



**Assessing the Impact of
Microenterprise Services (AIMS)**

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**THE IMPACTS OF MICROCREDIT:
A CASE STUDY FROM PERU**

Executive Summary

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In the past several years, there has been increasing interest in the use of microcredit as a tool for improving the lives of the poor. The idea is simple: support the business enterprises of the world's small-scale, low-income entrepreneurs by providing them with access to reliable credit on reasonable terms. The appeal of microcredit cuts across the political spectrum, since it combines the values of hard work, self-help, free markets, and improving the economic conditions of the poor. There are now thousands of programs offering microfinance services to entrepreneurs in both developing and developed countries.

The growth of the microfinance industry has been accompanied by questions about the impacts of microfinance. Do microfinance services make a difference in the lives of the clients? Do microfinance programs reach the poor? Is donor money for microfinance well spent? In this paper, we report the findings of an impact evaluation conducted between 1996 and 2000 with Acción Comunitaria of Peru (ACP), which later became Mibanco. This impact evaluation was part of USAID's Assessing the Impact of Microenterprise Services (AIMS) Project.

The Climate for Microenterprise in Lima, Peru

Over the last decades, Peru's economy has experienced major crises and undergone structural adjustments, resulting in profound impacts on Lima's population. Both as a result of and in spite of this difficult environment, microenterprises have become an important alternative to scarce, low-paying formal sector employment and play a central role in generating income for many of Lima's households. These enterprises, which are often informal in a legal sense and generally employ only a single entrepreneur or an entrepreneur and one or two unpaid family members, provide a substantial percentage of Lima's overall employment and have helped households not only to survive, but also to accumulate assets and improve their economic circumstances.

Between 1997 and 1999, entrepreneurs in Lima faced recessionary conditions as the Peruvian economy suffered several severe shocks. These shocks stemmed from the El Niño phenomenon and several financial crises around the world. These conditions combined to create an extended period of economic contraction and low internal demand, which translated into low sales and low profits in the microenterprise sector.

Design of the Impact Evaluation

The evaluation was based on a conceptual model of the household economic portfolio that led to impact hypotheses at the enterprise, household, and individual levels. The conceptual model resolved the problem of fungibility by using the household as the unit of analysis and evaluating a full range of potentially significant changes in clients' welfare. The research design was based on a mixed method approach, combining survey and case study data. The survey (quantitative) data provided information on the direction and magnitude of impacts, while the case study (qualitative) data helped to explain the processes by which any changes occurred.

The sample design for the survey was quasi-experimental, including both clients of ACP/Mibanco and a comparison group of non-clients with similar characteristics. A two-stage

sampling approach was followed, with representative geographical areas selected in the first stage, and random sampling of clients and non-clients in the second stage. The 1997 baseline survey included 701 respondent households, with the 1999 survey resulting in a longitudinal sample of 529 households: 1) 305 client households in the *treatment group*; 2) 175 non-client households in the *control group*; 3) 38 households in the *new entrant group* (who had received a first ACP/Mibanco loan between the two survey rounds); and 4) 11 client households who participated in the case study research.

Several statistical methods were used to analyze the survey data. The techniques for exploring differences between groups and changes in the impact variables between 1997 and 1999 included t-tests, chi-square tests, ANOVA, and gain score analysis. The impact hypotheses were tested using analysis of covariance (ANCOVA). In effect, the ANCOVA procedure statistically “matches” observations in the treatment and control groups that have the same 1997 values for the impact variable and a range of moderating variables, such as gender and enterprise sector, which might also be related to changes in the impact variable. The procedure then compares the matched observations in terms of the 1999 values for the impact variable to determine whether there are any consistent differences between the treatment and control groups. For example, the ANCOVA estimate of the impact of microcredit on enterprise revenue controlled for 1997 differences between the treatment and control group enterprises in terms of 1997 enterprise revenue, enterprise sector, location, ownership status, and gender of the entrepreneur. If, given a similar starting point on all of these variables, the treatment group enterprises consistently had higher revenue in 1999, this would suggest that microcredit may have had a positive impact on microenterprise revenue.

The case study households were interviewed intensively in 1998 and again in 1999 based on a set of research propositions about the ways that program services contribute to changes in the impact variables. The research protocol was designed to reconstruct the chain of events leading to those changes. By tracing the sequence of events leading from program participation to the impacts measured in the survey data, the case study results complement and strengthen the survey results and help to improve the case for attribution.

Households, Their Enterprises, and Credit

All of the households in the sample lived in metropolitan Lima and had at least one microenterprise. The majority of respondents were female (61 percent) and married (80 percent). The average age of the respondents was 42 years old. Respondents’ households had an average of five members, of whom three were economically active. The majority of households (81 percent) had minor children living at home, nearly all of whom were enrolled in school (98 percent). Households reported an average of three income sources, from which they earned an average household income of US\$7,815 in 1997. Microenterprises generated 65 percent of total household income. About one-third of the households in the sample were considered poor by national standards in 1997.

The 518 households in the final sample for the longitudinal study owned 759 enterprises, which generally fit the official definition for a microenterprise in Peru. The majority of the enterprises

in the sample (63 percent) were commercial-sector enterprises, and over half were based in the respondent's home. In addition to the entrepreneur, one or more members of the entrepreneur's household might also work in the enterprise. In the households' primary enterprises, which were defined as the enterprises that received the ACP/Mibanco credit or the corresponding enterprises among the control group respondents, an average of 2.2 people were employed, a number which included the entrepreneur.

During the study period, ACP/Mibanco offered only one product: microenterprise loans that were relatively short and easily renewable. This microcredit was extended both to individual borrowers and to members of solidarity groups. In 1997, average loan size was US\$586 and loans averaged 3.4 months in length. Frequent payments were the norm, with loan installments due either weekly or biweekly for over 80 percent of clients. The size of the ACP/Mibanco loan in 1997 was about one-third the amount of household income received over a comparable period. Entrepreneurs had several alternative sources of microenterprise credit, including supplier credit, ROSCAs, moneylenders, commercial banks, and NGOs, although respondents in the non-client group were screened to have not received bank or program microenterprise credit prior to the 1997 baseline survey. The survey and case study results indicated that households relied heavily on microenterprise loans and other types of formal and informal loans as part of their financial management strategies.

Impacts of Microcredit on Microenterprises

Within the context of the recessionary economy between 1997 and 1999, the results of the impact analysis indicate that microcredit may have had positive impacts on microenterprises, including positive impacts on enterprise revenue, fixed assets, employment, transaction relationships, and formalization. In some cases, the impact was to increase the levels of these enterprise performance variables. In other cases, microcredit served to insulate the enterprises from the poor economic climate so that drops in these variables were not as large for clients' enterprises as they were for non-clients' enterprises.

Microenterprise Revenue. Microcredit appears to have had positive impacts on microenterprise revenue in both the treatment and new entrant groups. In monetary terms, treatment group households were estimated to have earned over US\$1,000 more than control group households in combined annual microenterprise net revenue (profits) from all enterprises associated with the household. In addition, combined enterprise net revenue was estimated to have increased US\$740 more per year for new entrant households than for control group households.

The implication of these findings is that both old and new borrowers may be exploiting the fungibility of microcredit to increase combined profits from all microenterprises in their household economic portfolios. The data from the case study research indicate that the likely path by which these impacts occur is through an increase in enterprise working capital, so that entrepreneurs can buy more inventory, secure lower input prices, and increase sales and profits.

Enterprise Fixed Assets. Microcredit also appeared to have positive impacts on fixed asset accumulation in the primary enterprises of treatment group households. There was no evidence of this impact for the new entrant group, perhaps because the microcredit impacts on asset accumulation take time to occur. The results suggest that primary enterprises in the treatment group accumulated US\$500 more in enterprise fixed assets than did enterprises in the control group. As might be expected, the accumulation of fixed assets was more rapid in the industrial sector than the commercial or service sectors.

Enterprise Employment. Microcredit appeared to have a positive impact on enterprise employment for all four of the variables used to measure the amount of time employed. If all of the microenterprises associated with the households are considered, the results of the impact analysis indicate that those households receiving microcredit provided about nine more days of total employment per month and 3.25 more days of paid employment per month (for non-household members) than households not receiving microcredit.

The positive impact of microcredit on employment is relevant to macroeconomic policy in Peru, since microenterprises employ a significant proportion of the labor force. Nine days of extra employment per month spread across all the enterprises associated with an individual household may not seem large. However, if this estimate is extrapolated to the approximately 40,000 clients that ACP/Mibanco had at the end of 1999, the magnitude of the impact is striking: over 4.3 million workdays per year, or the equivalent of 17,414 full-time jobs, of which 6,259 are paid positions for non-household members. This translates into one full-time job for every 2.3 loans outstanding at the time.

Transaction Relationships. Microcredit appeared to have positive impacts on two types of transaction relationships. First, there was evidence that microcredit helped commercial entrepreneurs buy inputs in more advantageous ways; client enterprises were estimated to be about nine percent more likely than their control group counterparts to have changed their main source of suppliers from retailers to wholesalers. The case study informants explained that microcredit made it possible for them to save money by buying inputs in bulk at lower prices.

Microcredit also appeared to help entrepreneurs gain ownership of their business premises. This is considered a positive impact because, if a premise is owned, the entrepreneur may have more incentive to improve it, does not have to spend revenue on rent, and does not have to fear eviction. Entrepreneurs using microcredit gained ownership of their business premises at a rate estimated to be nine percent higher than those in the control group with comparable businesses.

Formalization. Despite increased government pressure on entrepreneurs to formalize their enterprises, there was little change between 1997 and 1999 in the percentage of enterprises that were licensed with the municipality or registered with the tax authority. Nevertheless, microcredit appeared to have a positive impact on municipal licensing. Among enterprises with similar characteristics in 1997, treatment group enterprises were estimated to have increased their level of municipal licensing by four percent, compared to a nine percent decline for the control group. Even though case study informants reported increasing pressures to register with the tax authority, the statistical results did not indicate any impact of microcredit on this variable.

Impacts of Microcredit on Households

The difficult economic conditions between 1997 and 1999 also affected respondent households, resulting in significant reductions in many welfare variables. While household income and diversification of income held steady, there were reductions in expenditures on housing improvements, household appliances, and food and beverages. Not all expenditures fell, however. Households reported significantly higher investments in education and in enterprise fixed assets in 1999. Households also reported a higher incidence of financial shocks, and turned more frequently to coping strategies that adversely affected their productive assets.

Household Income. Microcredit appeared to have positive impacts on household income. Given the same 1997 income level, treatment group households were estimated to have US\$1,200 more in 1999 annual income and US\$266 more in per capita income (both in real terms) than comparable control group households. Put in context, a US\$266 increase in per capita income represents more than 20 percent of the average per capita income for the sample. These impacts on income can probably be attributed to growth in enterprise revenue, which would indicate that microcredit-driven changes in enterprises result in improvements in household welfare.

Income Diversification. Among poor households, those who received microcredit appear to have been better able to maintain their levels of income diversification than poor households without microcredit, who became less diversified over the study period. This is consistent with the idea that poor households manage risk by having several sources of income, so that some income will be earned, even when one income source fails. For the non-poor, however, the findings indicate that microcredit had the impact of reducing income diversification among new entrants: non-poor households who were new borrowers maintained their original levels of diversification while similar control group households became more diversified over the study period. These results should be interpreted within the context of the recession. The treatment group poor were better able to maintain their desired higher levels of diversification than the control group poor, while the non-poor in the new entrant group were better able to maintain their desired lower levels of diversification (i.e. to maintain greater specialization).

Household Assets. Spending on housing improvements and household appliances declined sharply between 1997 and 1999 for all groups, and there was no evidence that microcredit had an impact on these variables. The spending reductions were probably related to the downturn in the economy. During difficult economic times, households may delay the acquisition of any non-essential items. Purchases of small and large appliances for personal use serve primarily to increase living standards. Housing expenditures, on the other hand, represent a multipurpose investment, and can provide improved quality of life, enhanced microenterprise income, auxiliary rental income, and even retirement income. While the case study data indicate that credit plays an important role in facilitating housing investments, the growing availability of home improvement loan products may imply little additionality from microenterprise credit.

Spending on Education. There were large and significant increases in education expenditures for both the treatment and control groups between 1997 and 1999, but there were no measurable impacts of microcredit. In fact, the results suggest that microcredit may have had a negative impact on education spending among new borrowers. New entrants were estimated to spend

US\$59 less per student in 1999 than comparable households in the control group. New entrant households may have reduced investments in education to focus their resources on improving their businesses and adjusting to the exigent demands of credit repayment. The combined results indicate that this negative impact may be temporary, because there was no evidence of negative impacts on the treatment group, who had taken their first loans at least two years before 1999.

Spending on Food. Between 1997 and 1999, non-poor households reduced their per capita daily food expenditures, probably by cutting back on higher priced food items. By contrast, the poor households in the treatment group increased their expenditures on food. In fact, there was weak evidence that microcredit may have had a positive impact on food expenditures for poor households, estimated at US\$0.10 per person per day.

Coping with Shocks. There were more shocks reported for 1997-1999 than for 1995-1997. Although it was uncommon for households to cope with shocks by liquidating productive assets, the evidence suggested that households who received microcredit were more likely to cope with shocks in this way. The magnitude of this negative impact was even higher for the poor in the treatment group. With already low income levels, the poor have fewer options for coping with a shock while continuing to make payments on a loan. The results from the case studies support these findings, suggesting that the pressure to make loan payments can turn what might ordinarily be a minor problem into a major financial crisis.

Intergenerational Launching. Some parents with microenterprises seek to “launch” their children into entrepreneurial occupations by helping them to start their own microenterprises. The results of a probit analysis suggest that microcredit may have a positive impact on intergenerational launching, in that households in the treatment group were 62 percent more likely to report a launch on one or both of the surveys than households in the control group.

Impacts of Microcredit on Individuals

The use of credit may result in both positive and negative impacts on individual borrowers. Positive impacts seem to be limited to increased feelings of preparedness for the future. There was some evidence that microcredit may have had negative impacts on client self-esteem, which may stem from stress relating to the pressure to repay loans. Also important from a policy perspective are the findings related to gender. Specifically, female entrepreneurs tend to exercise more control over household and enterprise resources and also appear to save more consistently than male entrepreneurs.

Control over Household and Enterprise Resources. There was no evidence that microcredit had an impact on intrahousehold control over resource-related decision making. This may be because all groups showed similar increases in cooperative decision making. Females were more likely to exercise exclusive control over resources than were males, probably because females were more likely to work in their enterprises alone. While it is generally believed that women around the world exercise less influence over the allocation of household and enterprise resources than their husbands, the results of this study indicate that the female entrepreneurs in the sample are significantly *more* likely to have control over decisions related to loans and

enterprise revenue than their male counterparts. Although this finding is probably related to cultural factors unique to the region, it is important because it challenges conventional wisdom.

Self-Esteem and Respect from Others. There was some evidence that microcredit may have had a negative impact on the way that treatment group respondents felt about the importance of their economic contributions to their households. These findings must be interpreted with caution, however, due to their marginal statistical significance and to the weakness of the measures used in the survey. The case study evidence supports the finding, however, indicating that the pressures to make timely payments on loans can cause a strain on household relationships and result in lower levels of self-esteem among borrowers.

Personal Savings. There was no evidence that microcredit had an impact on personal savings. Over the study period, the incidence of savings declined significantly for the sample as a whole, which may be related to the economic recession. Interestingly, the incidence of savings for males dropped over the study period while the incidence for females remained constant. Men's savings behavior appears to be more sensitive to economic conditions than does the savings behavior for women. The case study results indicated that entrepreneurs in the commercial sector would prefer to place their liquidity in inventory rather than savings accounts.

Attitudes and Orientation Toward the Future. Microcredit may have had a positive impact on attitudes toward the future; treatment group respondents were estimated to be eight percent more likely than non-clients to report feelings of preparedness. For the new entrant group, who were estimated to be 20 percent more likely to report confidence about the future, credit appeared to provide an almost unrealistic confidence boost, given the economic climate. This apparent spike in feelings of preparedness is in stark contrast to the sharp drops in confidence levels for the control group over the same period. Although the results indicate that increases for the new entrant group were microcredit impacts, it is also possible that new entrants simply had better business opportunities, which led to brighter outlooks and a greater willingness to take loans.

Summary and Implications of Findings

Microcredit appears to have both positive and negative impacts on enterprises, households, and individuals. The evidence suggests that by including these relatively small loans into their financial management practices, clients can consistently improve enterprise performance and increase household welfare. The positive impacts of microcredit appear to extend to the poor as well, although poor clients were more likely to turn to asset-reducing coping strategies than their non-client counterparts. The results of a separate analysis indicated that for several key variables—including enterprise revenue, enterprise fixed assets, business premise ownership, business licensing, intergenerational launching, and household income—increased time in the microcredit program was associated with better outcomes on these variables.

Limitations and Contributions of the Study. The study findings should be interpreted cautiously. The results have the greatest relevance within the context of short-term, “minimalist” microenterprise credit. Some of the methodological limitations include possible selection bias, lack of pre-treatment measures, weaknesses in some impact indicators, and no measure of

displacement effects. Despite these real limitations, the study represents a serious and comprehensive analysis of the impacts of microcredit and makes several contributions to the field of impact evaluation in microfinance by addressing the problems of fungibility and attribution. The study generates estimates of the directions and magnitudes of several of the economic impacts associated with microcredit, results that are appropriate for assessing the relative costs and benefits of using microcredit to achieve social development objectives.

Implications for Microfinance Organizations. The findings refute common industry assumptions that borrowers engage in long-term relationships with microfinance organizations and seek ever-increasing loan amounts over time. Only about 40 percent of the original client sample had a current loan in 1999, and they adjusted their loan requests in response to changing circumstances. Microfinance organizations could increase their responsiveness to microentrepreneurs by offering mid-cycle loans to commercial-sector entrepreneurs, longer term loans to industrial-sector enterprises, larger loans to the most profitable entrepreneurs, and non-financial assistance in navigating the difficult business tax system. In addition, microfinance organizations could offer products and services not directly related to microenterprises, such as credit and savings programs related to education and housing improvements. The study findings reinforce the notion that microenterprise development loans are only one subset of microfinance.

Policy Implications. A central policy conclusion from the study is that low-income households that have sound financial management practices can benefit from a well-developed microfinance industry. A microfinance industry that provides a full range of services for small transactions may increase the financial options enough to provide the critical boost that low-income households need to achieve their goals. The specific microcredit product evaluated in this study, with its short length and frequent payments, appears to be most appropriate for owners of commercial microenterprises, where inventory turnover provides a steady cash flow.

In contrast to the global stereotype, female entrepreneurs in Lima enjoy freedom of movement and a significant role in household decision making. The close affiliation between women and the commercial sector may help to explain why the majority of ACP/Mibanco clients are women and why the organization continued to attract and retain more female clients than males. The central role that female entrepreneurs appear to play in the economic resurgence of Lima's popular and marginal areas led one ACP/Mibanco credit agent to remark that "the women are rebuilding Peru."

In closing, the findings indicate that microcredit, by enhancing the income that households receive from their microenterprises, has an important positive impact on the general welfare of households. While the clients of ACP/Mibanco are not the "poorest of the poor," most have incomes near the poverty line. Taken as a whole, the results suggest that households receiving microcredit are better off than their non-client counterparts, and that some of these benefits can be attributed to their participation in the microcredit program.