of FIE first-time loans were above US$ 1,000 (Table 6, item 7).

---

[39] This assumes that there is some correlation between loan sizes and levels of poverty, as shown for this sample of borrowers in Navajas *et al*. (1996). The relationship is stronger when one organization is compared to another. Within those organizations that practice limited screening and rely on fairly uniform loan sizes (e.g., Sartawi), however, the correlation between loan sizes and individual levels of wealth is weak. Depth of outreach defined as difficulty of suppling loans is related to both loan size and client poverty.

Individual and group loans

All the loan sizes reported above correspond to loans made to individuals. These loans are disbursed, however, according to different lending technologies which use either group or individual loan transactions. Caja Los Andes and FIE only make individual loans.[40] In the case of Sartawi, in contrast, 82 percent of the borrowers are members of credit groups, while all BancoSol and PRODEM borrowers receive their loans through groups (Table 6, item 12). The average size of groups is about four members in the cases of BancoSol and PRODEM and three members in the case of Sartawi (Table 6, item 13).

All of these five organizations have adhered to similar lending principles, which explain the success of their outreach to the target clienteles, independently of their use of a group or an individual lending technology.[41] All of them understand the nature of the demand for financial services from their clienteles and the close interaction between household and enterprise decisions. All of them have designed credit products that respond to these demands and that are adapted to the circumstances of their clienteles. All of them have attempted to reduce the transaction costs of borrowers, particularly through the speedy and timely disbursement of loans. All of them have projected an image of permanence that enhances the value of client-organization relationships.

Independently of the structures of incentives that these microfinance organizations have adopted to promote loan repayment, all of them emphasize the willingness and ability of the client to repay as the criteria to grant loans rather than adopting a rigid targeting of specific beneficiaries. In screening applicants, these organizations rely mostly on reputation, as evidenced by character references and credit histories. Even when various forms of collateral and collateral substitutes are used, these guarantees play a secondary role compared to the development of a long-term personal relationship between the loan officers and clients. These incentives to repay are accompanied by an immediate and unambiguously harsh reaction to any arrears. These organizations all charge interest rates sufficiently high to cover most of the costs of their services and all are seriously concerned with their financial viability and with achieving independence from subsidies. The adoption of these principles explains their success, independently of the supply of group or individual loans (Gonzalez-Vega *et al*., 1996; Gonzalez-Vega, 1996b).

Frequency of loan payments

Frequent loan payments represent a key element of the lending technology of these microfinance organizations. This feature of the loan contracts allows the lenders to closely monitor

---

[40] This is almost always the case for FIE, which makes a few loans to producer associations for distribution among their members. Five percent of FIE borrowers in the sample were members of these associations (Table 6, item 12).

[41] This paper does not attempt to resolve the controversy about the comparative advantages and disadvantages of group and individual loans.

the borrowers at low cost, by simply tracking repayments. From this perspective, Caja Los Andes displayed the strictest lending conditions. The loan outstanding at the time of the survey required weekly payments for 43 percent of the clients of Caja Los Andes and bi-weekly payments for an additional 48 percent of these clients. Only 10 percent of the borrowers of Caja Los Andes had loans that required monthly payments (Table 6, item 14).

The second strictest lender in terms of frequency of loan payments was BancoSol. The loan outstanding required weekly payments for 24 percent, bi-weekly payments for 28 percent, and monthly payments for 48 percent of the clients of this organization. The fact that the proportion of clients with very frequent payments was lower at BancoSol than at Caja Los Andes may reflect a more mature clientele (*i.e.*, clients who have been longer in the portfolio and thus receive less strict contract terms) as well as somewhat more flexible loan conditions generally at BancoSol than at Caja Los Andes.

The greater concentration of loans granted for trade at BancoSol would also suggest that BancoSol clients should be able to make payments more frequently. The clients of Caja Los Andes, however, generally repaid more frequently than did the clients of BancoSol. This may again show a stronger preoccupation with keeping arrears low at Caja Los Andes. Although this strict behavior serves to avoid arrears, it may reduce the quality of outreach, because borrowers have to incur the high transaction costs of frequent payments. Finding the appropriate contract terms and incentives to repay for a particular clientele is not an easy task.

For FIE clients, payments tended to be even less frequent than for BancoSol clients. About 24 percent of FIE clients paid weekly, 11 percent paid bi-weekly, and 64 percent made monthly payments. Less frequent payments for FIE clients were associated, among other things, with an even greater proportion of clients listing manufacturing as their primary occupation than at either Caja Los Andes or BancoSol. Less frequent repayments may also suggest that FIE emphasizes this form of borrower monitoring less than do the other two urban organizations.

The much lower frequency of repayment for PRODEM and Sartawi clients reflects the poorer conditions of rural infrastructure, the longer distances involved, as well as the seasonal nature of agriculture. By design, all the Sartawi loans require monthly payments. This reduces both lender and borrower transaction costs, which tend to be higher in rural areas than in urban areas. To compensate for the higher risk implied, Sartawi's loan sizes are much smaller. PRODEM granted loans to 97 percent of its clients with monthly payments. Less frequent payments represent one of several efforts employed by PRODEM to tailor the terms of its loans to the special circumstances of rural and agricultural clients. This organization has begun to experiment with even less frequent payments, to match agricultural cycles, and with flexible repayment schemes that allow different combinations of interest payments and amortization of principal even among the members of the same credit group.

Purpose of the loan

The ostensible purpose for borrowing does not always correspond with the principal occupation of the borrower. This is particularly true in rural areas, reflecting the multiple occupations of household members as well as the preference of microfinance organizations to grant loans for activities that generate cash flows and permit frequent payments. Moreover, given the fungibility of funds, the stated loan purposes do not necessarily correspond to the activities actually funded by the loan, as compared to counterfactual situations without the loan (Von Pischke and Adams, 1983). Given their multiple sources and uses of funds, these firm-households add loan funds to a total pool of liquidity from which all uses are funded. The same pool of liquidity is used to make the required loan payments. Rather than targeting specific loan uses, lenders need to focus on the overall household-firm financial management.

With this caveat in mind, the predominance of women traders among BancoSol clients was reflected in a large proportion of loans (63 percent) requested for trading activities (Table 6, item 15).[42] BancoSol was also the organization that granted the largest reported proportion of loans for service activities (14 percent). An emphasis on loans for trading activities was also found among PRODEM (61 percent) and Sartawi clients (64 percent). Rural clients with trading activities may appear to be more creditworthy for these organizations because their sales generate cash flows that facilitate more frequent payments. In rural areas, most trading activities involve livestock sales.

PRODEM (8 percent) and Sartawi (24 percent) are unique among these microfinance organizations in their willingness to lend directly for agriculture and livestock activities (Table 6, item 15). Lending for these activities requires more complex and potentially expensive lending technologies. After transferring most of its urban portfolio to BancoSol, PRODEM has been experimenting in efforts to adapt its group lending technology to a rural environment. A few months after the survey, Caja Los Andes also began granting individual loans for agriculture in Punata. This effort has been an adaptation of the agricultural lending technology developed by Financiera CALPIA in El Salvador (Gonzalez-Vega, 1996a).

Loans for manufacturing activities were particularly important for FIE clients (55 percent) and for clients of Caja Los Andes (35 percent). In recent years, however, both organizations have been increasing their share of loans for trading activities and reducing their initial emphasis on manufacturing. As a result, loans for trading represents 55 percent of loans to clients of Caja Los Andes and 39 percent of FIE loans (Table 6, item 15). Caja Los Andes was second to BancoSol in its willingness to lend for services (9 percent).

Guarantees

Innovations in the use of non-traditional loan guarantees are an important mechanism to bring marginal clienteles inside the frontier of formal finance (Esguerra and Meyer, 1992). The marginal

[42] Special caution is needed in interpreting these responses. If borrowers perceive that lenders prefer to make loans for particular activities, such as trade, they may misrepresent their intended purpose in borrowing for the preferred activity.

clienteles targeted by most microfinance organizations usually cannot pledge the physical assets that traditional formal lenders require as collateral. The potential borrowers typically do not possess the assets required (*e.g.*, real estate) or do not have formal title to such assets. Even when they own these assets, the transaction costs for both borrower and lender of legally formalizing collateral pledges and of enforcing loan contracts through judicial procedures are prohibitively high (World Bank, 1994). Alternative types of guarantees are used instead by these microfinance organizations.

The types of guarantees pledged for loans are among the most salient distinctions across the clients of the five microfinance organizations studied. These distinctions, although closely related to the nature of the lending technologies used, go beyond the simple differentiation between group credit and individual loan transactions. Indeed, the most important condition of the loan contracts that appears to separate these organizations may be the types of guarantees required and the ability and/or willingness of the borrowers to offer them. This dimension of the lending technology is closely related, in turn, to the differentiation in market niches and clientele profiles observed in the regions studied.

With very few exceptions, no traditional forms of banking collateral (*e.g.*, mortgages) are required by any of these five microfinance organizations. Only four fully-legalized mortgages were observed in the sample (three for FIE clients and one for a borrower of Caja Los Andes). In addition, eight non-registered mortgages were reported by clients of Caja Los Andes (Table 6, item 17). This limited use of mortgages reflects the adoption of information-intensive rather than collateral-intensive as cost-effective lending technologies to operate in these market niches (Gonzalez-Vega, 1996c). This choice of technology reflects, in turn, the limited ability of the clients to offer traditional forms of collateral as well as the high costs associated with use of the formal legal system to enforce credit contracts (World Bank, 1994).

Unregistered guarantees, however, offer these microfinance organizations the opportunity to design incentives to repay without incurring all the transaction costs associated with the formalization of collateral. In Bolivia, borrowers appear to have responded to the threat implicit in these alternative guarantees, although the pledges are not legally binding without formalization. The microfinance organizations that use these guarantees rely on this implicit threat but, given the high costs involved, have no intention of formalizing these contracts.[43]

Although physical assets are preferred by banks and traditional lenders, in Bolivia a large number of legal and regulatory obstacles and deficiencies constrain lending even when clients can offer these forms of loan collateral (World Bank, 1994). This has given rise to a number of practices of questionable legal value but which serve as an effective threat to encourage loan repayment. Some of the practices employed by these microfinance organizations (*e.g.*, copying identity cards or holding property titles and other documents offered by clients which cannot lead to foreclosure in the absence

---

[43] Prudential regulation rules that apply to BancoSol and Caja Los Andes may force these organizations to start legal procedures in cases when these efforts are not cost-effective.

of formalization) are simply designed to encourage repayment through signals of the organization's intent to collect the loans.

One important innovation is that some of these organizations rely almost entirely on personal guarantees. These personal guarantees include cosigners (*garantes*), who may or may not be relatives of the borrowers and who may have to demonstrate their ability to repay through wealth or employment. Joint liability pledged in group loans is also a personal guarantee.[44]

Other organizations require liens on consumer goods or producer durables as substitutes for traditional mortgages. The assets pledged (television sets, sound equipment, sowing machines) are typically within the reach of most of these firm-households except for the poorest. Frequently, formal liens (*prendas*) are not legally documented due to the transaction costs involved. In other cases, transfers of ownership allow repossession by the lender of the goods pledged without prior judicial process. The lenders try to avoid repossessing goods that must be stored, however, but occasionally do it in order to set an example. FIE avoids some of these issues by engaging in leasing.

The inability or unwillingness to pledge even these simple assets may separate, however, those who seek group loans, with the additional transaction costs involved, from those who prefer individual loans. Group credit engenders some borrower transaction costs not present in individual loan contracts. These costs result from the peer monitoring efforts required from borrowers if they want to avoid the obligation to pay another members' loans. Transaction costs also emerge from the need to coordinate the borrowing activities of the entire group. These transaction costs and the rigidities associated with synchronous group transactions may reduce the quality of the credit services provided, but some clients either may have no other option or may prefer these terms and conditions to being obliged to pledge other forms of collateral (Gonzalez-Vega *et al*., 1996).

Joint liability is the guarantee offered by 97 percent of the BancoSol clients included in the survey (Table 6, item 17). This corresponds to the group lending technology universally used by this organization.[45] Most BancoSol loans (95 percent) are guaranteed this way only. In a few exceptional cases, however, BancoSol accepted combinations of more traditional guarantees pledged for larger loans. Joint liability is also used by all PRODEM borrowers. In PRODEM the pledge of joint liability is frequently supplemented, however, with other personal guarantees (33 percent) or with other forms of collateral (Table 6, item 18). An implicit joint liability guarantee is also used by Sartawi borrowers, but one member of the group must surrender the original title for land and then seek repayment by the rest of the group. Several combinations of guarantees, including liens on livestock, are also observed among the clients of PRODEM and Sartawi.

---

[44] Prudential regulation rules limit the proportion of the portfolio of formal intermediaries that may be backed by personal guarantees. This is one of the most serious obstacles to the expansion of microfinance resulting from the prudential regulation framework.

[45] For all practical purposes, all of BancoSol borrowers are granted loans in groups. The sample may have reflected a few exceptions or a few response errors.

As shown in Table 6 (item 17), the guarantee most frequently observed among the clients of Caja Los Andes is a lien on consumer durables (91 percent). By themselves, these liens were sufficient, however, for only 38 percent of the borrowers and they were most frequently supplemented by a cosigner (29 percent). Multiple combinations of guarantees involving copies of the original of the title on real estate, liens on phone cooperative shares, and other assets are used (Table 6, item 18). Caja Los Andes also operates a pawnshop where gold and gold jewelry are offered as guarantee.

Personal guarantees are the most frequent guarantee observed among FIE clients (55 percent), while liens on consumer durables are also used (24 percent). Personal guarantees, however, by themselves are sufficient for only 24 percent of FIE clients. The most frequent combination is obtained by adding a lien on consumer durables (11 percent). A wider range of combinations of all types of guarantees is observed among the borrowers of this organization, which also engages in leasing operations (Table 6, item 18).

Arrears

One of the important positive results of the innovations in lending technologies introduced by these microfinance organizations is that they have not only managed to increase access to loans for marginal clienteles but that in doing so they have also reduced arrears and default rates to levels below those recorded for many formal financial intermediaries. An attempt was made in the survey to obtain data about this important aspect of the client-organization relationship. The loan officers were asked to record the maximum number of days the clients had been in arrears for payment of any loan installment before the situation was resolved, for all loans during their relationship with the client and for the most recent loan . The data revealed rapid resolution of any problem for all those who had been in arrears.[46]

With respect to the current loan outstanding, the average maximum length of arrears across clients with arrears is short, averaging just one day for BancoSol, three days for PRODEM and Sartawi, four days for Caja Los Andes, and five days for FIE (Table 6, item 16). Concerning the repayment history reported for all previous loans borrowed by the clients, the average maximum number of days of arrears for those with arrears is somewhat higher but follows a similar pattern. The organizations with group-credit technologies (PRODEM and BancoSol) show the shortest period: on average two or three days of arrears before resolution. The maximum arrears for the other three organizations range from six to ten days before resolution. The dynamics of group loans appear to offer less flexibility in dealing with individual arrears and to require a more immediate reaction. The threat of not reacting immediately to arrears is compounded by the absence of real collateral.

---

[46] Note that these figures are susceptible to sample selection bias, as clients with lower maximum arrears in the past are more likely to get a new loan and thus more likely to be in the population of clients sampled. Clients with repeated or more prolonged arrears are more likely to have dropped out or have been rejected in a new loan application.

Falling into a few days of arrears is a frequent event, as would be expected, given the nature of these microenterprises. Indeed, high proportions of the borrowers in the sample had been at least one day late in the payment of at least one installment of their current loans.[47] Loan officers in these organizations have different degrees of discretion in reacting to these frequent arrears and use their knowledge of the individual clients to forecast when a few days of arrears are a serious problem that merits their intervention or not. When they recognize that there is no problem, no action is taken and payment occurs one or two days later. If a problem is suspected, however, the reaction is immediate. Loan officer skills in differentiating between these two situations are sharp. Thus, what is outstanding is that in all cases these arrears are corrected within a few days and that, as a result, the organizations have suffered insignificant losses from default (Gonzalez-Vega *et al*., 1997).

VI. Financial Transactions

The survey was designed to capture data about the clients' full range of financial transactions, both with the five microfinance organizations and elsewhere. The results reported below reveal that transactions with other formal financial institutions are limited. Informal financial transactions, however, are more frequent and roughly consistent with the results of other research (Adams and Canavesi, 1992; Hannig *et al., 1994*). Therefore, the financial services provided by these five microfinance organizations have probably added an important set of options to the financial management opportunities of these firm-households. Given the importance of such options for risk management and for taking advantage of productive opportunities by poor households, the services provided by these organizations have the potential to make important improvements in the welfare of their clients.

Holdings of financial assets

Few of the clients interviewed reported holding formal financial assets besides cash as part of their wealth.[48] The major exception are 37 percent of BancoSol clients who reported holding bank savings accounts (Table 7, item 1). Fewer clients of Caja Los Andes (13 percent) and of FIE (10 percent) hold savings accounts.[49] This result suggests that by offering voluntary deposit facilities BancoSol may have induced its clients to keep savings accounts more frequently than does participation in the credit programs of the other two urban organizations. Thus, BancoSol's clients may be truly new depositors, rather than existing savers who shifted their funds from other financial

---

[47] These proportions ranged between 17 percent for BancoSol, 23 percent for PRODEM, 33 percent for Sartawi, 44 percent for Caja Los Andes, and 66 percent for FIE.

[48] There is always a concern in survey research that interviewees will under-report their financial assets. The high proportion of clients who admitted to interviewers that they held cash, however, provides evidence of the robustness of the data collected.

[49] A survey of 422 households in the town of Minero revealed that between 7.6 and 13.3 percent of them held savings accounts (Wisniwski, 1995).

intermediaries. BancoSol may have thereby created additionality in the market for small deposits, and this can be assumed to increase household welfare.

Less than 10 percent of the clients of any of these organizations hold deposits in cooperatives or in savings and loans associations, although such holdings are more frequent among clients of Caja Los Andes than among FIE or BancoSol clients.[50] Holdings of deposits in any type of formal financial intermediary are almost non-existent in rural areas. Holdings of checking accounts, also non-existent in rural areas, range from 4 percent (FIE) to 10 percent (BancoSol) in urban areas (Table 7, item 1). Use of credit cards is even more infrequent.

Participation in ROSCAs

Despite access to loans from the five microfinance organizations, an important proportion of their clients continue to participate in informal financial arrangements. This is particularly true for BancoSol borrowers: 32 percent of them are members of *pasanakus*, the local form of rotating savings and credit associations (ROSCAs). This proportion is 22 percent for FIE clients and 20 percent for clients of Caja Los Andes. Participation in *pasanakus* may be more frequent among clients engaged in trading because cash flows from sales facilitate the regular contributions required. Also, market places and other concentrations of traders in particular locations facilitate meetings and regular contact among traders. This may also explain the higher rate of *pasanaku* participation among women than among men. In urban areas, this rate ranges from 39 percent (BancoSol) to 28 percent (Caja Los Andes) for women and from 17 percent (FIE) to 8 percent (Caja Los Andes) for men (Table 7, item 1). It was somewhat surprising to find that participation in ROSCAs is less frequent in rural areas than in urban areas. Only 8 percent of Sartawi and 18 percent of PRODEM clients indicated participation in *pasanakus* (Table 7, item 1). These rates are again higher for women than for men.

These proportions are generally lower than the rates of participation in *pasanakus* found by Adams and Canavesi in 1987. These researchers interviewed people waiting for buses and making purchases in central markets in La Paz. They found that 35 percent of the persons interviewed participated in *pasanakus*. It is not possible to determine if any differences in participation in informal arrangements reflect the impact of access to credit provided by these microfinance organizations or simply sampling errors.

The higher proportion of *pasanaku* participants among BancoSol (urban) and PRODEM (rural) clients may suggest a self-selection process by clients who prefer or are well-suited for group-based financial activities. Participation in *pasanakus* may also generate the trust and the financial discipline needed for participation in borrowing groups. It was not possible to determine if group members are recruited among fellow participants in a *pasanaku*, but earlier contact with such partners clearly facilitates group formation.

---

[50] This suggests that there may be some demand for the deposit services that Caja Los Andes began to offer its clients a few months after the survey.

Reserves for emergencies

The holding of liquid reserves for emergencies (precautionary purposes) is critical for the poor because without these reserves they will hardly survive unexpected shocks to their income. Liquid reserves also allow them to take advantage of unanticipated opportunities when they emerge (speculative purposes). Among the borrowers in the sample, keeping cash at home is the most frequent form of asset holdings for these purposes. Table 7 (item 2) shows that 53 percent of the clients of Caja Los Andes, 43 percent of BancoSol clients, and 42 percent of FIE clients keep cash available for emergencies.[51]

The practice of holding cash reserves is even more frequent in rural areas, where 69 percent of PRODEM and 62 percent of Sartawi clients keep cash at home for emergencies (Table 7, item 2). This is not surprising, given the limited financial infrastructure available and the more pronounced risks that households generally encounter in rural areas. The importance of precautionary reserves is also reflected in the frequency of using livestock as a reserve for emergencies (49 percent of PRODEM and 40 percent of Sartawi clients). Livestock, however, are considerably less liquid than cash and deposits. Attractive deposit facilities may induce a substitution away from risky tangible assets and promote rural financial intermediation.

Livestock are not used for emergencies in urban areas. Instead, financial assets and participation in *pasanakus* are the mechanisms most frequently used to complement holdings of cash, which are ranked first (Table 7, item 2). The clients of BancoSol have found opportunities to keep bank deposits for these purposes more frequently (43 percent) than the clients of Caja Los Andes (15 percent) or of FIE (12 percent). These deposits are hardly ever observed in rural areas.

The clients' answers suggest that participation in *pasanakus* is mostly motivated by precautionary motives. In terms of the amounts involved, *pasanakus* are not as important, but they are a main strategy for dealing with emergencies for 32 percent of BancoSol clients, 22 percent of FIE clients, and 18 percent of clients of Caja Los Andes (Table 7, item 2). Participation in *pasanakus* as a way of dealing with emergencies is less frequent for rural clients: 16 percent of PRODEM and 8 percent of Sartawi clients see *pasanakus* as a way of dealing with unforeseen events.[52]

Jewelry is most frequently observed as a reserve among the clients of Caja Los Andes (6 percent). Clients with jewelry may be attracted to Caja Los Andes because this organization offers

---

[51] These proportions are consistent with those found by other researchers in these and other regions of Bolivia: 46 percent of households in La Paz and 64 percent in Santa Cruz held cash reserves in 1994 (Wisniwski, 1995). The high proportion of cash holdings among the clients of Caja Los Andes is also suggestive of a potential demand for deposit services.

[52] These figures refer to participation in *pasanakus* as a strategy for dealing with emergencies (Table 7, item 2), as different for participation in *pasanakus* generally, for any reason (Table 7, item 1).

pawn loans which allow jewels to be converted to cash quickly. Caja Los Andes is alone in providing this popular and valuable service to its clients. Most of them possess these types of assets and very little screening of borrowers is required before a loan is granted. These services are valuable because lack of access to loans for emergencies may have the unfortunate consequence of leading to the liquidation of productive assets as the only alternative in dealing with an income shock (Gonzalez-Vega, 1996b).

Main forms of holding savings

The most common main form of holding savings for the clients of the five microfinance organizations is cash (Table 7, item 3). This is true particularly among the clients of Caja Los Andes (46 percent) and of Sartawi (45 percent), and it may reflect a strong liquidity preference among these firm-households.

A most interesting observation, however, are the less frequent holdings of cash as the main form of savings among BancoSol clients (31 percent).[53] Instead, deposits in a financial institution are the main form of holding savings for 26 percent of the borrowers of BancoSol. Deposits are the main form of savings for the clients of FIE (13 percent) and Caja Los Andes (12 percent) much less frequently. Deposits as the main form of savings are almost nonexistent in rural areas.

The more frequent holdings of deposits as a main form of savings among the clients of BancoSol suggests a revealed transformation of savings from cash forms into deposits, when convenient and safe deposit facilities were offered to its clientele by this bank. If indeed this is the case, it appears that improved access to financial savings opportunities is potentially welfare-improving for these clients and that there is a demand for such services which, given appropriate conditions, can be satisfied by microfinance organizations that mobilize deposits. This may imply, in turn, that the insignificant importance of deposits as a main form of holding savings in rural areas is not necessarily due to lack of demand for such facilities but to shortcomings of their supply (Gonzalez-Vega, 1996b).

The main forms of holding savings also reflect the occupations of the clients. Inventories are important in urban areas as the main form of holding savings for 35 percent of FIE clients and 31 percent of the clients of Caja Los Andes (Table 7, item 3). In rural areas, inventories are also the main form of holding savings for 25 percent of PRODEM clients. Again, it is interesting that for the clients of BancoSol, in spite of the predominance of trade among them, inventories are the main form of holding savings for only 22 percent of those surveyed. This suggests that access to deposit facilities may have improved the clients' cost effectiveness in inventory management. This would imply that opportunities to deposit can increase the productivity of these enterprises. *Pasanakus*

---

[53] The question about holdings of reserves for emergencies discussed above reported the frequency with which particular assets were held for these purposes. Cash was held by 43 percent of the clients of BancoSol to deal with emergencies (Table 7, item 2). Cash represented the **main** form of savings, however, for only 31 percent of these borrowers (Table 7, item 3).

are the main form of keeping savings for 18 percent of BancoSol clients and less frequently in all other cases. This may reflect the predominance of ROSCAs among women engaged in petty trade.

Occupational specialization is also reflected in the frequency of livestock as the most important form of keeping savings in rural areas: 36 percent for Sartawi and 30 percent for PRODEM clients (Table 7, item 3). It is impossible to predict how much these rural holdings of livestock and of inventories would be transformed into financial assets if convenient deposit facilities became available. Experience in other countries suggests that the demand for deposit facilities is significant and the potential transformation substantial (Gonzalez-Vega *et al*., 1993; Robinson, 1994).

Willingness to deposit

The potential for deposit mobilization is confirmed by the responses of those surveyed. About three-quarters of these clients indicated that they would be willing to use deposit facilities if offered to them (Table 7, item 6). Interestingly, there are no major distinctions among clients in rural and urban areas or across the clienteles of the five organizations in terms of their interest in deposit facilities. This reinforces the view that the limited holdings of deposits observed in rural areas reflect supply constraints, not lack of demand. Only the clients of FIE expressed comparatively less interest in deposit facilities (68 percent compared to 73-75 percent for the other four organizations). These responses, however, must be interpreted with caution. There may be a temptation for clients to offer answers that they may think would please interviewers. Whether a client will actually use such a service if offered depends on many factors including the price of the service and the transaction costs of using it.

Dollarization

Given past experience with hyperinflation in Bolivia, it is not surprising that the currency preferred by clients with actual holdings of cash and deposits are US dollars rather than bolivianos, particularly in urban areas (Table 7, item 4). Dollars are preferred by 62 to 74 percent of the urban clients and by 44 to 49 percent of the rural clients who reported holding financial savings. This preference for dollars was reported in similar proportions by those who considered the possibility of depositing in the future if these facilities were offered (Table 7, item 5). The lower preference for dollars expressed by rural clients may indicate that it is not as easy to convert dollars to bolivianos in the countryside as in the city, thus making dollars less liquid in rural areas.

Proximity to banks

Questions were asked about the proximity of bank branches and of the offices of microfinance organizations to the client's home or workplace to determine if transaction costs (including travel time and travel costs) might affect selection of an organization. The survey reflects the more developed banking infrastructure found in urban over rural areas.

A higher proportion of FIE clients know a bank branch that they consider close to their place of business (45 percent) or their residence (29 percent) than do clients of the other organizations (Table 8, item 1).[54] The situation is intermediate for the clients of Caja Los Andes, where 39 percent know a bank branch that is close to their business and 13 percent said that a bank branch is close to their residence. These proportions are lower for BancoSol clients, among whom 31 percent know another bank's branch close to their business and 13 percent find another bank's branch close to their residence.

It would seem that residences are usually on the outskirts, away from the branches, and that businesses tend to be concentrated (in market areas or special streets) and that bank branches are wisely located where the businesses are. In rural areas, bank branches are close to the business or residence for 11-13 percent of PRODEM clients, while this is the case for only 6-7 percent of Sartawi clients (Table 8, item 1). This reflects the less developed banking network and less concentrated population of the rural areas of Bolivia.

Proximity to the microfinance organizations

In general, both the business and the residence of the client are closer to the office of a microfinance organization than to a bank branch. This locational advantage of the microfinance organization is particularly pronounced in rural areas.[55] When this is the case, the borrower's transaction costs are reduced by proximity (Ladman, 1984).

Indeed, a high proportion of the clients considered that the office of the microfinance organization from which they now receive loans is close to their business. This is true for 58 percent of BancoSol clients, 55 percent of the clients of PRODEM and Caja Los Andes, 46 percent of FIE clients, and 38 percent of Sartawi clients (Table 8, item 3).[56] During the field work the interviewers confirmed that PRODEM and Sartawi clients actually live and work farther from their organizations than do urban clients.

Clients reported that the office of the microfinance organization is closer to their business than to their residence in all five cases. In urban areas, proximity to the residence was reported by 27 percent of the clients of Caja Los Andes, BancoSol, and FIE. In rural areas, proximity to the

---

[54] BancoSol branches were not defined as bank branches for the present purposes.

[55] This inference is made by comparing in Table 8 the proportions of clients who indicated that a bank branch is close to the business or residence (item 1) and the proportions of clients who considered that a microfinance organization is close (items 3 and 4).

[56] This proximity refers, in each case, to the organization that granted the current outstanding loan of the client, which then led to inclusion in the sample. As Table 8 (item 3) shows, other microfinance organizations may also have offices close to a given client's business. It is even possible that a given client has loans from more than one organization.

residence was reported by 46 percent of PRODEM and 24 percent of Sartawi clients (Table 8, item 4). These results suggest that it is generally less expensive for loan officers to visit their clients at their workplace than at their residence. Visits to the residence may constitute, however, an important element in the screening of potential borrowers because they may reveal information about household stability and wealth that is not available from simply visiting the place of business, especially if the borrower is a street vendor.

Location and competition

A location close to the client's business might provide a monopolistic advantage to a lender, but this is hardly the case in the urban areas included in the study. Caja Los Andes faces the most intense competition among these organizations. Of the clients of Caja Los Andes surveyed, 48 percent reported that they have BancoSol branches close to their business, while 23 percent have FIE offices close to their business (Table 8, item 3). Furthermore, 29 percent of the clients of Caja Los Andes have BancoSol offices close to their residence (Table 8, item 4). The proximity of competing organizations creates considerable contestability in the market niche of this organization.

Competition is also intense for FIE. Among its clients, 51 percent have businesses close to BancoSol offices and 23 percent have businesses close to branches of Caja Los Andes. Also, 28 percent of FIE clients have BancoSol branches close to their residence. Such potential competition was less frequent for BancoSol. Only 12 percent of its clients considered that the offices of Caja Los Andes are close to their business and only 10 percent claimed that FIE offices are close to their business. Less than 5 percent of BancoSol clients had offices of either Caja Los Andes or FIE close to their residence.[57] BancoSol not only possesses a locational advantage derived from a larger and denser network of branches, but some of its clients may not be able or willing to pledge the collateral required by other lenders. In this sense, there is less contestability in this portion of its market niche. Advanced BancoSol clients may be strongly attracted, however, by the individual loan transactions offered by other lenders.

In most cases, the proportion of the clients of each organization who consider its offices to be close to their business is higher than the proportion who find the offices of other organization to be close. The only exception is FIE, whose clients consider BancoSol branches to be close more frequently than they do find FIE's own offices to be close (Table 8, item 2). In general, BancoSol branches are close to the business of its own clients more frequently (58 percent) than is true for Caja Los Andes (55 percent) or for FIE (46 percent). Indeed, BancoSol has more branches than the other two urban organizations, which increases the probability of proximity to both its own clients as well as clients of its competitors.

---

[57] It is important to note that these figures did not result from the actual measurement of distances. Rather, they reflect the clients' subjective perceptions about the offices of these organizations being close or not. What close means in urban rather than rural areas may differ. These perceptions do, however, influence demands for financial services and the client's opinion about the quality of services.

The proximity of offices of other organizations, nevertheless, illustrates the intense competition that has developed among these urban programs, as their outreach expands and as prime markets may begin to be saturated. More intense competition has forced these organizations to improve the terms and conditions of their loan contracts and to explore potential additions to the services offered in order to prevent client desertions. One example of this has been BancoSol's willingness to experiment with individual loans in addition to the development of deposit facilities. Another example is the special treatment of preferred customer for its best clients by Caja Los Andes. Some of these efforts to sustain market shares by expanding portfolios in old locations may, however, increase risks of default, as loan-to-wealth ratios for existing clients increase and as marginal, riskier borrowers are incorporated into the portfolio.

Competition appears to be less intense in rural areas. Only 19 percent of PRODEM clients consider the offices of Sartawi to be close to their business or their residence, while only 7-9 percent of Sartawi clients report having a PRODEM office close to their business or residence (Table 8, item 2). These rates reflect the greater distances involved, while it is still likely that PRODEM and Sartawi may represent the closest options for the clients of either organization. If indeed this is the case, there may be more competition among them than suggested by subjective perceptions of proximity.

Proximity, the available infrastructure, and poverty influence the means used for reaching the microfinance organization. Clients walk to their microfinance organization in 14 percent (Sartawi) to 42 percent (FIE) of the cases. Most of the other borrowers use public transportation (Table 8, item 2). It is logical to expect a tendency to select the organization located closest to the client's business or residence. Given the longer distances that Sartawi clients must typically travel from their communities of residence to where the financial transactions take place, it is not surprising that 83 percent of them use public transportation. Only 14 percent of Sartawi clients reach the branch on foot compared to 34 percent of PRODEM clients. This may reflect a greater depth of outreach of Sartawi into remote rural communities, at least in the areas of the study. In urban areas, public transportation is most frequently used by clients of Caja Los Andes (69 percent), less frequently by BancoSol clients (59 percent), and least frequently by FIE clients (55 percent).

Sources of credit at the time of the first loan

Improved access to financial services is an important potential impact of the broadening outreach of these five organizations. To gain insights into this question clients were asked to identify the sources of loans, if any, they had at the time when they received their first loan from their current microfinance organization. It turns out that they had previously had very limited access to formal financial institutions. This is not a surprising result, considering the strict collateral requirements of banks and the clients' lack of accounting records to signal their creditworthiness to formal lenders (Sanchez, 1996).

Some of the borrowers, however, had received loans from other NGOs, and a few had obtained loans from one of the other four microfinance organizations studied here and had shifted from one lender to the other. Previous access to NGO loans had been particularly frequent in rural areas. Participation in informal financial transactions at the time of their first microfinance loan had been more frequent than access to formal financial services, especially in rural areas.

Prior borrowing with banks had been limited. Only 2 percent of BancoSol clients had obtained bank loans at about the time they received their first BancoSol transaction (Table 7, item 7).[58] This proportion is even lower (around 1 percent) for the clients of the other organizations and no PRODEM client in the sample had received bank loans at the time of their first transaction with PRODEM.[59]

A few BancoSol (1.7 percent) and FIE clients (1.1 percent) had received loans from savings and loans associations.[60] A few FIE (3.2 percent), Sartawi (2.3 percent), and BancoSol clients (2.1 percent) had obtained loans from cooperatives. Although these proportions are all low, it seems that slightly more clients of FIE, BancoSol, and Sartawi had had prior contacts with formal financial intermediaries than had clients of Caja Los Andes and of PRODEM. The reasons for this differential prior experience with formal finance are not clear, but in all cases access to formal intermediaries had been minimal.

Prior credit experience with other NGOs was somewhat more common than with formal financial institutions. At about the time they received their first loan from their current microfinance organization, about 8 percent of the clients of Caja Los Andes, 5 percent of FIE clients, and 4 percent of BancoSol clients had received other NGO loans (Table 7, item 7). Prior NGO credit had been even more usual in rural areas. Almost one-fifth of PRODEM and Sartawi clients had received loans from other NGOs at the time of their first loan with their current lender.

Given the non-market loan terms used by many NGOs, in particular their subsidized interest rates, these earlier contacts were not necessarily good preparation for the stricter credit discipline employed by the organizations studied here. Most likely, clients of PRODEM and of Sartawi shifted to the new lenders, despite the subsidized terms of their original sources of loans, in search for more reliable and permanent sources of credit. The continued operation of some rural NGOs that provide subsidized credit forces the microfinance organizations studied here to compensate for this marketing disadvantage with a higher quality of services. Loan contract attributes that might have attracted the

---

58 This question did not address whether the current microfinance clients had **ever** received formal bank loans before, just whether they had bank loans at about the time of their first microfinance loan.

59 This limited access to bank loans is widespread but appears to be particularly acute among the clients of these organizations. A survey by other researchers of 111 small and micro-enterprises in La Paz found that only 9 percent had access to bank loans and 1 percent had loans from savings and loan associations (Hannig *et al*., 1994).

60 The most likely contact with formal financial institutions is for housing loans.

borrowers to these new lenders, in all five cases, included larger loan sizes, longer terms to maturity, and the lower transaction costs associated with the speedy and reliable disbursement of funds.

One of the most interesting observations is the proportion of clients who report having received loans with one of the other four organizations at about the time they received their first loan from their current lender. In the case of clients of Caja Los Andes, 17 percent already had obtained loans from BancoSol, 5 percent had received loans from FIE, and 3 percent had been granted loans from PRODEM (Table 7, item 7). In the case of FIE clients, 7 percent already had received loans from BancoSol, 4 percent from PROCREDITO before its transformation into Caja Los Andes, and 4 percent from PRODEM. The proportions of BancoSol clients who had been granted loans from FIE (1.3 percent) or Caja Los Andes (0.8 percent) are much lower.

These figures suggest that competition has provoked a shift of clients away from BancoSol, despite its locational advantages and its wider network of branches. The most likely reasons for the transfer are client preferences for individual over group loans, the larger loan sizes, and the lower interest rates that accompany the more strict guarantee requirements of FIE or Caja Los Andes. If indeed this is the case, BancoSol is performing a valuable screening function for the other two organizations and it is generating, in the process, a positive externality.

In summary, the proportions of clients who shifted to Caja Los Andes and FIE are comparatively high, in contrast to the current BancoSol clients who came from the competitors among this group of organizations.[61] There appear to be a greater number of reasons, therefore, why clients eventually leave BancoSol for other organizations than for movement in the opposite direction. As indicated, among the reasons for leaving BancoSol may be a desire for individual rather than group loans or for lower interest rates if the client can pledge the guarantees required. These clients of Caja Los Andes and of FIE may have thus revealed a preference for individual loans once they were able to meet the collateral and other conditions required to obtain them. In contrast, unless they have a strong dissatisfaction with the quality of services, the clients of FIE and Caja Los Andes would have little reason to switch to a group credit scheme, once they have gained access to individual loans. From this perspective, individual lending dominates group credit.

The current clients of Caja Los Andes or FIE could have borrowed from PRODEM before BancoSol was created. One possible reason for shifting from PRODEM is again the perceived superiority of individual over group loans. Therefore, by adding together the frequencies reported for earlier loans with BancoSol and/or with PRODEM, some idea can be obtained of the number of clients who shifted from group to individual borrowing. This appears to be the case for 20 percent of the clients of Caja Los Andes and 11 percent of FIE clients. These shifts are an increasing threat for BancoSol, as long as its clients make sufficient progress and are able to offer the guarantees required for individual loans. Offering individual loans as a response to this threat is, in turn, a difficult challenge for this bank.

---

[61] The rapid expansion of the BancoSol portfolio is reflected by only 1.7 percent of its current clients in the sample who had started in the PRODEM days.

At about the time of their first loan only a low proportion of PRODEM and Sartawi clients had obtained loans from any of the other organizations studied (Table 7, item 7). A few PRODEM clients (2.7 percent) had received loans from Sartawi and a few Sartawi clients (1.2 percent) had received loans from PROCREDITO (now Caja Los Andes). A much higher proportion of these rural clients (18-19 percent) had obtained loans from other NGOs.

At the time the clients received their first loan from their current microfinance organization, moneylenders had supplied loans to roughly 11 percent of FIE and BancoSol clients, and 8 percent of clients of Caja Los Andes (Table 7, item 7).[62] Surprisingly, these proportions are only about half as high in rural areas than in urban areas. Credit from moneylenders is expensive and may be used only sporadically, mostly for emergencies.

The most frequent sources of credit at the time the clients received their first loan were friends and relatives and *pasanakus*. About one-fourth of urban clients reported loans from relatives: 30 percent for BancoSol, 27 percent for Caja Los Andes, and 22 percent for FIE (Table 7, item 7). Over one-half of rural clients had had loans from relatives (53 percent). Loans from friends had been less frequent in urban areas (9 percent for Caja Los Andes and BancoSol and 3 percent for FIE clients) than in rural areas (34 percent for PRODEM and 22 percent for Sartawi clients). Despite the frequency of these arrangements, loans from friends and relatives are limited by the wealth constraints of these persons and by risk aversion in the presence of covariant cash flows and incomes. Thus, although access to informal sources of credit is frequent, the amounts involved are usually small (Gonzalez-Vega and Graham, 1995)

Wealth and diversification constraints also limit the potential impact of *pasanakus*. At the time of their first loan with their current organization, 35 percent of BancoSol clients had had loans from *pasanakus*, as had 27 percent of FIE clients and 18 percent of clients of Caja Los Andes (Table 7, item 7).[63] Surprisingly, *pasanaku* loans had been less frequent in rural areas: 12 percent for PRODEM and 8 percent for Sartawi clients. This may reflect the difficulty in meeting with a large group to make the frequent, very small transactions, as well as the difficulty of saving regularly as required for participating in *pasanakus*.

Multiple current loans

Some of the clients of the five microfinance organizations continued to borrow from multiple sources during 1995. Some of these loans might have been received earlier in the year by first-time borrowers. In other cases, the clients may have borrowed from one of the five organizations while borrowing from other sources simultaneously. Some formal loans might have been obtained for specialized purposes such as housing. A few clients reported loans from banks (BancoSol, FIE), cooperatives (BancoSol, PRODEM, Sartawi), and savings and loan associations (Caja Los Andes,

---

[62] This proportion was 12 percent of microenterprises in other survey (Hannig *et al*., 1994).

[63] This proportion was 35 percent of microenterprises in other survey (Hannig *et al*., 1994).

FIE, Sartawi) received in 1995 (Table 7, item 8).[64] One possibility, for which there was no evidence one way or the other, is that being a client in good standing of any of the (urban) organizations has a reputation value with other lenders. The only significant case of borrowing from other NGOs was reported by 8 percent of PRODEM clients.

A few cases of clients in one organization borrowing from one or more of the other four organizations studied were reported. The most frequent cases are 9 percent of clients of Caja Los Andes who reported loans from BancoSol during 1995, and BancoSol clients (5 percent) who reported loans from Caja Los Andes (Table 7, item 8). This again suggests the existence of intense competition between these two organizations in at least partly overlapping market niches. Multiple loans may also suggest the need for borrowers to find second loans when they encounter loan-size rationing, as may be the case at Caja Los Andes as well as at BancoSol. Given the fragility of the loan guarantees used and the high rates of interest charged, lenders may prefer to grant loans for amounts smaller than the full repayment capacity of the clients would allow and that do not fully satisfy the client's demand.

In all these cases of multiple loans, the frequency of access to other sources of loans is less than was observed at the time of the first loan with the organization. The apparent reduction in borrowing from other sources compared to the time of the first loan is particularly noticeable when earlier loans came from moneylenders and other NGOs. This suggests that these microfinance organizations provide better overall service than the previous lenders and so most clients have terminated their relationships with their previous sources of credit. This implies, in turn, an improvement in the welfare of these household-enterprises.

Several loan transactions with informal sources were observed during 1995 (Table 7, item 8). Loans from relatives are less frequent in urban areas (13-15 percent) than in rural areas (35-38 percent). Loans from friends are also less frequent in urban areas (2-8 percent) than in rural areas (7-16 percent). This interesting result suggests that informal markets are relatively better substitutes for formal markets in rural areas than they are in urban areas. This may reflect the comparative information and contract enforcement advantages resulting from close ties between friends and neighbors in rural areas, which allow them to lend at low cost. Moreover, formal lenders face major information problems in rural areas, which result in too high costs of lending for them. The supply of formal loans is thus inadequate and rural household-enterprises have no alternative but to resort to informal loans. If indeed this is the case, the microfinance organizations lending in rural areas constitute a major innovation in expanding the frontier of finance.

As was the case with formal loans, the frequency of informal borrowing was lower in 1995 relative to the time of the first loan from the current microfinance organization. In rural areas, the reduction is more noticeable with respect to loans from friends than to loans from relatives. Despite

---

[64] BancoSol clients appear to have, in general, slightly more experience with formal finance than clients of the other organizations. No explanation for this anomaly was apparent, since most of the other indicators point to BancoSol having a relatively poorer clientele.

access to loans from microfinance organizations, however, loans from relatives continue to be an important source of credit for about 15 percent of urban and 35 percent of rural clients (Table 7, item 8).

Loans from moneylenders were also substantially less frequent in 1995 compared to the time of the first loan from the organization. *Pasanaku* participation was also less frequent than at the time of the first loan except for PRODEM clients. Among the clients of BancoSol, 22 percent still participate in *pasanakus* compared to 14 percent of FIE and PRODEM clients and 10 percent of clients of Caja Los Andes. No *pasanaku* participation was reported among the clients of Sartawi for 1995 (Table 7, item 8).

These data do not provide conclusive evidence about the impact of these microfinance organizations because many factors could explain the decline in borrowing from other sources between the time of the first loan and 1995. The results are consistent, however, with the argument that participation in these five organizations has provided their clients with reliable access to loans so they could reduce their borrowing from other sources. A number of different attributes of the organizations (*e.g.*, permanency, less binding wealth constraints) and of the loan contracts (lower total costs of borrowing including both interest rates and transaction costs) may explain the clients' preference over earlier sources of credit. If indeed this is true, improved access to credit represents a significant impact associated with the development of microfinance in Bolivia.

VII. Client Attitudes

To evaluate the quality of outreach of these microfinance organizations, the survey attempted to identify areas of greater or lesser client satisfaction. The results must be interpreted with caution because of the well-known difficulties in survey research of communicating a uniform understanding among the interviewees about the meaning and intent of the questions asked, and in the interpretation and recording of their subjective opinions. Nevertheless, the results seem to reveal a high level of overall satisfaction among the clients of these organizations.[65]

Information about the program

The clients were asked to identify how they heard about the program in which they currently are clients. Most learned about the program from friends and relatives and other acquaintances who were already clients. This is true for 92 percent of BancoSol and 85 percent of PRODEM clients (Table 9, item 1). Created earlier, these two organizations appear to have been able to establish the most widely-held name recognition among this set of programs. Among the clients of Caja Los

---

[65] Because there is no benchmark for the comparison, it is difficult to assess how high is a "high" level of satisfaction. The researchers' casual observations detected strong positive feelings among the clients. The self-selection bias implicit in the sampling procedure may also influence these results. Clients who had left a program (drop-outs) because they were unhappy were not interviewed.

Andes, FIE, and Sartawi, 78-79 percent learned about the programs from friends and relatives. These are very high proportions as well.

Word-of-mouth communications about the program substantially reduce advertisement costs. In urban areas, except in the case of Caja Los Andes, posters, written ads, and radio and television announcements are not frequently cited as a source of information by the clients. Even for Caja Los Andes, the proportion is still low relative to other means of information. Posters are somewhat important in rural areas, but for only 6-7 percent of the clients. This raises questions about the cost-effectiveness of these efforts, although such public announcements may become more important in the future as competition increases among the programs operating in urban areas.

The second most effective source of information about the programs are the loan officers. This is especially true for Sartawi clients (13 percent) because the loan officers visit communities seeking prospective clients (Table 9, item 1). The role of loan officers in marketing the program is also important for clients of Caja Los Andes and PRODEM (11 percent). In the case of BancoSol, however, only 5 percent of the clients learned about the program from loan officers. This may reflect the dynamics of group formation in which clients first seek each other to participate in the program. Thus, potential clients induce other group members to join them in a loan application before they even meet the loan officer. This represents a potentially cost-saving delegation of signaling and screening functions to group members.

An important implication of these findings is that most information about the programs comes from the clients themselves. This could have negative consequences on the demand for an organization's services if the clients were not generally satisfied, at least in contrast with other funding alternatives available to them. Casual observations by the researchers suggested a high degree of pride among the customers about their relationship with their current organization. The development of long-term client-organization relationships contributes to this client loyalty which, in turn, is critical to keep arrears low (Gonzalez-Vega, 1994).

These positive attitudes and critical incentives are reinforced by the persistence with which these programs communicate to their clients the importance of developing a long-term client-organization relationship. At the same time, these communications with clients also emphasize the lender's firmness regarding loan collection and the borrower's responsibility to repay. Moreover, potential borrowers learn from current clients about the discipline required and about the determination of the organization to enforce repayment. This commitment to collecting loans helps to destroy images of subsidy and paternalism. These images are often common among the beneficiaries of other NGO programs, and they destroy a culture of repayment. The message of discipline issued by these organizations helps create an appropriate structure of incentives to repay for the borrowers as of the first contact with the organization (Gonzalez-Vega *et al*., 1996).

Larger loan sizes

The clientele of the five microfinance organizations studied typically would find it very difficult to access the financial services of formal intermediaries, particularly loans. They do engage in informal financial transactions with friends and relatives and some continue to participate in informal financial markets, but the terms and conditions of moneylenders are frequently onerous and the features of *pasanakus* are often restrictive. Therefore, although the terms and conditions of loans from these microfinance organizations are stiff, as they must be to allow the microfinance programs to cover their costs and risks, there is substantial demand for their loans. The survey attempted to discover what features of the organizations and of their products were most attractive to clients compared to their earlier options. The responses revealed that two features stood out in the opinions of the clients: the ability to obtain larger loans (to borrow more) and the simplicity of guarantee requirements.

As shown in Table 9 (item 2), the opportunity to get a larger loan had been particularly attractive for PRODEM clients (86 percent). This may reflect both PRODEM's willingness to make larger loans (compared to Sartawi) and the more binding wealth and portfolio diversification constraints that limit the supply of informal finance and of other NGO loans in rural areas compared to urban areas. Potential access to larger loans had been an important feature valued by about one-half of the clients of the other four organizations. It was found to be attractive less frequently to FIE clients (44 percent) than to others. Given that FIE loans are on average the largest, this may reinforce the hypothesis that FIE clients tend to be the least poor of the borrowers of these five organizations. That is, even before borrowing from FIE, its clients might have been less credit-constrained than those of the other four organizations.

If borrowers are attracted to a particular source of loans because they can get larger loans, this may suggest that they are either credit-constrained or loan-size rationed by alternative sources of credit. Producers are credit-constrained if they have opportunities to use resources in projects with marginal rates of return that are higher than the going rates of interest, but cannot gain access to loans even if they are able and willing to repay them. This may reflect information and contract enforcement problems for the lenders who find it too costly to verify the producer's creditworthiness (Gonzalez-Vega, 1996b). Borrowers are loan-size rationed if they desire loans larger than what they are getting at the going rates of interest and are able and willing to repay these larger loans, but the lender limits the size of loan. Such loan-size rationing may reflect interest rate ceilings or the inability of lenders to screen potential borrowers by raising interest rates further because of moral hazard or adverse selection problems (Stiglitz and Weiss, 1987).

If producers are credit-constrained or loan-size rationed, then profitable opportunities or valuable uses of funds will be missed due to lack of access to sufficient credit. In such cases, loans from these microfinance organizations can not only increase the productivity of the borrowers' enterprises and raise the welfare of their households, but also improve the allocation of resources in the economy (Gonzalez-Vega, 1996a). Evidence from the survey suggests that these organizations, while still engaging in some degree of loan-size rationing, are alleviating credit constraints for some poor household-enterprises.

Easier guarantee requirements

Information and contract enforcement problems induce lenders to require collateral in the form of physical assets about which there is sufficient information as a way to improve the probability of collecting their loans. Traditional forms of collateral tend to exclude the poor from access to formal loans, however, because the poor do not own the assets (*e.g.*, real estate) that are acceptable to banks or because the costs of using the formal legal system for contract enforcement are too high given the small size of the loans (Gonzalez-Vega, 1996c). The most important contribution of the microfinance organizations studied has been the development of cost-effective lending technologies that do not rely on traditional forms of collateral. Their clients value this feature of their contracts greatly.

Simple guarantee requirements were important in attracting 65 percent of BancoSol clients (Table 9, item 2). This suggests that the borrowers of this organization are willing to incur the high transaction costs of group credit and to tolerate the rigidities of synchronous borrowing because they avoid the need to pledge physical assets as collateral for loans. They may be unable or unwilling to pledge assets other than their reputation and their willingness to screen and monitor their peers in group loans. By borrowing from BancoSol and maintaining a good credit history they acquire the intangible asset represented by the present value of future loans, which they stand to lose if they default. This process results in the self-selection of clients who are attracted by the opportunity of obtaining access to credit through offering no more than joint liability for group loans. Indeed, 39 percent of BancoSol clients explicitly identified group credit as a feature of these contracts that attracted them. Most likely, a good number of these borrowers could not or would not borrow from other of the microfinance organizations studied here because of the guarantees required for their loans.

Simple guarantee requirements were attractive for 53 percent of Sartawi and 49 percent of PRODEM borrowers (Table 9, item 2). These two organizations also rely on group credit as the main mechanism to compensate for the absence of physical collateral. The clients of these organizations, however, did not find the group feature attractive as frequently as BancoSol clients did. Only 17 percent of Sartawi and 11 percent of PRODEM clients consider that group loans attracted them to the organization. This may reflect the higher transaction costs of group meetings and coordination and of peer monitoring in rural areas as compared to more densely populated urban areas where the infrastructure is better developed. Poor rural clients, however, may not have the same opportunities to shift to individual loans from other organizations as do the urban clients of BancoSol. The implication is that many BancoSol clients may not be able to borrow from other organizations because of the more strict collateral they require. This constraint may disappear as the wealth of some of these clients increases and as they accumulate physical assets.

Simple guarantee requirements were attractive for 49 percent of the clients of Caja Los Andes, despite the fact that liens on goods are typically required by this lender (Table 9, item 2). This suggests that these forms of physical collateral are acceptable to the borrowers of this organization and that Caja Los Andes has been successful in keeping procedures simple enough to make this a valuable feature of its loan contracts. Simple guarantees were attractive to 32 percent of the clients of FIE, the organization where this feature was less frequently mentioned as attractive to the clientele. This is surprising again, because FIE seems to be more flexible in the choice of guarantees and does not require joint liability from its borrowers.

Lower interest rates

Most of the clients of these microfinance organizations do not have access to loans from formal financial intermediaries, which lend at lower rates of interest. Instead, they may borrow at very high rates from moneylenders or obtain loans from friends and relatives which may impose burdensome reciprocal obligations on the borrower. Despite the relatively high interest rates charged by these microfinance programs, some borrowers seem to find these rates more attractive than those paid in informal markets. A few borrowers may also switch from one program to another in search of lower interest rates.

The clients of FIE found the interest rates charged to be a valuable attribute of their loan contracts more frequently (56 percent) than did borrowers from the other organizations (Table 9, item 2). The responses of Sartawi clients (38 percent) and of clients of Caja Los Andes (36 percent) also reflected the view that lower interest rates, compared to their earlier options, attracted them to the program. The clients of BancoSol (28 percent) and of PRODEM (15 percent) were attracted by the level of interest rates less frequently than were the clients of the other organizations. This is not surprising, as these two organizations charge higher interest rates than the others in order to cover their costs. These higher costs reflect the smaller size of their loans.

Lower transaction costs

Interest rates are only a portion of the total costs of borrowing (Gonzalez-Vega and Gonzalez-Garita, 1987). Borrower transaction costs arise from the steps required to secure a loan (Adams and Nehman, 1979). Simplicity of procedures reduces these transaction costs. About one third of the clients of these organizations were attracted by less red tape implied by their lending procedures (Table 9, item 2). They also valued the proximity of the offices of these organizations, particularly in the case of Caja Los Andes (18 percent), and the timeliness in disbursing the loans, especially in the case of Caja Los Andes as well (24 percent).

In contrast, the clients of PRODEM were attracted least frequently among the borrowers in the sample by the proximity of the offices and by the timeliness of disbursement. This is surprising because the clients of Sartawi appear to come from more distant communities than do the clients of PRODEM. Proximity to the office lowers the transaction costs resulting from visits to the branch, while timeliness reduces potential losses from lack of timely disbursement of the funds which may result in lost opportunities or lower yields (*e.g.*, not being able to plant at the right time).

Longer terms to maturity

Most informal loans are very short term. It is not surprising, therefore, that some clients were attracted by the possibility of receiving longer term loans from these microfinance organizations even though these loans are still comparatively short term relative to formal loans from banking sources. The clients of FIE (31 percent) and Caja Los Andes (24 percent) valued this attribute of loan contracts more frequently (Table 9, item 2). This finding may reflect the greater proportion of manufacturing producers among the clientele of these organizations, while BancoSol clients are heavily concentrated in trading where shorter terms may be consistent with the more rapid turnover of inventories. The clients of rural organizations did not find terms to maturity especially attractive. This is also interesting, because it highlights that rural activities have a longer gestation than many of the economic activities of urban clients. This suggests the possibility of an unsatisfied demand for longer term loans in rural areas, a situation being explored by PRODEM.

Individual and group loans

There is considerable debate in the microfinance field about the merits of group lending versus individual lending. From the perspective of the client, there are several theoretical reasons why individual loans may be superior to group loans. The terms and conditions of individual loans (size, term to maturity, amortization schedule) can be tailored to closely match the client's demand and the enterprise cash flows that make repayment possible. The timing of disbursement of individual loans can respond to the opportunities when the funds are needed. The borrower may choose not to borrow when there is no reason without fear of jeopardizing access to loans for other group members. In contrast, the inevitable rigidities that accompany group loans, due to the need for synchronous terms to maturity and repayment schedules, reduce the value of group loans. The obligations to participate in meetings, to be present for jointly signing contracts and receiving loan funds, and to monitor group members increase borrower transaction costs.

Joint liability responsibilities usually associated with group loans introduce risks of losses from extra payments or from the cancellation of borrowing privileges when other group members do not repay. These contingencies are largely beyond the control of the borrower except for the ability to screen and monitor other group members. It is safe to assume that, *ceteris paribus*, borrowers will prefer individual loans. Thus, they will participate in group loans only if they have no access to individual loans (*e.g.*, because they cannot pledge the collateral required by formal lenders) or if the other terms and conditions of the individual loans they have access to (*e.g.*, moneylenders) are sufficiently onerous to more than compensate for the costs and inconvenience of group loans.

In contrast, there are conflicting theoretical reasons why lenders may prefer either group or individual loans. Group loans may reduce lender transaction costs and risks (Berenbach and Guzman, 1994; Stiglitz, 1990). Joint liability, however, does not guarantee repayment and it introduces conflicting incentives to repay (Besley and Coate, 1995; Chaves, 1996). Repayment depends on which incentives dominate in each case. Finally, organizations that grant individual loans may gain greater cost reductions from directly learning about the individual borrowers than group lenders can accomplish when their monitoring of individual borrowers is less intense (Schmidt and Zeitinger, 1996).

The survey revealed that a high proportion of the clients of Caja Los Andes (59 percent) and of FIE (31 percent) were attracted to these organizations particularly by their offer of individual loans (Table 9, item 2). These organizations have been able to supply individual loans at average costs comparable to those of BancoSol (Gonzalez-Vega *et al*., 1997). A few Sartawi borrowers were attracted by this feature.

In contrast, those borrowers who indicated that they were attracted by group loans at BancoSol (39 percent), Sartawi (17 percent), and PRODEM (11 percent) were probably willing to incur the additional transaction costs of group credit because they could not or preferred not to offer the guarantees required for individual loans elsewhere (Table 9, item 2). Because it is unlikely that this decision would reflect strong demand-side preferences for group credit, a more plausible explanation is that some borrowers are locked into group credit rather than individual loans due to deficiencies of the supply of credit resulting from information and contract enforcement problems that cannot be overcome in a cost-effective fashion for individual loans. These issues are far from being resolved in theory or in practice.

Client satisfaction

Overall client satisfaction with these microfinance organizations is high. Between 81 and 99 percent of the clients are generally happy with their relationship with their current organization (Table 9, item 3). The sources of satisfaction differ from one organization to the other, and this fact probably explains why some clients seek the services of their current organization rather than those of an alternative source.

There is probably a self-selection process that matches specific clients to particular organizations (Nagarajan *et al*., 1995; Sanchez, 1996). This matching is determined, on the one hand, by the terms and conditions of the loan contracts offered by the organizations and, on the other hand, by the ability of the clients to signal their creditworthiness within the parameters of the lending technologies of the organizations. This matching may result in some degree of market fragmentation, with some organizations possessing comparative advantages in specific market niches. These considerations suggest that there may be some degree of differentiation of the typical market niches of the five organizations. Other observations from the survey, however, suggest that there are important ranges of overlapping of these market niches as well.

Differences in market niches are reflected in differences in the specific sources of client satisfaction. As shown in Table 9 (item 3), the clients of BancoSol are more frequently satisfied with the joint liability guarantee requirements associated with group credit (94 percent) and with the terms to maturity of the loans (69 percent) than they are with the interest rates charged (55 percent) or the size of loans granted (54 percent). That this, they borrow from this organization mostly for the ability to do away with the need to pledge physical assets as collateral, but they find some other features of the lending technology constraining.

It is interesting that as many as 55 percent of BancoSol clients are satisfied with the interest rates charged. This suggests that they are willing or have few options but to pay high interest rates if they do not want to pledge assets as collateral for their loans. The figures also suggests, however, that a good number of clients (45 percent) do not find the interest rates charged that attractive and that they rather see them merely as the high cost of gaining access to loans that they would not have otherwise.

In turn, 46 percent of BancoSol clients may not be that satisfied with loan sizes. This may reflect the extent to which some borrowers may still be loan-size rationed, despite their access to credit. It may also reflect discrepancies between borrower and lender about prudent amounts to lend given the possibility of moral hazard. The need to participate in a borrowing group that requires joint liability may also be an important constraint that prevents adjustment of loan sizes to individual demands. This will happen even if loan sizes differ among group members, because discrepancies in loan sizes that are too large tend to destroy incentives to continue borrowing as part of the heterogeneous group (Chaves, 1996).

As shown in Table 9 (item 3), the clients of Caja Los Andes are more frequently satisfied with the guarantee requirements (88 percent) and with the interest rates charged (74 percent) than they are with the terms to maturity of the loans (66 percent) and, particularly, with loan sizes (34 percent). The low positive response for loan sizes may reflect both the consequences of liquidity constraints endured by Caja Los Andes during 1995, which resulted in loan-size rationing, as well as the more strict loan-size evaluation generally undertaken according to the lending technology of this organization.

This observation tends to confirm the researchers' hypothesis that Caja Los Andes undertakes the most careful evaluation of individual creditworthiness (screening) among these organizations and that it uses the most conservative criteria in linking loan sizes to potential repayment capacity. Other organizations use more uniform and standard loan sizes, at least during the earlier repetitions along the sequence of transactions, and practice less detailed screening functions. It is interesting to note that the clients of Caja Los Andes are not that frequently satisfied with loans sizes in spite of the fact that the results reported in Table 6 (item 1) reveal that mean and median loan sizes for Caja Los Andes are second only to FIE.

It is also interesting to note that a very high proportion of the borrowers of Caja Los Andes are satisfied with the lien-on-goods-cum-*garante* collateral that is typical of these loans, most likely because this gives them the option to obtain individual rather than group loans. Although satisfaction with interest rates ranks second to satisfaction with guarantee requirements among the borrowers of

Caja Los Andes, a higher proportion of them are satisfied with interest rates than among BancoSol clients. The opposite is true, however, for loan sizes.

The clients of FIE are frequently satisfied with the guarantee requirements (79 percent), the interest rates charged (75 percent), and the terms to maturity of the loans (71 percent). Similar to what is true for the other urban organizations, they are less frequently satisfied with loan sizes (48 percent). This may also reflect a similar lack of liquidity as reported for Caja Los Andes, which forced these organizations to limit the growth of loan sizes and which acutely affected the operations of FIE during 1995. The situation was so serious that funds had to be advanced to the organization even by members of its board of directors. The more frequent satisfaction with guarantee requirements than with any other contract condition may reflect both a preference for individual loans and an understanding of the more strict collateral requirements of banks.

The clients of PRODEM are more frequently satisfied with the joint liability guarantee requirements associated with group credit (97 percent) and with the terms to maturity of the loans (72 percent) than they are with the interest rates charged (61 percent) or the size of the loans granted (53 percent). The reasons for these perceptions are similar to those already discussed for BancoSol.

Although lack of satisfaction with loan sizes seems to be universal, it was particularly true among Sartawi clients (31 percent). The lending technology of this organization does not allow any discretion in the determination of loan sizes. That is, given the limited screening performed, all borrowers at a particular stage of the sequence receive the same size of loan. This ignores important discrepancies in client demands and results in welfare losses from lack of adjustment to individual circumstances equivalent to those that result from group credit schemes.

The clients of Sartawi are less frequently satisfied with the interest rates charged (61 percent) than with the guarantee requirements (91 percent) and the terms to maturity of the loans (69 percent). Less frequent satisfaction with interest rates may reflect a negative externality from other NGOs engaged in subsidized credit in the same regions. Similar responses about their satisfaction with terms to maturity from the clients of all five organizations tend to confirm the hypothesis that most of the demands for credit in these market niches are for short-term loans, even in rural areas.

IX. Conclusions

This paper presents and interprets simple descriptive statistics generated from data obtained in a survey of clients of five microfinance organizations widely believed to be among the best in Bolivia in terms of their outreach and sustainability. In a companion paper, Gonzalez-Vega *et al*. (1997) present a detailed comparative analysis of the performance of these organizations.

The five lenders exhibit different combinations of organizational design, lending technology, and market area of operations. Two of them are regulated financial intermediaries offering both deposit and loan services: BancoSol is a private commercial bank and Caja Los Andes is a *fondo financiero privado*. Three of them (FIE, PRODEM, and Sartawi) are NGOs. Two operate in rural areas (PRODEM and Sartawi) while the other three operate largely in urban areas (BancoSol, FIE, and Caja Los Andes). Two offer their clients individual loans (Caja Los Andes and FIE) and three grant loans to individuals through joint liability groups (BancoSol, PRODEM, and Sartawi).

The paper discusses household-enterprise profiles of a sample of 622 clients drawn at random from these five organizations. The paper also identifies differences in the terms and conditions of loan contracts with these organizations, and it assesses changes over time in the sources of loans obtained by the clients.

The construction of socio-economic profiles of the clients makes it possible to evaluate the depth of outreach of these organizations, while the analysis of the terms and conditions of the loan contracts reveals the quality of their outreach. The paper does not attempt to measure impact on the clients of their access to loans from these organizations, except indirectly in terms of changes in their sources of credit from the time of their first loan with the organization.

The interpretation of the statistics seeks to establish connections between key characteristics of the clients and features of the lending technologies used by the organizations. Different types of clients find that the terms and conditions of the loan contracts associated with each lending technology are more or less appropriate for their own circumstances. These different degrees of appropriateness lead to the matching of specific classes of borrowers with particular organizations and influence the determination of the market niches where the lenders possess comparative advantages.

The construction of client profiles on the basis of survey data helps to sketch the boundaries of these market niches and to establish the extent to which these market niches overlap or are differentiated. In turn, the specific identification of their market niches permits an assessment of potential competition among these organizations.

Data on loan sizes suggest the existence of different but broadly overlapping market niches associated, in turn, with three identifiable tiers of clients. The first tier includes the urban clients of FIE and Caja Los Andes, who receive larger loans and at longer terms to maturity. The second tier is associated with the clients of BancoSol, who generally receive smaller loans at shorter terms to maturity. The third tier represents the rural clients of PRODEM and Sartawi, who receive still smaller loans. The sharpest distinction is between, on the one hand, the clients of the three urban organizations and, on the other, those of the two rural organizations. Smaller loan sizes contribute to the higher costs of lending in rural areas.

Different credit products correspond, in turn, to different types of clients. The resulting matching between clients and organizations reflects a weak but positive correlation between levels of poverty and loan sizes, as reported in Navajas *et al*. (1996) for the same sample of clients. According to an index of basic needs fulfillment of their clients, these organizations can be ranked as follows: FIE, Caja Los Andes, BancoSol, and PRODEM and Sartawi (which are almost identical in this respect). The exact same ranking is essentially obtained when the clients are ordered according to loan size. The same ranking is also obtained when the clients are ordered according to the ratio of loan size to the value of sales and according to the value of their monthly sales, except that in this case the clients of Caja Los Andes are ranked ahead of the clients of FIE. This ranking reversal reflects the more conservative screening criteria of Caja Los Andes.

The three tiers of clients are also associated with different socio-economic features of their household-enterprises. As one moves from the first to the third tier, levels of education decline, size of household increases, the number of rooms per household member in the residence declines, access to electricity, water supplies, and sewage facilities declines, and home ownership declines. These household features coincide with increasing levels of poverty as one moves from the first to the third tier (Navajas *et al.*, 1996)..

As one moves from the first to the third tier, the employment-generating capacity of the enterprise declines (except for BancoSol, where it is lowest), their informality increases, there is less separation of household and enterprise accounts and cash flows, the proportion of borrowers with multiple occupations decreases, and the proportion of clients engaged in trading increases. For BancoSol clients, the proportion of heads of household is lower and the proportion of women in the portfolio is higher than for all other organizations. The development of lending technologies that do not rely on standard financial statements and on collateralizable assets is a formidable innovation that explains the outreach and sustainability results of these organizations.

The concentration of women in the portfolio of BancoSol and, to some extent Caja Los Andes, reflects the concentration of women in trading, which allows them to generate the cash flows needed for frequent loan payments. These frequent payments reflect, in turn, the need to closely monitor borrower behavior when no traditional collateral is used. The concentration of BancoSol's portfolio in trading may also reflect fewer difficulties in forming borrowing groups among traders than among other types of producers. The evidence also suggests that some BancoSol clients tend to shift to the individual loans of other organizations as soon as they accumulate enough assets and reach income levels that meet the creditworthiness standards required for individual loans..

Differences in the guarantees required for loans appear to dominate distinctions in loan terms and conditions. Despite these differences in lending technology and guarantees required, however, all of these organizations adhere to basic principles that contribute to their success in outreach and sustainability. Joint liability seems to be appropriate for very poor people, but many group borrowers eventually outgrow this relationship. Despite some subsidy dependence, Caja Los Andes and FIE have shown, in turn, that it is possible to supply individual loans to poor people and still be profitable. Caja Los Andes appears to apply more strict lending criteria than the other four organizations. Trade-offs between loan size, interest rates, and guarantee requirements are evident and different combinations of terms and conditions attract different subsets of the clientele. These combinations result in some product differentiation in the overlapping market niches served by these organizations.

Most clients are quite satisfied with the services received. The lowest frequency of satisfied responses concerns loan sizes. Apparently many clients believe that they can effectively manage larger loans than they are now receiving. This is not a surprising conclusion because borrowers generally are more confident about their prospects than are their lenders, but the data also suggests that loan-size rationing is widespread. The liquidity constraints experienced by some of these organizations in 1995 may have slowed down loan size growth more than prudent lending would have dictated. At least in the urban areas, increasing competition in the microfinance field will force these organizations to continue improving the quality of their services for the benefit of their most creditworthy clients. Adjusting loan sizes to client demands appears to be an important factor in retaining some of the best clients.

Finally, all of these organizations are expanding the frontier of microfinance. They are demonstrating that microfinance lending is feasible and potentially profitable on a large scale for poor clients. They have shown that it is possible to develop lending technologies that reach a much poorer clientele than is typically reached by traditional collateral-based lenders. Importantly, through close relations with their clients, an adequate structure of compatible incentives, and an effective management of arrears, these organizations are able to achieve high rates of loan recovery and, so far, have avoided the serious loan delinquency and default problems that destroyed many specialized lending institutions in developing countries. This is a formidable achievement in a very poor country with a long history of bank credit delinquencies.

References

Adams, Dale W and María L. Canavesi (1992), "Rotating Savings and Credit Associations in Bolivia," in Dale W Adams and Delbert A. Fitchett (eds.), *Informal Finance in Low-Income Countries,* Boulder, Colorado: Westview Press, pp. 313-323.

Adams, Dale W and Gerald I. Nehman (1979), "Borrowing Costs and the Demand for Rural Credit," *The Journal of Development Studies*, Vol. 15 (January), pp. 165-176.

Berenbach, Shari and Diego Guzmán (1994), "The Solidarity Group Experience Worldwide," in María Otero and Elisabeth Rhyne (eds.), *The New World of Microenterprise Finance. Building Healthy Financial Institutions for the Poor*, West Hartford: Kumarian Press, pp. 119-139.

Besley, Timothy and Stephen Coate (1995), "Group Lending, Repayment Incentives, and Social Collateral," *Journal of Development Economies,* Vol. 46, (February), pp. 1-18.

Chaves, Rodrigo A. (1996), "Institutional Design: The Case of the *Bancomunales*," in Claudio Gonzalez-Vega, Ronulfo Jiménez, and Rodolfo E. Quirós (eds.), *Financing Rural Microenterprises: FINCA-Costa Rica*, San José: The Ohio State University, Academia de Centroamérica, and InterAmerican Foundation, pp. 217-256.

Christen, Robert Peck, Elisabeth Rhyne, Robert C. Vogel, and Cressida McKean (1995), "Maximizing the Outreach of Microenterprise Finance: An Analysis of Successful Microfinance Programs," USAID Program and Operations Assessment Report No. 10, Center for Development Information and Evaluation, Washington, D.C.: U.S. Agency for International Development.

Esguerra, Emmanuel F., and Richard L. Meyer (1992), "Collateral Substitutes in Rural Informal Financial Markets in the Philippines," in Dale W Adams and Delbert A. Fitchett, (eds.) *Informal Finance in Low-Income Countries,* Boulder, Colorado: Westview Press, pp. 149-164.

Gonzalez-Vega, Claudio (1994), "Stages in the Evolution of Thought on Rural Finance. A Vision from The Ohio State University," Economics and Sociology Occasional Paper No. 2134, Columbus, Ohio: The Ohio State University.

Gonzalez-Vega, Claudio (1996a), *Microfinanzas en El Salvador: Lecciones y Perspectivas,* San Salvador: Fundación Guillermo Manuel Ungo.

Gonzalez-Vega, Claudio (1996b), "El Reto de las Microfinanzas en América Latina: Guía de Acción," Caracas: Corporación Andina de Fomento.

Gonzalez-Vega, Claudio (1996c), "Non-Bank Financial Institutions and Financial Reform," in Alison Harwood and Bruce L.R. Smith (eds.), *Sequencing? Financial Sector Reform in Developing Countries,* Washington, D.C.: The Brookings Institute Press, forthcoming.

Gonzalez-Vega, Claudio and Marco A. González-Garita (1987), "Costos de Endeudamiento, Tasas de Interés y Distribución del Crédito en Costa Rica," in Dale W Adams, Claudio Gonzalez-Vega, and J.D. Von Pischke (eds.), *Crédito Agrícola y Desarrollo Rural. La Nueva Visión*, San José: Ohio State University, pp. 154-164.

Gonzalez-Vega, Claudio and Douglas H. Graham (1995), "State-Owned Agricultural Development Banks: Lessons and Opportunities for Microfinance," Economics and Sociology Occasional Paper No. 2245, Columbus, Ohio: The Ohio State University.

Gonzalez-Vega, Claudio, José Alfredo Guerrero, Archivaldo Vásquez, and Cameron Thraen (1992), "La Demanda por Servicios de Depósito en las Areas Rurales de la República Dominicana," in Claudio Gonzalez-Vega (ed.), *República Dominicana: Mercados Financieros Rurales y Movilización de Depósitos,* Santo Domingo: Ohio State University, pp.123-164.

Gonzalez-Vega, Claudio, Mark Schreiner, Richard L. Meyer, Jorge Rodríguez, and Sergio Navajas (1996), "BancoSol: The Challenge of Growth for Microfinance Organizations," in Hartmut Schneider (ed.), *Microfinance for the Poor?*, Paris: Organization for Economic Co-operation and Development, forthcoming.

Gonzalez-Vega, Claudio, Richard L. Meyer, Mark Schreiner, Jorge Rodríguez, and Sergio Navajas (1997),"Progress in Microfinance: Lessons from Bolivia," book manuscript forthcoming, Columbus, Ohio: The Ohio State University.

Hannig, Alfred *et al*. (1994), *Bancos Departamentales en Bolivia: Concepto, Mercado y Perspectivas*, La Paz: ILDIS.

Ladman, Jerry R. (1984), "Loan-Transactions Costs, Credit Rationing, and Market Structures: The Case of Bolivia," in Dale W Adams, Douglas H. Graham, and J.D. Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press, pp. 104-119.

Nagarajan, Geetha, Richard L. Meyer and Leroy J. Hushak (1995), "Segmentation in the Informal Credit Markets: The Case of the Philippines," *Agricultural Economics*, Vol. 12, No. 2 (August), pp. 171-181.

Navajas, Sergio, Richard L. Meyer, Claudio Gonzalez-Vega, Mark Schreiner, and Jorge Rodríguez-Meza (1996), "Poverty and Microfinance in Bolivia," Economics and Sociology Occasional Paper No. 2347, Columbus, Ohio: The Ohio State University.

Robinson, Marguerite (1992), “Rural Financial Intermediation: Lessons from Indonesia,” Cambridge, Mass.: Harvard Institute for International Development.

Rock, Rachel (1996), “Banco Solidario, S.A.: A Regulated Institution,” in María Otero and Rachel Rock (eds.), *From Margin to Mainstream: The Regulation and Supervision of Microfinance*, Monograph No. 11, Cambridge, Mass.: ACCION International, forthcoming.

Sanchez, Susana (1996), “Assortive Matching of Borrowers and Lenders: Evidence from Rural Mexico,” Unpublished Ph.D. dissertation, Columbus, Ohio: The Ohio State University.

Schmidt, Reinhart and Claus-Peter Zeitinger (1994), “The Efficiency of Credit-Granting NGOs in Latin America,” Frankfurt am Main: IPC.

Schmidt, Reinhart and Claus-Peter Zeitinger (1996), “Prospects, Problems and Potential of Credit-Granting NGOs,” *Journal of International Development*, Vol. 8, No. 2, pp. 241-258.

Stiglitz, Joseph E. (1990), “Peer Monitoring and Credit Markets,” *World Bank Economic Review*, Vol. 4, No. 3, pp. 351-366.

Stiglitz, Joseph E. and Andrew Weiss (1981), “Credit Rationing in Markets with Imperfect Information,” *American Economic Review*, Vol. 72 (December), pp. 912-927.

Trigo Loubiere, Jacques (1996), “Regulation and Supervision of Microfinance Institutions: The Bolivian Experience,” in María Otero and Rachel Rock (eds.), *From Margin to Mainstream: The Regulation and Supervision of Microfinance*, Monograph No. 11, Cambridge, Mass.: ACCION International, forthcoming.

Von Pischke, J.D. and Dale W Adams (1983), “Fungibility and the Design and Evaluation of Agricultural Credit Projects,” *American Journal of Agricultural Economics*, Vol. 62, No. 4 (November), pp. 719-726.

World Bank (1994), “How Legal Restrictions on Collateral Limit Access to Credit in Bolivia,” Report No. 13873-BO, World Bank, Washington, D.C.

Yaron, Jacob (1994), “What Makes Rural Financial Institutions Successful?” *The World Bank Research Observer*, Vol. 9, No. 1 (January), pp. 49-70.

ANNEX

Table 1. Bolivia: Sample of Microfinance Organization Clients, by Location. 1995.

Program/Location	Number of Branches[a]	Population of Clients[a]	Original Sample[b]	Number of Interviews[c]	Proportion of Population[d]
Caja Los Andes					
La Paz	3	6,179	92	86	1.4
El Alto	2	3,065	46	42	1.4
Total	5	9,244	138	128	1.4
BancoSol					
La Paz	7	19,475	175	175	0.9
El Alto[e]	4	10,540	84	64	0.6
Total[e]	11	30,015	259	239	0.8
FIE					
La Paz	2	3,382	61	59	1.7
El Alto	2	2,139	38	36	1.7
Total	4	5,521	99	95	1.7
PRODEM					
Altiplano	3	2,480	89	74	3.0
Sartawi					
El Alto	1	967	14	1	0.1
Altiplano	3	3,962	74	85	2.1
Total	4	4,929	88	86	1.7
Total	28	52,189	673	622	1.2

a Number of branches and of clients in the area of the study only.
b Number of clients selected for the sample, not taking into account replacements.
c Refers to client interviews only. See Table 2 for both client and loan officer interviews.
d Percentage of interviews completed to the branches' population of clients.
e A total of 96 clients from 5 branches in El Also were originally selected, but the Alto Lima branch had to be excluded because of a pilot project reorganization at this branch.

Table 2. Bolivia: Number of Observations in Survey of Clients of Microfinance Organizations. 1995.

Program	Both Client and Loan Officer Interview	Only Loan Officer Interview	Total
Caja Los Andes	128	13	141
BancoSol	239	20	259
FIE	95	20	115
PRODEM	74	5	79
Sartawi	86[a]	14	100
TOTAL	622	72	694

[a] One loan officer interview is missing.

Table 3. Bolivia: Characteristics of Clients in the Sample, 1995.

	Item	Andes	BancoSol	FIE	PRODEM	Sartawi
1.	Age (years):					
	Average	38	39	38	35	43
	Median	36	38	36	33	43
2.	Age (percent):					
	Less than 25 years	4	7	4	11	7
	25 to less than 35 years	33	27	34	43	21
	35 to less than 45 years	38	40	36	30	26
	45 years and older	25	26	26	16	47
3.	Women (percent)	62	78	44	32	27
4.	Client is head of household (percent):					
	Among all clients	52	42	72	74	79
	Among women clients	18	26	18	7	13
5.	Education level of the client (percent):					
	No schooling	6	8	1	14	14
	Up to grades 1 - 3	13	25	9	20	19
	Up to grades 4 - 8	40	33	30	41	40
	Up to grades 9 - 12	30	31	45	22	26
	Beyond grade 12	11	3	16	4	2
6.	Education level of the client (cumulative; percent):					
	No schooling	6	8	1	14	14
	Grade 3 or less	19	33	10	34	33
	Grade 8 or less	59	66	40	75	73
	Grade 12 or less	89	97	85	97	99
	Beyond grade 12 or less	100	100	100	100	100
7.	Education level of women (percent):					
	No schooling	9	11	2	26	26
	Grade 3 or less	16	28	15	38	35
	Grade 8 or less	41	34	27	33	26
	Grade 12 or less	28	26	41	4	13
	Beyond grade 12 or less	6	2	15	0	0
8.	Education level of men (percent):					
	No schooling	2	0	0	8	10
	Grade 3 or less	8	17	4	12	13
	Grade 8 or less	39	28	32	44	44
	Grade 12 or less	33	49	47	30	31
	Beyond grade 12 or less	18	6	17	6	3
9.	Household size (percent):					
	1 - 4 persons	25	22	32	24	21
	5 - 8 persons	67	69	63	72	65
	9 - 15 persons	8	9	5	4	14

Table 3. Bolivia: Characteristics of Clients in the Sample, 1995. (Cont.)

Item	Andes	BancoSol	FIE	PRODEM	Sartawi
10. Household members employed (percent):					
Only 1 person	0	1	3	0	0
2 persons	16	18	26	22	20
3 to 5 persons	79	78	71	77	69
6 and more persons	5	3	0	1	12
11. Household members employed (cumulative; percent):					
At least 1	100	100	100	100	100
At least 2	100	99	97	100	100
At least 3 to 5	84	81	71	78	81
At least 6 or more	5	3	0	1	12
12. Client is originally from this area (percent)	65	66	64	85	72
13. Average number of years lived by client in this area	24	22	19	17	25
14. Client owns land in rural areas (percent)	18	16	19	81	79

Table 4. Bolivia: Residence of Clients in the Sample, 1995.

Item	Andes	BancoSol	FIE	PRODEM	Sartawi
1. Type of dwelling (percent):					
Independent home	48	41	39	85	62
Apartment in building	8	8	17	0	0
Room in collective housing	42	49	43	14	34
Other	2	2	1	1	5
2. Average number of rooms per residence	1.95	1.75	2.05	1.62	1.94
3. Residence is (percent):					
Owned	58	49	51	88	84
Rented	11	21	12	1	2
Pawned (*anticrético*)	5	8	13	3	0
Used free of charge	25	22	25	8	14
4. Dwelling has (percent):					
Running water	91	84	92	43	47
Electricity	96	95	99	64	62
Sewer	76	57	74	8	6

Table 5. Bolivia: Client Occupation and Microenterprise Characteristics in the Sample, 1995.

	Item	Andes	BancoSol	FIE	PRODEM	Sartawi
1.	Principal occupation of client (percent):					
	Production (manufacturing or agriculture)	39	20	49	41	53
	Trade	49	63	33	50	28
	Services	12	17	18	9	19
2.	Principal occupation of women (percent):					
	Production (manufacturing or agriculture)	23	15	26	42	43
	Trade	67	72	57	58	57
	Services	10	13	17	0	0
3.	Principal occupation of men (percent):					
	Production (manufacturing or agriculture)	65	38	68	40	57
	Trade	20	32	13	46	17
	Services	14	30	19	14	25
4.	The borrower has multiple occupations (percent)	68	49	65	73	82
5.	Secondary occupation of client (percent):					
	Production (manufacturing or agriculture)	15	9	9	15	28
	Trade	41	20	45	43	48
	Services	13	19	11	15	13
	Does not have	32	51	35	27	12
6.	The client is a trader and the products marketed are (percent):					
	Own production	53	35	68	57	74
	Foreign goods	35	40	26	10	4
	Domestically-produced goods	71	78	55	61	64
7.	The business is separated from the household (percent):					
	Among all clients	47	44	52	32	34
	Among women clients	48	42	52	33	43
	Among men clients	45	49	51	32	30
8.	Type of accounting system used by client (percent):					
	Uses accountant	2	-[a]	4	0	0
	Simple income and expense records	47	37	54	16	24
	No written records	52	63	42	84	76
9.	Type of accounting system used by women (percent):					
	Uses accountant	1	0	7	0	0
	Simple income and expense records	47	34	55	17	22
	No written records	52	66	38	83	78

Table 5. Bolivia: Client Occupation and Microenterprise Characteristics in the Sample, 1995. (cont.)

	Andes	BancoSol	FIE	PRODEM	Sartawi
10. Average number of workers besides the borrower:[b]					
Permanent workers	2.4	2.3	2.6	1.0	1.3
Temporary workers	2.2	2.2	5.0	3.8	1.4
Relatives without explicit remuneration	1.4	1.4	1.4	1.3	2.2
11. Average number of workers besides the borrower:[c]					
Permanent workers	0.8	0.4	0.8	0.1	0.1
Temporary workers	0.6	0.3	0.6	0.6	0.4
Relatives without explicit remuneration	0.8	0.6	0.8	0.6	1.2
Total	2.1	1.2	2.2	1.3	1.7
12. Member of a union or association (percent)	43	48	43	39	54
13. Degree of formalization (percent):					
Pays federal taxes (RUC)	32	23	38	11	8
Pays municipal fees	63	72	67	59	39
Pays union dues	37	41	31	19	27
14. Monthly sales:[d]					
Average for all clients	2,720	1,059	2,252	787	n.a.
Median for all clients	1,735	646	1,240	419	n.a.
Average for women clients	2,251	1,046	2,159	671	n.a.
Median for women clients	1,363	634	1,114	332	n.a.
Average for men clients	3,506	1,098	2,325	850	n.a.
Median for men clients	2,393	820	1,323	514	n.a.
15. Monthly sales, by gender and occupation:[d]					
Women clients:					
Manufacturing or agriculture					
Trade	1,712	645	1,781	324	n.a.
Services	2,560	1,193	2,600	885	n.a.
Men clients:	1,027	799	1,083	n.a.	n.a.
Manufacturing or agriculture					
Trade	2,816	1,306	2,538	564	n.a.
Services	6,302	1,173	3,644	1,071	n.a.
	2,532	760	771	939	n.a.

(Cont.)

Table 5. Bolivia: Client Occupation and Microenterprise Characteristics in the Sample, 1995. (cont.)

	Andes	BancoSol	FIE	PRODEM	Sartawi
16. Monthly sales of women clients [d] (percent):					
Less than 200	0	21	0	38	n.a.
200 to less than 500	15	21	12	24	n.a.
500 to less than 1,000	21	31	27	19	n.a.
1,000 to less than 2,000	28	16	22	14	n.a.
2,000 and over	36	11	39	5	n.a.
17. Monthly sales of men clients [d] (percent):					
Less than 200	0	11	6	23	n.a.
200 to less than 500	5	23	21	26	n.a.
500 to less than 1,000	12	26	13	23	n.a.
1,000 to less than 2,000	26	23	35	18	n.a.
2,000 and over	58	17	25	10	n.a.
18. Monthly sales of women clients [d] (cumulative; percent):					
Less than 200	0	21	0	38	n.a.
200 to less than 500	15	42	12	62	n.a.
500 to less than 1,000	36	73	39	81	n.a.
1,000 to less than 2,000	64	89	61	95	n.a.
2,000 and over	100	100	100	100	n.a.
19. Monthly sales of men clients [d] (cumulative; percent):					
Less than 200	0	11	6	23	n.a.
200 to less than 500	5	34	27	49	n.a.
500 to less than 1,000	16	60	40	72	n.a.
1,000 to less than 2,000	42	83	75	90	n.a.
2,000 and over	100	100	100	100	n.a.

n.a. not available

a Less than one percent.

b Averages for those clients who actually hired permanent or temporary workers or who employed relatives in the enterprise only.

c Average for the whole sample of clients. Some clients had no workers employed.

d Figures in bolivianos converted into US dollars at the exchange rate as of December 1995.

Table 6. Bolivia: Characteristics of Microfinance Loans in the Sample, 1995.

	Feature	Andes	BancoSol	FIE	PRODEM	Sartawi
1.	Size of most recent loan:[a]					
	Average	1,053	602	1,224	301	228
	Median	525	350	572	223	215
2.	Size of loans received during 1995:[a]					
	Average	734	460	807	266	202
	Median	364	260	429	215	175
3.	Size of all loans received:[a]					
	Average	757	477	981	262	194
	Median	395	286	537	216	180
4.	Variability of most recent loan:[a]					
	Standard deviation	2,090	657	1,745	188	138
	Coefficient of variation	1.98	1.04	1.43	0.62	0.61
	Ratio of standard deviation to median	3.98	1.88	3.05	0.85	0.64
5.	Size of most recent loan[a] (percent):					
	Less than 150	15	14	4	18	14
	150 to less than 250	12	20	9	35	60
	250 to less than 500	23	29	25	35	22
	500 to less than 750	14	13	13	9	0
	750 to less than 1,000	10	6	12	0	2
	1,000 to less than 2,000	15	13	18	3	1
	2,000 and over	12	5	19	0	0
6.	Size of most recent loan[a] (cumulative; percent):					
	Less than 150	15	14	4	18	14
	150 to less than 250	27	34	14	53	74
	250 to less than 500	49	63	39	88	96
	500 to less than 750	63	76	52	97	96
	750 to less than 1,000	73	82	63	97	99
	1,000 to less than 2,000	88	95	81	100	100
	2,000 and over	100	100	100	100	100
7.	Size of initial loan[a] (percent):					
	Less than 150	41	78	22	54	88
	150 to less than 250	21	15	8	41	10
	250 to less than 500	21	4	28	3	2
	500 to less than 750	7	2	17	1	0
	750 to less than 1,000	1	0	5	0	0
	1,000 to less than 2,000	6	0	15	1	0
	2,000 and over	2	0	5	0	0
8.	Size of initial loan[a] (cumulative; percent):					
	Less than 150	41	78	22	54	88
	150 to less than 250	62	93	30	85	98
	250 to less than 500	83	97	57	97	100
	500 to less than 750	91	99	75	99	100
	750 to less than 1,000	92	100	80	99	100
	1,000 to less than 2,000	98	100	95	100	100
	2,000 and over	100	100	100	100	100

(Cont.)

Table 6. Bolivia: Characteristics of Microfinance Loans in the Sample, 1995. (Cont.)

	Feature	Andes	BancoSol	FIE	PRODEM	Sartawi
9.	Credit deepening ratio (percent):[b]					
	Average for all clients	43	166	91	98	n.a.
	Median for all clients	32	63	59	56	n.a.
	Average for women	45	180	61	95	n.a.
	Median for women	33	60	45	97	n.a.
	Average for men	38	118	115	100	n.a.
	Median for men	32	67	91	50	n.a.
10.	Credit deepening ratio (percent):[b]					
	Less than 20	29	16	14	18	n.a.
	20 to less than 40	39	15	18	23	n.a.
	40 to less than 60	11	17	18	13	n.a.
	60 to less than 80	10	8	8	7	n.a.
	80 to less than 100	5	8	12	2	n.a.
	100 to less than 200	5	20	20	15	n.a.
	200 and over	1	15	10	22	n.a.
11.	Credit deepening ratio (cumulative; percent):[b]					
	Less than 20	29	16	14	18	n.a.
	20 to less than 40	68	31	32	42	n.a.
	40 to less than 60	79	49	51	55	n.a.
	60 to less than 80	89	57	58	62	n.a.
	80 to less than 100	94	64	70	63	n.a.
	100 to less than 200	99	85	90	78	n.a.
	200 and over	100	100	100	100	n.a.
12.	Lending technology (percent):					
	Individual loans	100	n.a.	92	n.a.	18
	Group credit	n.a.	100	3	100	82
	Associations	n.a.	n.a.	5	n.a.	n.a.
13.	Average size of group (number of members)	n.a.	4	5	4	3
14.	Frequency of payment (percent):					
	Weekly	43	24	24	0	0
	Bi-weekly	48	28	11	3	0
	Monthly	10	48	64	97	100
15.	The loan was requested for (percent):					
	Trade	55	63	39	61	64
	Production (manufacturing)	35	23	55	13	7
	Services	9	14	5	8	0
	Agriculture	0	0	0	4	14
	Livestock	1	0	0	4	10
	Other	0	-[c]	1	10	3
16.	Arrears (average number of days):					
	Maximum for previous loans	8	2	10	3	6
	Maximum for present loan	4	1	5	3	3
	Total for present loan	6	1	8	3	4

(Cont.)

Table 6. Bolivia: Characteristics of Microfinance Loans in the Sample, 1995. (Cont.)

	Feature	Andes	BancoSol	FIE	PRODEM	Sartawi
17.	Type of guarantee (percent):[d]					
	None	0	0	2	0	0
	Personal (cosigner)	46	2	55	33	3
	Lien on consumer durables	91	1	24	0	2
	Lien on car	1	0	2	0	2
	Copy of title	9	1	16	1	0
	Original title	8	1	18	0	44
	Unregistered mortgage	8	0	0	0	0
	Registered mortgage	1	0	3	0	0
	Lien on livestock	1	1	3	0	5
	Joint liability group	n.a.	97	5	99	81
	Phone cooperative shares	4	1	4	1	0
	Other	-1	0	7	0	2
18.	Combinations of guarantees (percent):					
	0. None	0	0	2	0	0
	1. Personal (cosigner)	1	0	29	0	1
	2. Lien on consumer durable	38	0	5	0	0
	3. Lien on car	0	0	1	0	2
	4. Copy of title	0	0	9	0	0
	5. Original title	1	0	11	0	9
	6. Unregistered mortgage	0	0	0	0	0
	7. Registered mortgage	1	0	3	0	0
	8. Lien on livestock	0	1	0	0	0
	9. Joint liability group	n.a.	95	3	66	44
	10. Phone cooperative shares	0	1	3	1	0
	11. Other	0	0	2	0	2
	12= 1+2	29	0	11	0	0
	13= 1+2+4	3	0	3	0	0
	14 =2+4	5	0	2	0	0
	15= 1+9	0	2	0	33	0
	16=1+4	1	0	3	1	0
	17=2+4+5	1	-[a]	0	0	0
	18=1+2+5	3	0	1	0	0
	19=2+6	4	0	0	0	0
	20=1+2+6	4	0	0	0	0
	21=1+3+5	1	0	1	0	0
	22=2+10	4	0	1	0	0
	23=1+10	1	0	1	0	0
	24=1+11	0	0	4	0	0
	25=5+11	0	0	1	0	0
	26=1+5	2	0	3	0	0
	27=2+5	0	-[a]	2	0	0
	28=8+9	0	0	3	0	3
	29=1+2+8	1	0	0	0	2
	30=4+9	0	-[a]	0	0	0
	31=5+9	0	0	0	0	35

n.a. Not applicable
a Values in December, 1995 US dollars.
b Ratio of current loan to value of sales x 100.
c Less than one percent.
d Number of observations of each guarantee type, either singly or in combination with other guarantees.

Table 7. Bolivia: Financial Activities of the Clients in the Sample, 1995.

Item	Andes	BancoSol	FIE	PRODEM	Sartawi
1. Financial assets held (percent):					
Checking account	6	10	4	0	0
Credit card	2	5	3	0	1
Bank savings account	13	37	10	1	4
Deposits in savings and loan association	9	5	7	1	2
Deposits in cooperative	4	3	3	0	4
Pasanakus (ROSCAs)	20	32	22	18	8
Women	28	39	29	25	18
Men	8	11	17	14	5
2. Reserves for emergencies (percent):					
Cash in residence	53	43	42	69	62
Livestock	1	2	1	49	40
Jewelry	6	4	2	0	0
Deposits in a financial institution	15	43	12	1	2
Lending with interest	2	-[a]	1	3	0
Loans to relatives	2	2	3	3	1
Pasanakus (ROSCAs)	18	32	22	16	8
3. Main form of savings (percent):					
Cash in residence	46	31	39	37	45
Livestock	1	1	0	30	36
Inventories and other goods	31	22	35	25	9
Jewelry	1	2	1	0	0
Deposits	12	26	13	1	1
Lending with interest	1	0	1	1	0
Loans to relatives	0	0	1	3	1
Pasanakus (ROSCAs)	8	18	9	3	8
4. Preferred currency of those with savings (percent):					
Bolivianos	38	30	26	51	56
US dollars	62	70	74	49	44
5. If given a chance to save, preferred currency (percent):					
Bolivianos	41	39	28	52	60
US dollars	59	61	72	48	40
6. If organizations offered deposit facilities, would use them (percent):					
Yes	73	75	68	73	74
No	20	17	21	15	19
Does not know	7	8	11	11	7

(Cont.)

Table 7. Bolivia: Financial Activities of the Clients in the Sample, 1995. (cont.)

	Andes	BancoSol	FIE	PRODEM	Sartawi
7. At about the time of the first loan with this organization, it had loans from (percent):					
Banks[b]					
Cooperatives	0.8	2.1	1.1	0.0	1.2
Savings and loan associations	0.0	2.1	3.2	0.0	2.3
PROCREDITO (Andes)	0.0	1.7	1.1	0.0	0.0
BancoSol	n.a.	0.8	4.2	0.0	1.2
FIE	17.2	n.a.	7.4	2.7	0.0
PRODEM	4.7	1.3	n.a.	0.0	0.0
Sartawi	3.1	1.7	4.2	n.a.	0.0
Other NGOs	0.0	0.0	0.0	2.7	n.a.
Moneylenders	7.7	4.0	4.8	19.2	18.2
Relatives	7.8	10.0	10.5	5.4	3.5
Friends	26.6	29.7	22.1	52.7	53.5
Pasanakus	8.6	8.8	3.2	33.8	22.1
	18.0	35.2	27.4	12.2	8.1
8. During 1995 the client also had loans from (percent):					
Banks[b]	0.0	0.4	3.2	0.0	0.0
Cooperatives	0.0	0.4	0.0	1.4	1.2
Savings and loan associations	1.6	0.0	1.1	0.0	1.2
Caja Los Andes	n.a.	4.7	1.1	0.0	0.0
BancoSol	9.4	n.a.	2.1	0.0	2.1
FIE	2.3	1.7	n.a.	0.0	1.2
PRODEM	0.0	0.0	0.0	n.a.	1.2
Sartawi	0.0	0.0	0.0	1.4	n.a.
Other NGOs	1.6	0.9	1.2	8.1	1.2
Moneylenders	2.3	1.3	5.3	2.7	1.2
Relatives	14.9	13.4	14.7	37.8	34.9
Friends	2.3	7.5	4.2	16.2	7.0
Pasanakus	10.2	22.2	13.7	13.5	0.0

n.a. Not applicable

a Less than 1 percent.

b Does not include BancoSol.

Table 8. Bolivia: Proximity to Banks and Microfinance Organizations, 1995.

		Andes	BancoSol	FIE	PRODEM	Sartawi
1.	Client knows a bank close to (percent):					
	business	39	31	45	11	7
	residence	13	13	29	14	6
2.	Mode of travel to the microfinance organization (percent):					
	On foot	31	41	42	34	14
	Public transportation	69	59	55	62	83
	Other	0	-[a]	3	4	3
3.	What microfinance organization is close to the business (percent):					
	Caja Los Andes	55	12	23	0	0
	BancoSol	48	58	51	1	3
	FIE	23	10	46	1	1
	PRODEM	4	5	5	55	9
	Sartawi	2	-[a]	4	19	38
4.	What microfinance organization is close to the residence (percent):					
	Caja Los Andes	27	5	13	1	1
	BancoSol	29	27	28	1	2
	FIE	13	4	27	1	1
	PRODEM	2	1	1	46	7
	Sartawi	0	0	2	19	24

a Less than 1 percent.

Table 9. Bolivia: Attitudes of Microfinance Clients in the Sample, 1995.

	Andes	BancoSol	FIE	PRODEM	Sartawi
1. How the client knew about the program (percent):					
Through a loan officer	11	5	8	11	13
From friends and relatives, other clients	78	92	79	85	78
Written ads	9	3	4	1	3
Radio or t.v.	1	4	3	0	2
Posters	8	1	2	7	6
None of the three media above	80	92	88	92	88
Other	2	0	2	0	0
2. Clients are attracted because (percent):					
Can borrow more	47	48	44	86	50
Terms to maturity are longer	24	13	31	4	16
Interest rate is lower	36	28	56	15	38
Can obtain individual rather than group loans	59	0	38	0	8
Can obtain group rather than individual loans	0	39	0	11	17
Less red tape	30	33	32	31	38
Timeliness of loan	24	15	15	4	14
Proximity	18	13	13	9	13
Simple guarantee requirements	49	65	32	49	53
Training courses	2	5	24	0	0
Assistance with marketing	10	6	9	1	3
3. Clients are generally satisfied with (percent):					
General relationship	85	91	81	99	94
Guarantee requirements	88	94	79	97	91
Loan size	34	54	48	53	31
Term to maturity	66	69	71	72	69
Interest rate	74	55	75	61	50