Evaluating Impacts of Microfinance Institutions Using Guatemalan Data*

By James C. Brau Finance Department, Marriott School, Brigham Young University, Provo, UT 84602; Shon Hiatt, Cornell University, 386 Ives Hall, Ithaca, NY 17853; Warner Woodworth, Marriott School, BYU, Provo, UT 84602

Abstract

Using a dataset of 393 clients of Guatemalan microfinance institutions (MFIs), we study microfinance impact from two dimensions. We measure impact along 1) financial and 2) social dimensions by surveying new clients, current clients, and graduated clients of five MFIs in Guatemala. Applying univariate and multivariate analyses, we show that for Guatemala, MFIs do produce a measure of improvement in the lives of microfinance clients. This improvement is concentrated along the social dimensions of housing, health, and client empowerment.

Key Words

Microfinance, nongovernmental organization, social dimensions, financial dimensions, client impacts

Introduction and Motivation

Microfinance is a strategy that consists of developing technical assistance centers by microfinance institutions (MFIs) that aid poor microentrepreneurs, often with training and consulting, to create self-employment and income-generating activities. They bootstrap themselves, essentially creating their own jobs. Most of this type of work requires one's own sweat and equity, perhaps including that of one's family. It is a bottom-up method for building an income and becoming self-reliant, enjoying considerable success in certain countries as a new, innovative path to earning a living and caring for one's own. Often, training (by the MFI) is provided, along with access to capital (microcredit) so that the small entrepreneur is able to acquire raw materials, equipment, or whatever else is needed in order to grow the business.

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Microcredit may be classified as small-scale loans of $30 to $100 that are accessible to the very poor, primarily in the Third World. With even a small amount of such capital, micro - enterprises may be started, or perhaps expanded. In the mid 1990s, the World Bank conducted an analysis of microfinance schemes, finding that there were in excess of nine hundred institutions in 101 nations that offer microcredit to the poor (Paxton, 1995). The organizations studied had been in existence at least three years and each had over a thousand clients. They included banks, credit unions and numerous Nongovernmental Organizations (NGOs). Today there are perhaps thousands more of newer, smaller such programs not included in the bank's analysis. But a sample of 206 of the 900 institutions studied in 1995 enjoyed an aggregate loan portfolio of almost $7 billion, totaling over 14 million small loans to poor people and their tiny enterprises. Approximately 53 percent of loan recipients resided in rural regions around the globe (Paxton, 1995). By extending microfinance capital to the poorest of the poor, millions of new jobs have been created among those languishing in extreme circumstances, thereby empowering individuals and families to gain a greater degree of control over their destinies in the move toward sustainability. For a detailed review of the existing academic microfinance literature, see Brau and Woller (2004).

Determining the Impact of Microfinance

As the microlending movement grows toward becoming an international management phenomenon, an important question has to do with whether or not such a strategy really impacts poverty. Does it improve financial and social well-being? What MFI characteristics are more effective? In the past several years, a number of large donors have begun to ask such questions. Poverty assessment tools are becoming ever more important since the recent passing of legislation in both the U.S. House and Senate during 2003. The amended Microenterprise for Self-Reliance Act (H.R. 4073, 192; P.L. 106-309, 108-31) requires all MFIs that wish to obtain USAID funding demonstrate that more than 50 percent of all their assistance goes to the poorest of the poor (U.S. Senate, 2003). The bill H.R. 192 requires USAID to certify two low-cost poverty assessment techniques to be used by MFIs by October 1, 2004. It also demands all organizations applying for governmental microlending funds to have at least one poverty assessment technique certified by October 1, 2005 (GOP, 2003). One can only foresee a spill-over effect to other large donor agencies as they catch on to the fact that the microfinance impact evaluation requirement is good way to ensure effective use of donations. Hence, poverty assessment tools that can indicate clientele economic status and progress are becoming a vital asset for obtaining future funding.

Dimensions, Measures, and Tests

In evaluating the impact of microfinance, a question arises: What are the socio-economic dimensions that can be used to assess the impact of microfinance on the lives of clients? A number of measures have been used by the World Bank, the United Nations, the Consultative Group to Assist the Poorest (CGAP) and other agencies to measure the economic and social well-being of participants. Some socio-economic dimension measures include food availability, family health access, children's access to education, housing, women's empowerment, and women's social capital status (Littlefield et al., 2003; UNICEF, 2003); economic dimensions include the daily per capita income (DPCI) and the daily per capita expenditure (DPCE).

A survey instrument can be created to measure the aforementioned socio-economic dimensions by assigning the microfinance participant's potential answers to an ordinal-based scale. This survey instrument can then be evaluated to reliably assess the impact of microfinance by asserting that if microcredit programs had a positive impact, an improvement should be observable in social and economic measures of well-being as microfinance clients progressed from new to current to graduated client status. In addition, survey responses can be examined based upon entrepreneur and MFI characteristics to determine success factors. This paper's research team developed and pre-tested such an instrument in 2002 in Mexico and Ecuador and then revamped it for 2003 in Guatemala. The data collected for this paper comes from the enhanced survey instrument used in 2003.

Current Assessments

There are a number of recent developments by various universities, research centers, and institutions that focus on questions about the impacts of microfinance. As of yet, there is no identifiable list of best practices, because this field of research is relatively new. But several key organizations have been designing and conducting research and synthesizing the findings of others. Some of these institutions include CGAP (2003); the Institute of Development Studies at Sussex University, U.K. (IDS, 2004); the Overseas Development Institute (Maxwell, 1999); Enterprise Impact (Mayoux, 2001); and FINCA International (Hatch, 2002).

The Guatemalan Context

The research team chose Guatemala as a site for a case study because it is one of the poorest countries in the Western Hemisphere, and it already has a significant number of MFIs providing microcredit to the poor. Some 75 percent of the population lives below the official poverty line, and the majority are of indigenous groups (World Book, 2003a). Hence, the country is ripe for financial services to populations in poverty. The most typical service provided is that of loans provided by microfinance institutions, amounts usually consisting of a few hundred dollars to start a tiny enterprise in the informal economy. According to Herrera (2003), most Guatemalan NGOs "charge high interest rates (as high as 36 percent)…. But in spite of these restrictions, MFIs are popular because applications are easy, funds are provided quickly, no collateral is required, and some provide technical assistance" (Herrera, 2003: 56).

These NGOs help microentrepreneurs develop proposed business start-ups that are quite viable. The bulk of these financial services are targeted to poor women. Why target women? The general rationale is that females have fewer jobs in the formal economy, are paid lower than males, and that they make "better" clients for microlending because they use the money for what it is intended. They also tend to pay the bank back in full and on time (Woodworth, 1997).

A Food and Agriculture Organization study (Herrera, 2003) found that microentrepreneurs in Guatemala enjoy MFI services because these NGOs are more likely to take risks with poor clients, and they occasionally forgive the borrower's debts. Often they have a high degree of "word of mouth" popularity and considerable loyalty as well.

However, as poor Guatemalan clients begin to succeed through microenterprise growth, they usually exceed the need for small loans and simple services of NGOs. This enables them to move up, or "graduate," from tiny loans obtained through an NGO to larger amounts from regular banks. Several types of such services exist to ensure this continued growth. One type is that of the formal banking sector such as The Bank of Rural Development (BANRURAL), the country's Industrial Bank, and various credit unions (Almeyda & Branch, 1998; UNCDF, 2003). These types of institutions are not the first stop in the road to obtaining capital. But they are significant because it is through them that poor microentrepreneurs leverage their efforts to obtain larger loans after starting small.

Research Methods

In summer 2003, a microfinance research team from Brigham Young University conducted an impact assessment of five Guatemalan microfinance NGOs: Mentores Empresariales, Fundación Génesis Empresarial, Asociación Cooperación para el Desarrollo Rural de Occidente (CDRO), Fundación Internacional para la Asistencia Comunitaria (FIACG), and Asociación de Mujeres en Desarrollo (MUDE).

Sampling and Data Collection

To measure the financial and social impact of microfinance on participants, the research team interviewed 393 people from five NGOs in the study. The members of the study were selected at random from the total clientele of each NGO to represent the overall demographic profile. The sample was 20 percent male and 80 percent female with 44 percent of the sampling coming from urban locations and 56 percent from rural settings. The study was divided into three samples. The first sample (New Clients) was made up of microenterprise owners who were new to the microfinance program and had been in the program for less than a year. The second sample (Current Clients) contained microenterprise owners who were currently microfinance clients and had been in the microfinance program for more than one year. The third sample (Graduated Clients) was microenterprise owners who were voluntarily no longer in the microfinance program. Graduated Clients who had been terminated from the selection program for default or other involuntary reason were not included in the selection process. Therefore, the Graduated Clients can be categorized as "successful" microfinance clients.

After arriving in the country and making initial contact with the five NGOs, the field research team randomly selected groups from both rural and urban areas. New and Current Clients were randomly selected from the total NGO's clientele; thus, this sample closely represented the New and Current Client demographics of the NGO. The Graduated Clients, however, were not randomly selected from the NGO's total graduated clientele. Instead, they were randomly picked from a pool of Graduated Clients who had decided to terminate the program of their own free will and had left the program in good standing. These clients had not defaulted on their loans nor had they been forced out of the program by the loan officers or by their peers.

Two Financial Dimensions

The research team measured economic well-being based on two measures of financial condition: 1) the daily per capita expenditures (DPCE) as a percentage of the daily minimum wage in Guatemala adjusted for the cost of living and 2) the Poverty Rank metric. The first economic measure, the daily per capital expenditure, represents the traditionally used poverty indicator—the daily per capita income (DPCI)—the measurement of how much a person earns daily. Through extensive field-testing by the United Nations, the World Bank, and other development institutions, it was found that the poor usually do not know exactly how much they earn, but they do know how much they spend in a day, a week, or a month (Hatch, 2002; UNFPA, 2002). This is because the poor usually have many different sources of income to sustain the family (e.g., children's income, remittances, etc.), and once received, the income is immediately spent on food, education, housing, and other expenses. To accurately reflect how much money the poor earn, the research team decided to use the daily per capita expenditure—how much a person spends per day—to accurately represent the DPCI. In addition, since the purchasing power of the dollar differs from country to country, the examiners adjusted the DPCE using the local daily minimum wage as a baseline.

The second economic measurement the team members used to gauge poverty was the Poverty Rank. Using the classifications set by the United Nations and the Guatemalan government, the researchers took the daily household income (i.e., the monthly income divided by 30) and standardized it using the Guatemalan definition of poverty—40.9 quetzals per day. Those with scores of less than 1.00 were the "poorest of the poor" as designated by the Guatemalan government, those households with scores between 1.00 and 2.00 were classified to be in universal poverty, and those families who scored higher than 2.00 were not considered to be poor.

To measure the DPCE and the Poverty Ranking, the financial dimension questions requested the sum of the microenterprise owner's total daily household expenditures and the owner's household size for scaling.

Six Social Dimensions

To measure the social well-being of the participant families, the research team examined four quality-of-life measurements: Food Availability, Access to Medical Services, Housing, and

Children's Education. Two additional measures of social well-being were examined for women: Empowerment and Social Capital. The quality-of-life measurements were designed to measure the social impacts of poverty that are usually overlooked when doing economic analyses. These six measurements were chosen because of their usage as poverty indicators by the World Bank, the Consultative Group to Assist the Poor (CGAP), the International Labor Organization (ILO), and the United Nations Development Program (UNDP) and other major development agencies (ILO, 2003; Littlefield et al., 2003; Maxwell, 1999).

The six social dimension measures used in this study and their application to Guatemala are as follows:

Food Availability: According to USAID (2004), some 67 percent of indigenous Guatemalan children are chronically malnourished. Poor families are unable to grow sufficient food resources for themselves, or they do not receive adequate incomes with which to shop for food. Some 70 percent of a poor family's income goes for basic food, but it is of low nutritional value.

Access to Medical Services: Guatemalans suffer from numerous problems of physical well-being, particularly among the various ethnic groups of indigenous peoples – Quiche, Mam, Cakchiquel, Garifuna, Xinca, and Kekchi. Most are in the rural areas of the country where there are few medical services and trained personnel (CIA World Factbook, 2004). Problems also arise from a lack of public health education and awareness of serious diseases. According to sources such as the Human Development Report (World Bank, 2003a) life expectancy for Guatemalans is only age 65, versus 70 in its neighboring countries. Infant mortality data show that in the rest of Central America there is an average of 34.8 deaths for every thousand live births, but in Guatemala the number jumps to 46.4.

Housing: Guatemalan families struggle in their quest for adequate housing. Much of the citizenry dwell in shacks and shanties built by one's own hands and with material scavenged from the streets. Various factors exacerbate the housing problem: Forty years of civil war that destroyed many houses, lack of capital to purchase building supplies, the high cost of land, and huge problems of unemployment and/or underemployment. The plight of trying to subsist in temporary, hand-built shelters in the informal economy is a serious issue.

Children's Education: Lack of educational opportunities is a severe challenge facing poor Guatemalans. Drawing on such sources as Almeyda and Branch (1998), the Human Development Report (UNDP, 2003) World Bank (1995), and the Inter-American Development Bank (IDB, 1996)—the picture looks bleak. This is especially true when Guatemala is compared to the rest of Central America. To illustrate: Only 68 percent of Guatemala children enroll in school, versus 85 percent in the rest of the region. Among people over 15 years of age, 45 percent are illiterate compared to only 38 percent outside. Even more troubling, illiteracy among families throughout Central America is some 20 percent, while in Guatemala it is 53 percent.

Empowerment: Another variable to be assessed in this study is that of women's empowerment. Much of the literature that evaluates microcredit supposes that small capital loans to start or expand a woman's microenterprise are of increasing importance to Third World development. Good development strategies lead to a "better deal" for females, yielding positive benefits, "mainly on women's well-being" (Sen, 2000: 189). In Guatemala, as elsewhere, a dimension of effective development may target women's empowerment, which is to say that women are more able to exercise agency, have greater access to resources, experience reduced marital subordination, increase voice in family decision-making, and enjoy more control over household income and assets (Amin and Pebley, 1994; Dabeer, 2001; Goetz and Gupta, 1996; Hashemi et al., 1996; Kantor, 2003; Mahmud, 2003; Myrada, 2002; World Bank, 2003b).

Social Capital: The final inquiry of this study is the extent to which microcredit not only gives clients financial capital, but social capital as well (Ismawan, 2000). This variable has to do with the degree of trust and supportive relationships that microentrepreneurs experience as a result of obtaining credit, growing a business, generating an income, and so forth. An underlying assumption of the relatively new notion of social capital is that increased financial success fosters greater support from others (Van Bastelaer, 1999). It is also seen as interpersonal ties and connections (Kasinitz & Rosenberg, 1996), relationships, trust, and support (Portes, 1995; Crowell, 2004). Indeed, no less a figure than the president of the World Bank, James Wolfensohn, has declared that social capital is the "glue" that "holds societies together (World Bank, 2000: 1). Molyneux (2002) suggests the importance of a Latin American gender-centered form of development. With respect to social capital, she argues that it already exists to a considerable degree: "Women among low-income groups are frequently those with the strongest community and kin ties; many such women do network, they do engage in reciprocal supportive relations" (p. 177). According to Adler and Kwon (2000), "Social capital is a resource for individual and collective actors located in the network of their more or less durable social relations" (p. 93) Best-selling author, Francis Fukuyama in his 1999 book, *The Great Disruption*, simply sees the concept as an explanation of how values and norms impact economic activity. Additionally, an extensive review of the literature on social capital is that of Foley and Edwards (1999), Fine (2001), and the critique of Putzel (1997).

Empirical surveys have demonstrated that poverty is best described as both an absolute and a relative dimension (CGAP, 2003; Henry et al., 2003; UNDP, 2001; Zeller et al., 2003). As the UNDP (2001) has declared, "In the absolute sense, the poor are materially deprived to the extent that their survival is at stake. In relative terms, they are also deprived in relation to other social groups whose situation is less constraining" (p. 26). Thus, the field survey instrument used by the team encompassed both the absolute dimensions of poverty, measured by the Food Availability, Access to Medical Services, Housing, and Children's Education measurements, and the relative dimensions of poverty, measured by the Empowerment and Social Capital assessments.

To quantify the six social dimensions, the questions were based on an ordinal scale with anchors at 1 to 4, with 4 being the best. For example, in Food Availability, a 4 meant the respondents reported that they always had enough food and the kinds of food they wanted, whereas a 1 signified they never had enough to eat. Similar ordinal scales were used for the other five social dimension measures.

Data, Empirical Tests, and Results

Data

Table 1 reports the characteristics of the five MFIs, to include start-up date, services offered, primary affiliation, purpose, geographic locations, number of borrowers, female percentage, total loan portfolio, group annual rate of interest, savings requirement, locale (urban or rural), number of branch offices, funding sources, and loan repayment rate.

[INSERT TABLE 1 ABOUT HERE.]

Table 2 provides the descriptive statistics for the sample. CLIENTTYPE represents whether the client is new (1), current (2), or graduated (3). The sample consists of 99 new clients, 219 current clients, and 75 graduated clients (not reported in table). AREA equals 1 when the client lives in a rural locale and 2 when the client lives in an urban locale. The sample consists of 221 rural dwellers and 172 urban dwellers (not reported in table). The average household monthly expenses equal 1,735 quetzals ($213 US) with a minimum of 110 quetzals ($5 US) and a maximum of 8,000 quetzals ($1,000) US. The average house size is 5.3 (median = 5) people, ranging from one person to 18 people. Of the subset of 106 clients who replied, 90% would like training and of those who replied, 60% were willing to pay for training.

[INSERT TABLE 2 ABOUT HERE.]

Next, Table 2 reports the frequency of each MFI. The frequencies range from Mentores, which represents 33% of the sample down to Génesis, which represents 9% of the sample. Under MFI Characteristics, the average age of the MFIs is 11.5 years. LOANTYPE equals 1 if the MFI offers only microfinance loans or 2 if the MFI offers both microfinance loans and small-to-median enterprise (SME) loans. In our sample, 35% of the firms offer only microfinance, the remainder offer both for a mean of 1.6. Half of the clients used an MFI that offered training along with their microcredit (TRAINING mean = 0.5). AFFILIATION equals one if the MFI affiliates with a US NGO, two if the MFI affiliates with a Guatemalan private NGO, or three if the MFI affiliates with both private NGOs and the Guatemalan government. In our sample, 33% affiliate with a US NGO, 55% with private Guatemalan NGO, and 12% with private Guatemalan NGOs and the Guatemalan government. On average, the MFIs have 5,235 (median = 2,500) borrowers and have a clientele that is 71% female. The average loan portfolio in US dollars is approximately $4.5 million and the average interest rate charged is 30%. Of the clients, 67% belonged to MFIs that required savings. The average number of branches per client was 7.5 (median = 3), 9% of the clients used an MFI that had USAID funding, and the repayment rate for the client's MFIs was approximately 93%.

Considering outcome variables, Table 2 indicates that the average (median) DPCE was 1.6 (median = 1.25) and the average (median) Poverty Rank was 1.4 (1.3). The Poverty Rank variable in particular indicates that the average client is considered to be in universal poverty as measured according to Guatemalan standards. The average survey replies for FOOD, HEALTH, and HOUSING for the overall sample are all 2.9, indicating that on average, the clients have adequate of each. The survey scores for EDUCATION (3.9), EMPOWERMENT (3.7), and SOCIAL (3.5) all indicate that in these regards, clients on average do particularly well. Finally, respondents indicate that their overall average SATISFACTION level is 3.6, indicating that they were generally pleased with their MFI experience.

Correlations among Impact Variables

Table 3 reports Spearman correlations among the impact variables. Of the eight variables, the two economic indicators have the highest correlations ($\rho = 0.68$, p-value < 0.0001). Next, FOOD and HEALTH are highly correlated with a coefficient of 0.44 (p-value < 0.0001) indicating that clients find their ability to afford food is related to their health conditions. Housing tends to be highly correlated with both economic indicators, FOOD, and HEALTH, indicating that the necessities of life (food, health, and shelter) are closely related, as might be expected. Interestingly, clients tend to measure their overall SATISFACTION of their MFI based upon the two economic indicators and only one (HOUSING) of the six social indicators. Also of interest, the relationship between the two economic indicators and EMPOWERMENT is not statistically significant; however, EMPOWERMENT is significantly correlated with all of the other five social impact variables. Thus, clients' measure their empowerment through social impacts, but satisfaction through economic impacts.

[INSERT TABLE 3 ABOUT HERE.]

Correlations among Impact Variables

Table 4 reports Spearman Correlations between MFI and entrepreneur conditioning variables and the nine outcome variables. Older MFIs are associated with lower DPCE, POVERTY RANK, and HOUSING among clients and greater levels of social capital. MFIs that offer both microfinance and MFIs are significantly correlated with higher economic measures, as well as FOOD, HEALTH, HOUSING, and overall SATISFACTION indicating that MFIs that do not offer SME loans may consider doing so in the future. Interestingly, MFIs that offer training have clients with lower levels of DPCE, POVERTY RANK, and overall SATISFACTION, but higher levels of HEALTH and HOUSING. In the microfinance literature, there is a thread that argues minimalist (microcredit only) versus integrated (microcredit and training). Our results would indicate that a minimalist approach would positively impact economic indicators and an integrated approach would impact social indicators.

[INSERT TABLE 4 ABOUT HERE.]

The affiliation score indicates a negative relationship among both economic variables as well as FOOD, HEALTH, and HOUSING. The implication here is that MFIs affiliated with the US NGO have higher scores than MFIs affiliated with private Guatemalan NGOs, which did better than MFIs affiliated with Guatemalan private NGOS and the Guatemalan government.

Interestingly, clients with MFIs affiliated with the government had higher scores for SOCIAL indicating that the Guatemalan government may be targeting this specific objective.

Larger MFIs, as measured by the number of borrowers (NUM_BORROWERS), the loan portfolio in US dollars (LOAN_PF_US), and the number of branches (NUMBRANCH) scored significantly negative in both economic indicators as well as several of the social impact variables. These scores would indicate diseconomies of scale. The GROUPRATE scores indicate that clients who pay a higher interest rate tend to be better off economically, however, they trail in health and housing. Clients of MFIs that require mandatory savings tend to have lower scores for FOOD, HEALTH, and HOUSING. Clients of MFIs that have USAID backing have lower scores in HOUSING and EDUCATION and those of MFIs with high relatively high repayment rates have lower economic scores, but higher HEALTH and HOUSING.

The lower panel of Table 4 reports the survey results conditioned on entrepreneur characteristics and then conditioned on the five MFIs. CLIENTTYPE indicates that the level of progress through a microcredit program (new client, to current client, to graduated client) is positively correlated with HEALTH, HOUSING, and EMPOWERMENT. Thus, it may be inferred in a univariate setting that microcredit programs do add value along the three dimensions, consistent with the positive correlations. AREA indicates that urban dwellers score higher than rural dwellers along most dimensions. The monthly expense variables, both in quetzals and US dollars again suggest that economic well being is positively correlated with standards of living as measured by food, health, housing, and education. House size and clients who desire training have few correlations with indicators; but those who are willing to pay for training score higher in FOOD and HEALTH and lower in EMPOWERMENT. Finally, correlations for the five MFIs indicate that generally, MENTORES scores higher in standard of living and MUDE scores higher in economic indicators.

Pairwise Difference in Means T-Tests

Table 5 reports t-tests for all of the binary conditioning variables. MFIs that offer SME loans as well as microfinance score significantly higher in both economic indicators and in FOOD, HEALTH, and HOUSING. MFIs that offer training tend to do better in economic scoring, but worse in standard of living scoring. MFIs that require savings tend to do better in DPCE, FOOD, and HEALTH. USAID-backed MFIs tend to score higher in both economic indicators.

[INSERT TABLE 5 ABOUT HERE.]

The panel on the right side of Table 5 indicates client characteristics. Urban dwellers score higher along almost all dimensions. Clients who desire training score higher in DPCE, education, and empowerment indicating that these clients believe in the importance of education, not just for their children, but also for themselves. Finally, clients willing to pay for training score lower on FOOD, but higher on EDUCATION and EMPOWERMENT.

Simultaneous Inference Tests

In this section, we report the results of Tukey (and Bonferonni) simultaneous inference tests on AFFILIATION and CLIENTTYPE. It is necessary to use simultaneous inference tests because these two variables have three categories each. If a series of three pair-wise t-tests were conducted, the critical values would be artificially inflated, and the probability of a Type I error would be increased. Table 6 indicates that for both economic indicators and for SOCIAL, private NGOs (whether US or Guatemalan) score significantly higher than Guatemalan government-backed MFIs. Along the dimensions of FOOD, HEALTH, and HOUSING, the US NGO scores better than both types of Guatemalan NGOs. Overall SATISFACTION does not differ between groups.

[INSERT TABLE 6 ABOUT HERE.]

Table 7 reports the Tukey tests conditioned on CLIENTTYPE. The results in the table indicate that in the aggregate, microcredit programs do add value, especially along the dimensions of HEALTH and HOUSING. In both cases, graduated clients score higher than new and current clients.

[INSERT TABLE 7 ABOUT HERE.]

Multivariate Tests

In this section, we estimate two Tobit models (Models 1 and 2) and seven multivariate Logit models (Models 3 - 9). In each of the models, we estimate coefficients, but do not report them in the table for brevity. It is necessary to estimate Tobit models for DPCE and POVERTY RANK because these variables are both truncated at zero. We use multivariate Logit regressions for Models 3-9 because the dependent variable for each observation in each case equals either 1, 2, 3, or 4. Our primary variable of concern in these analyses is the CLIENTTYPE variable. Again, we are interested in testing the hypothesis that graduated clients score higher than current clients, who score higher than new clients. In a multivariate setting, we are able to control for rural versus urban (AREA) and the size of the family (HOUSE_SIZE), as well as any impact MFI selection may have. The results in Table 8 confirm that the hypothesis holds for HEALTH, however, the univariate result for HOUSING is lost in the multivariate setting. With the ability to control for other effects and isolate EMPOWERMENT, we find that the hypothesis also holds for client empowerment. That is, microcredit programs improve the empowerment of clients.

[INSERT TABLE 8 ABOUT HERE.]

Conclusion

In this paper we have provided a detailed description of data resulting from a survey of 393 Guatemalan microfinance institution clients. We have partitioned the data along various dimensions and have tested the hypothesis that microcredit programs add value along two economic dimensions and six social dimensions. We confirm through econometric testing that microcredit programs do add value, however that value seems to be concentrated with improved housing, health, and client empowerment.

References

Adler, P. and Kwon, S.-W. (2000) ‘Social Capital: The Good, the Bad and the Ugly,’ In Lesser, E. L. (Ed.), *Knowledge and Social Capital -Foundations and Applications*. Boston: Butterworth Heinemann, 69-87.

Almeyda, G. and Branch B. (1998) ‘Microfinance in Guatemala: The Case of Credit Unions,’ *World Council of Credit Unions Research Monograph Series No.13*. Madison, WI: World Council Information Centre.

Amin, S. and Pebley, A. (1994) ‘Gender Inequality within Households: The Impact of a Women’s Development Programme in 36 Bangladeshi Villages,’ *Bangladesh Development Studies* 22(2): 121-154.

Brau, J.C. and Woller, G. (2004), ‘Microfinance Institutions: A Comprehensive Review of the Existing Literature,' *Journal of Entrepreneurial Finance and Business Ventures*, 9 (1): 1-26.

CGAP. (2003) ‘Assessing the Relative Poverty of Microfinance Clients,’ CGAP. Retrieved November 3, 2003 from http://www.cgap.org/docs/TechnicalTool_05_overview.pdf.

CIA World Factbook. (2004) ‘Guatemala.’ Retrieved November 15, 2003 from http://www.cia.gov /cia/publications/factbook/geos/gt.html.

Crowell, L. F. (2004) ‘Weak Ties: A Mechanism for Helping Women Expand their Social Networks and Increase their Capital,’ *The Social Science Journal* 41(1): 15-28.

Dabeer, N. (2001) ‘Conflicts Over Credit: Re-evaluating the Empowerment Potential of Loans to Women in Bangladesh,’ *World Development* 29(1): 63-84.

GOP. (2003) ‘H.R. 192 Amending the Microenterprise for Self-Reliance Act of 2000 and the Foreign Assistance Act of 1961,’ Retrieved January 18, 2004, from http://www.gop.gov/committeecentral/docs/bills/108/1/bill.asp?bill=hr192.

Goetz, A. M. and Gupta, R. S. (1996) ‘Who Takes the Credit? Gender Power and Control over Loan Use in Rural Credit Programmes in Bangladesh,’ *World Development* 24(1): 45-63.

Fine, B. (2001) *Social Capital versus Social Theory: Political Economy and Social Science at the Turn of the Millennium*. London: Routledge.

Foley, M. and Edwards, B. (1999) ‘Is it Time to Disinvest in Social Capital?’ *Journal of Public Policy* 19(2): 199-231.

Fukulyama, F. (1999) *The Great Disruption: Human Nature and the Reconstitution of Social Order.* New York: The Free Press.

Hashemi, S. M., Schuler S. R. and Riley, A. P. (1996) ‘Rural Credit Programs and Women’s Empowerment in Bangladesh,’ *World Development*. 24(4): 635-653.

Hatch, J. (2002) ‘Concept Paper: Towards a Cost-Effective System for Measuring the Social Performance of FINCA Programs,’ Washington D.C.: FINCA International.

Henry, C., Sharma, M., Lapenu, C., and Zeller, M. (2003) 'Microfinance Poverty Assessment Tool,' CGAP. Retrieved January 3, 2004 from http://www1.worldbank.org/publications/pdfs/15674frontmat.pdf.

Herrera, C. E. (2003) 'Guatemala: Analysis of the Lending and Credit Reporting Systems in the Formal and Agricultural Sectors,' University of California-Berkeley & FAO. Retrieved from June 14, 2004 from http://are.berkeley.edu/~sadoulet/papers/Final_report_FAO.pdf

IDB. (1996) 'Guatemala--Country Paper,' Retrieved July 2, 2004 from http://www.iadb.org/exr/doc98/apr/gu1401e.pdf.

IDS. (2004) 'Welcome to the Poverty Team Research Pages,' Retrieved July 13, 2004 from http://www.ids.ac.uk/ids/pvty/index.html.

ILO. (2003) 'Statement of commitment of the Administrative Committee on Coordination for Action to Eradicate Poverty,' Retrieved December 23, 2003 from http://www.ilo.org/public/english/comp/poverty/accstate.htm

Ismawan, B. (2000) 'Micro-finance, Poverty, and Social Capital,' Bin Swadaya. Retrieved from http://Dhaka.inasia.lk/ressources/documents/pdf/paper15.pdf.

Kantor, P. (2003) 'Women's Empowerment through Home-based Work: Evidence from India,' *Development and Change* 34(3): 425-445.

Kasinitz, P. and Rosenberg, J. (1996) 'Missing the Connection: Social Isolation and Employment on the Brooklyn Waterfront,' *Social Problems* 43(2): 180-196.

Littlefield, E., Morduch, J., and Hashemi, S. (2003) 'Is Microfinance an Effective Strategy to Reach the Millennium Development Goals?' CGAP. Retrieved November 3, 2003, from http://www.cgap.org/assets/images/FOCUS24_MDGs.pdf.

Mahmud, S. (2003) 'Actually How Empowering is Microcredit?' *Development and Change* 34(4): 577-605.

Maxwell, S. (1999) 'The Meaning and Measurement of Poverty,' Overseas Development Institute. Retrieved June 2, 2004 from http://www.odi.org.uk/publications/briefing/pov3.html.

Mayoux, L. (2001) 'Impact Assessment of Microfinance: Towards a Sustainable Learning Process,' Enterprise Impact. Retrieved July 2, 2004 from http://www.enterprise-impact.org.uk/word-files/Microfinance.doc.

Molyneux, M. (2002) 'Gender Silences of Social Capital: Lessons from Latin America,' *Development and Change* 33(2): 167-188.

Myrada. (2002) 'Impact of Self Help Groups (Group Processes) on the Social/Empowerment Status of Women Members in the Southern India,' NABARD. Retrieved from: http://www.nabard.org/roles/mcid/myrada.pdf.

Paxton, J. (1995) *Sustainable Banking with the Poor: A Worldwide Inventory of Microfinance Institutions.* Washington, D.C.: World Bank.

Portes, A. (1995) ‘Economic Sociology and the Sociology of Immigration: A Conceptual Overview,’ In A. Portes (ed.) *The Economic Sociology of Immigration: Essays on Networks, Ethnicity, and Entrepreneurship.* New York: Russell Sage.

Putzel, J. (1997) ‘Accounting for the "Dark Side" of Social Capital: Reading Robert Putnam on Democracy,’ *Journal of International Development* 9(7): 939-949.

UNCDF. (2003) ‘With Technical Assistance from UNCDF-UNDP Microstart, Commercial Banks Reach Poor People in Underserved Areas of Guatemala,’ Retrieved June 15, 2004 from http://www.uncdf.org/English/microfinance/newsletter/pages/dec_2003/news_guatemala.php.

UNDP. (2003) ‘Human Development Report,’ Retrieved July 2, 2004 from www.undp.org/ hdr2003/.

UNDP. (2001) ‘Policy Issues: Part I,’ Retrieved January 4, 2004 from http://www.undp.org/ dpa/publications/choicesforpoor/ENGLISH/CHAP02.PDF.

UNFPA. (2002) ‘Measuring Poverty,’ Retrieved February 1, 2004 from http://www.unfpa.org/ swp/2002/english/ch2/page4.htm.

UNICEF. (2003) ‘Give Us Credit,’ Retrieved February 3, 2004 from http://www.unicef.org/ credit/credit.htm.

U.S. Senate. (2003) ‘H.R. 192,’ Retrieved November 8, 2003, from http://thomas.loc.gov/cgi-bin/query/D?c108:5:./temp/~c108WaZObT.

USAID. (2004) ‘USAID Pakistan,’ Retrieved March 17, 2004 from http://www.usaid.gov/pk/.

Van Bastelaer, T. (1999) ‘Does Social Capital Facilitate the Poor’s Access to Credit?’ IRIS. Retrieved from http://128.8.56.16/DOCS/docs/sci8.pdf.

World Bank. (2003a) ‘Central America and the Caribbean: Guatemala: Economy,’ Retrieved December 1, 2003 from http://www.nationmaster.com/country/gt/Economy.

World Bank. (2003b) ‘Empowerment,’ Retrieved from January 17, 2003 http://lnweb18.worldbank.org/ESSD/sdvext.nsf/68ByDocName/WhatIsEmpowerment.

World Bank. (1995) ‘Guatemala--An Assessment of Poverty; Report No. 12313-GU,’ Country Department II. Human Resource Operations Division. Latin America and the Caribbean Regional Office. Washington, D.C. April 17, 1995.

World Bank. (2000) ‘The World Bank, the United Nations Development Programme and Club Economika 2000: Organize a Workshop on Understanding and Building Social Capital in Bulgaria,’ Press Release No. 2000/##/ECCBG. Retrieved July 2, 2004 from http://poverty.worldbank.org/files/12088_BulgSocCapPressRelJun9.doc

Woodworth, W. (1997) *Small Really Is Beautiful: Micro Approaches to Third World Development—Microentrepreneurship, Microenterprise, and Microfinance*. Ann Arbor, MI: Third World Think Tank.

Zeller, M., Sharma, M., Henry, C., and Lapenu, C. (2003) 'Operational Method for Assessing the Poverty Outreach of Performance of Development Projects,' ILO. Retrieved February 8, 2004 from http://www.iaae-agecon.org/conf/durban_papers/papers/004.pdf.

Table 1. Description of Microfinance Institutions

	Mentores Empresariales	Génesis Empresariales	CDRO	FIACG	MUDE
Formal start-up date	1994	1988	1984	1998	1991
Credit services offered	Medium, small and microenterprise credit	Medium, small and microenterprise credit, housing credit, and rural services credit	Microenterprise credit	Microenterprise credit	Small and microenterprise credit
Entrepreneurial and other services offered	Mandatory entrepreneurial training (accounting, marketing, business auditing) upon entering program, Optional monthly training afterwards, Business auditing and mentoring	None	Entrepreneurial training (accounting, marketing), agricultural extension services, health services, agricultural consulting, literacy programs, educational institutes and technical schooling	None	None
Primary affiliation	U.S.-based international NGO	Guatemalan private sector	Guatemalan government and private sector	Guatemalan private sector	Guatemalan private sector
Purpose	To promote sustained economic development among the lower-income working class in rural and urban areas	To create microentrepreneurs in both rural and urban areas	To eliminate poverty among Guatemalan Mayan natives	To provide credit and savings incentives that promote self-sustainability and empowerment	To provide credit services, training, and technical assistance to microentrepreneurs
Geographic Locations	Guatemala City and outlying regions	Throughout Guatemala	Totonicapán and outlying regions in the western part of the nation	Guatemala City and outlying regions	Guatemala City and outlying regions
Number of borrowers 2002	590	35,452	4985	2500	2774
Female entrepreneurs 2002	60%	<40%	54%	>90%	89%
Total loan portfolio 2002 (US$)	276,249	25,132,000	756,608	N/A	625,000
Group Annual Interest Rate 2002	24%	30%	24%	36%	36%
Requirement of savings	No	Yes	Yes	Yes	Yes
Locale	Rural and urban	Rural and urban	Rural	Rural and urban	Mostly urban
Number of branch offices	3	39	19	1	2
Funding Sources	Client deposits, private donors, Enterprise Mentors International, few foundations	Client deposits, private donors, Inter-American Development Bank, USAID, Guatemalan government, ACCION, Banex,	Guatemalan government, client deposits, Katalysis, BanRural, Rotary Club, NORAD, IAF, Oxfam, Amnesty International, other foundations	Client deposits, private donors, IAF, other foundations	Client deposits, private donors, foundations
Loan repayment rate	95%	90%	N/A	N/A	90%

Table 2. Descriptive Statistics

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
Entrepeneur Data						
Client Type (new = 1, current = 2, graduated = 3)	393	1.9	2	0.7	1	3
Area (Rural = 1, Urban = 2)	393	1.4	1	0.5	1	2
Monthly Expenses in Quetzales	393	1,734	1,560	1,015	110	8,000
Monthly Expenses in US Dollars	393	213	191	125	5	1,000
Size of Family	393	5.3	5	2.4	1	18
Client Desires Training	106	0.9	1	0.3	0	1
Client Willing to Pay for Traning	104	0.6	1	0.5	0	1
MFIs						
MUDE	393	22%	0	42%	0	1
GENESIS	393	9%	0	29%	0	1
FIACG	393	23%	0	42%	0	1
MENTORES	393	33%	0	47%	0	1
CDRO	393	12%	0	32%	0	1
MFI Characteristics						
Age of MFI	393	11.5	10	4.3	6	20
Loan Type (1 = microfinance only, 2 - microfinance and SME)	393	1.6	2	0.5	1	2
MFI Offers Training	393	0.5	0	0.5	0	1
Affiliation (1 = US NGO, 2 = Guatemalan Private, 3 = Guatemalan Gov't	393	1.8	2	0.6	1	3
MFI Number of Borrowers	393	5,234	2,500	9,705	590	35,452
Percent Female Clients	393	71.0	60	17.9	40	90
Size of Loan Portfolio in US Dollars	301	4,455,962	276,249	11,327,460	62,500	35,132,000
Interest Rate Charged to Group	393	30.0	30	5.7	24	36
Mandatory Savings (1 = yes, 2 = no)	393	67%	1	47%	0	1
Number of MFI Branches	393	7.5	3	11.4	1	39
Backed by US AID (1 = yes, 2 = no)	393	9%	0	29%	0	1
MFI Loan Repayment Rate	255	92.6	95	2.5	90	95
Economic Indicators						
DPCE	393	1.6	1.25	1.3	0.1	10.4
POVERTY RANK	393	1.4	1.3	0.8	0.1	6.5
Social Indicators						
FOOD	393	2.9	3	1.0	1	4
HEALTH	393	2.9	3	1.1	1	4
HOUSING	393	2.9	3	1.1	1	4
EDUCATION*	302	3.9	4	0.5	1	4
EMPOWERMENT	316	3.7	4	0.7	1	4
SOCIAL	316	3.5	4	0.8	1	4
Overall Entrepreneur Indicator						
SATISFACTION	351	3.6	4	0.6	1	4

Table 3. Spearman Correlations among Impact Variables

	POVERTY RANK	FOOD	HEALTH	HOUSING	EDUCATION	EMPOWER	SOCIAL	SATISFACTION
DPCE	0.68 <.0001	0.17 0.0009	0.13 0.0125	0.33 <.0001	0.16 0.0053	0.02 0.7517	-0.05 0.3503	0.10 0.0508
POVERTY RANK		0.14 0.0057	0.14 0.0056	0.33 <.0001	0.12 0.0304	0.06 0.3089	0.00 0.9594	0.13 0.0126
FOOD			0.44 <.0001	0.32 <.0001	0.08 0.1820	0.15 0.0064	0.10 0.0742	0.08 0.1500
HEALTH				0.35 <.0001	0.03 0.5979	0.14 0.0112	0.11 0.0486	0.01 0.9193
HOUSING					0.17 0.0035	0.13 0.0238	0.15 0.0089	0.11 0.0402
EDUCATION						0.13 0.0418	0.01 0.8293	0.08 0.2271
EMPOWER							0.17 0.0025	0.01 0.8623
SOCIAL								0.09 0.1137

The first value for each pair is the correlation coefficient, the value under is the p-value. In this table EMPOWERMENT has been shortened to EMPOWER, but represents the same variable.

Table 4. Spearman Correlations based on MFI and Client Characteristics

MFI Characteristics	NGOAGE	LOANTYPE	TRAINING	AFFILIATION	NUM_BORROWERS	FEMALE	LOAN_PF_US	GROUPRATE	SAVINGS	NUMBRANCH	USAID	REPAY
Economic Indicators												
DPCE	-0.15***	0.28***	-0.20***	-0.21***	-0.15***	0.26***	-0.45***	0.24***	-0.06	-0.26***	-0.10*	-0.12**
POVERTY RANK	-0.21***	0.19***	-0.23***	-0.18***	-0.15***	0.31***	-0.45***	0.28***	-0.02	-0.32***	-0.13**	-0.11*
Social Indicators												
FOOD	0.01	0.19***	0.07	-0.16***	-0.11**	-0.03	-0.15**	-0.06	-0.15***	0.03	-0.05	0.05
HEALTH	-0.08	0.20***	0.17***	-0.28***	-0.24***	-0.05	-0.07	-0.16***	-0.27***	0.05	-0.06	0.25***
HOUSING	-0.09*	0.31***	0.16***	-0.36***	-0.29***	-0.02	-0.19***	-0.14***	-0.32***	0.02	-0.09*	0.24***
EDUCATION	-0.04	0.00	0.02	-0.01	-0.08	0.13**	-0.23***	0.05	-0.02	-0.13**	-0.24***	0.02
EMPOWERMENT	0.04	-0.04	0.00	0.07	0.05	-0.01	0.02	0.00	0.05	0.01	-0.01	-0.04
SOCIAL	0.11**	-0.06	0.08	0.10*	0.09	-0.12**	0.16**	-0.10*	0.02	0.12**	0.05	0.00
Overall Entrepreneur Indicator												
SATISFACTION	0.07	0.09*	-0.12**	0.05	0.09	0.06	-0.20***	0.14**	0.10*	-0.06	-0.02	-0.21***

Entrepreneur Characteristics								MFIs				
	CLIENTTYPE	AREA	MONTH_EXP_QUET	MONTH_EXP_US	HOUSE_SIZE	WANT_TRAIN	PAY_TRAIN	MUDE	GENESIS	FIACG	MENTORES	CDRO
Economic Indicators												
DPCE	0.08	0.32***	0.68***	0.70***	-0.56***	-0.21***	0.00	0.32***	-0.10*	-0.01	0.06	-0.40***
POVERTY RANK	0.03	0.28***	1.0***	0.98***	0.11**	-0.12	0.07	0.29***	-0.13**	0.07	0.02	-0.38***
Social Indicators												
FOOD	0.03	0.08	0.14***	0.14***	-0.06	0.10	0.20**	0.09*	-0.05	-0.14***	0.14***	-0.10**
HEALTH	0.20***	0.18***	0.14***	0.14***	-0.01	-0.01	0.17*	-0.04	-0.06	-0.12**	0.27***	-0.14***
HOUSING	0.12**	0.36***	0.33***	0.33***	-0.08	-0.07	0.05	0.05	-0.09*	-0.17***	0.32***	-0.23***
EDUCATION	0.06	0.13**	0.12**	0.12**	-0.13**	-0.05	-0.14	0.14**	-0.24***	0.00	0.02	0.01
EMPOWERMENT	0.12**	0.09*	0.06	0.05	0.04	-0.13	-0.18*	0.00	-0.01	0.00	-0.05	0.08
SOCIAL	0.06	0.02	0.01	0.00	0.08	0.12	0.02	-0.07	0.05	-0.05	-0.02	0.18***
Overall Entrepreneur Indicator												
SATISFACTION	0.04	0.02	0.13**	0.15***	-0.04	0.13	0.08	0.22***	-0.02	-0.06044	-0.10*	-0.05

***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels respectively.

Table 5. Difference in Means T-Tests based on MFI and Client Characteristics

	MFI Characteristics								Client Characteristics					
	Microfinance Only	Microfinance and SME	MFI Training	No MFI Training	Required Savings	No Savings Required	USAID Funded	Not USAID	Rural	Urban	Want Training	Don't Want Training	Pay for Training	Not Pay Training
Economic Indicators														
DPCE	1.2	1.8***	1.7	1.5*	1.8	1.5*	1.7	1.3**	1.3	2.1***	1.6	1.2*	1.4	1.2
POVERTY RANK	1.2	1.5***	1.5	1.3**	1.5	1.4	1.4	1.1***	1.2	1.7***	1.4	1.2	1.3	1.3
Social Indicators														
FOOD	2.6	3.1***	2.8	3*	3.2	2.8***	2.9	2.8	2.9	3.0*	2.5	2.8	2.5	2.9**
HEALTH	2.5	3.0***	2.7	3.1***	3.3	2.6***	2.9	2.7	2.7	3.1***	2.8	2.7	2.5	2.9
HOUSING	2.5	3.2***	2.8	3.1***	3.5	2.7	3	2.6*	2.6	3.4***	2.8	2.5	2.5	2.6
EDUCATION	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.4	3.8	4.0**	4	3.9*	4	3.9*
EMPOWERMENT	3.8	3.7	3.8	3.7	3.6	3.8	3.7	3.8	3.7	3.8*	4	3.8***	4	3.7**
SOCIAL	3.6	3.5	3.5	3.6	3.5	3.5	3.5	3.6	3.5	3.6	3.3	3.6	3.5	3.5
Overall Entrepreneur Indicator														
SATISFACTION	3.6	3.7	3.7	3.5**	3.5	3.7*	3.6	3.6	3.6	3.7	3.5	3.6	3.5	3.7

***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels respectively.

Table 6. Simultaneous Difference Tukey Tests based on Affiliation

	Affiliation		
	US NGO	Guat Private	Guat Gov't & Private
Economic Indicators			
DPCE	1.8[a]	1.7[a]	0.7[b]
POVERTY RANK	1.5[a]	1.5[a]	0.7[b]
Social Indicators			
FOOD	3.2[a]	2.8[b]	2.6[b]
HEALTH	3.3[a]	2.7[b]	2.4[b]
HOUSING	3.5[a]	2.8[b]	2.2[c]
EDUCATION	3.9	3.9	3.9
EMPOWERMENT	3.6	3.8	3.9
SOCIAL	3.5[a]	3.5[a]	4.0[b]
Overall Entrepreneur Indicator			
SATISFACTION	3.5	3.7	3.6

Superscripts indicate statistical significance in differences at the 0.05 level.

Table 7. Simultaneous Difference Tests based on Client Status

	Client Type		
	New	Current	Graduated
Economic Indicators			
DPCE	1.5	1.7	1.7
POVERTY RANK	1.3	1.5	1.3
Social Indicators			
FOOD	2.9	2.9	3
HEALTH	2.6^{a}	2.8^{a}	3.3^{b}
HOUSING	2.9	2.9^{a}	3.3^{b}
EDUCATION	3.9	3.8	4.0
EMPOWERMENT	3.6	3.7	3.9
SOCIAL	3.5	3.5	3.6
Overall Entrepreneur Indicator			
SATISFACTION	3.6	3.6	3.6

Superscripts indicate statistical significance in differences at the 0.05 level.

Table 8. Multivariate Tests based on Client Status

Dependent Variable:	Model 1 DPCE	Model 2 POVERTY RANK	Model 3 FOOD	Model 4 HEALTH	Model 5 HOUSING	Model 6 EDUCATION	Model 7 EMPOWER	Model 8 SOCIAL	Model 9 SATISFACTION
Independent Variables									
CLIENTTYPE	**-0.06**	**-0.09**	**-0.04**	**0.52*** **	**0.09**	**0.21**	**0.70** **	**0.22**	**0.10**
AREA	0.48	0.40***	-0.03	0.29	1.11***	1.18*	0.90**	0.15	0.13
HOUSE_SIZE	-0.23***	0.06***	-0.05	0.02	-0.01	-0.15	0.06	0.09	0.00
MUDE	0.37**	0.37***	-0.01	-0.75***	-0.47*	NA	0.58	NA	1.44
GENESIS	-0.13	-0.15	-0.67*	-0.80**	-0.79**	NA	0.76	NA	0.24
FIACG	-0.10	-0.01	-0.83***	-1.04***	-1.34***	NA	0.44	NA	0.12
CDRO	-0.50**	-0.59***	-0.90**	-1.13***	-1.41***	NA	2.14**	NA	0.11

***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels respectively. Tobit models are estimated for Models 1 and 2. Multivariate Logit models are estimated for Models 3-9. An NA indicates that the models would not converge when the MFIs were used the control, so sub-models were estimated and reported. In this table EMPOWERMENT has been shortened to EMPOWER, but represents the same variable.

Autobiographical Notes:

James C. Brau is Assistant Professor of Finance at the Marriott School, Brigham Young University, where he is the Goldman Sachs Faculty Fellow. He teaches Advanced Financial Management to accountants and Entrepreneur Finance to MBA students. He has published more than 20 articles in refereed journals, as well as others in practitioner publications, and numerous papers presented at academic conferences. He was a captain in the U.S. Army (Infantry) and receive a Ph. D. in Finance from Florida State University.

Shon Hiatt, Ph. D. Candidate (Cornell University), is an international labor researcher. He has carried out and/or directed microfinance field research in six Latin American countries, and has partnered with and consulted to over a dozen NGOs. He received a Master Degree in Public Management from the Romney Institute in 2004.

Warner Woodworth, Ph. D (University of Michigan) is professor of Organizational Behavior at the Marriott School, Brigham Young University. He is the author of over 80 articles on Civil Society, Entrepreneurship, Ethics, and International Development. He has formed over a dozen development institutions and served on the boards of some 15 NGOs in recent years.

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1. First-named author (for additional authors, please refer to the back page)

Title (tick relevant box)	Professor X	Dr	Mr	Mrs	Ms
Name (underline surname/family name)	James Brau				
Job Title	Professor of Finance				
Organisation	Marriott School, Brigham Young University				
Address	670 Tanner Building				
	Provo				
County/State	Utah				
Country	USA	Post/Zip Code	84602		
Telephone	(801)422-8952	Fax	(801) 422-0540		
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8. Second-named author

Title (tick relevant box)	Professor / Dr / Mr X / Mrs / Ms
Name (underline surname/family name)	Shon Hiatt
Job Title	Researcher
Organisation	Human Resource Studies
Address	Cornell University
	386 Ives Hal
	Ithaca
County/State	New York, USA
Post/Zip Code	14853
Telephone	(607) 255-7622
Fax	N/A
Email	srh39@cornell.edu

9. Third-named author

Title (tick relevant box)	Professor X / Dr / Mr / Mrs / Ms
Name (underline surname/family name)	Warner Woodworth
Job Title	Professor of Organizational Behavior
Organisation	Marriott School, Brigham Young University
Address	786 Tanner Building
	Provo
County/State	Utah, USA
Post/Zip Code	84602
Telephone	(801) 422-6834
Fax	(801) 422-0540
Email	Warner_Woodworth@byu.edu

10. Fourth-named author

Title (tick relevant box)	Professor / Dr / Mr / Mrs / Ms
Name (underline surname/family name)	
Job Title	
Organisation	
Address	
County/State	
Post/Zip Code	
Telephone	
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1. **First-named author** (for additional authors, please refer to the back page)

Professor First Name: James

Surname: Brau

Job title: Professor of Finance

Organisation: Marriott School, Brigham Young University

Address: 670 Tanner Building

Provo, Utah

Country/State: USA/Utah Post/Zip code: 84602

Telephone: (801) 422-8952 Fax: (801) 422-0540

E-mail: jbrau@byu.edu

Please address all correspondence to:

James Brau, 670 Tanner Building, Brigham Young University, Provo, Ut 84602

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x Emei

8. Second-named author

Mr First Name: Shon

Surname: Hiatt

Job title: Researcher

Organisation: Human Resource Studies, Cornell University

Address: 386 Ives Hall

Ithaca, New York

Country/State: USA/New York Post/Zip code: 14853

Telephone: (607) 255-7622 Fax: N/A

E-mail: srh39@cornell.edu

9. Third-named author

Professor First Name: Warner

Surname: Woodworth

Job title: Professor of Organizational Behavior

Organisation: Marriott School, Brigham Young University

Address: 786 Tanner Building

Address: Provo, Utah

Country/State: USA/Utah Post/Zip code: 84602

Telephone: (801) 422-6834 Fax: (801_422-0540

E-mail: Warner_Woodworth@byu.edu

10. Fourth-named author

Title: First Name:

Surname:
Job title:
Organisation:
Address:
Address:
Country/State: Post/Zip code:
Telephone: Fax:
E-mail: