Determinants of Repayment in Microcredit: Evidence from Programs in the United States*

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Introduction

Inspired by the well-publicized achievements of such third-world microcredit programs as the Grameen Bank and ACCION International, policy-makers and development practitioners in the United States have shown increasing interest in ‘replicating’ such programs in US inner cities. Many of them see microcredit as a promising new approach to the seemingly intractable poverty of America’s urban underclass. According to one recent count, about 400 microcredit programs — run mostly by nonprofit organizations — are currently operating in the US. At the Microcredit Summit held in 1997, President Clinton announced a $1 billion, five-year national initiative to support microcredit programs across the country, in order to ‘help rebuild neighborhoods, create jobs, and restore hope in communities long left behind’. In addition to government funding, some commercial banks have provided financial assistance to nonprofit organizations in developing such programs. Private foundations, such as the Ford Foundation and the Mott Foundation, have also devoted considerable resources to promoting them.

Although efforts have been growing rapidly to establish microcredit programs in the US, it is unclear if such initiatives are indeed viable in the long run (Bhatt et al., 1999). Few rigorous assessments of conditions for successful operations of microcredit programs in the US have been conducted to date.1 Little, for example, is known about what determines a borrower’s likelihood of repayment in US programs.

The question about repayment determinants is critical because the strongest appeal of microcredit is the well-known success of some third-world programs in achieving high repayment records in making very small loans to large numbers of disadvantaged entrepreneurs.2 The low default rates of these programs have led observers to believe that lending to microentrepreneurs might not be as risky as has been traditionally assumed, and that microcredit is a potentially viable business operation. International endorsement

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1 Three separate studies have recently been completed by the Self Employment Demonstration Project, the Aspen Institute and ACCION to examine some selected microcredit programs in the US (see Raheim, 1997; Himes and Servon, 1998; Clark and Kays, 1999). Their studies, however, focus mostly on the economic impacts on borrowers, rather than conditions for program success.

2 Examples include Indonesia’s BRI Unit Desas, Bolivia’s BancoSol and Bangladesh’s Grameen Bank.

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of successful models has led policy-makers and development practitioners to develop microlending models of one form or another in more than 70 countries worldwide, including the US (Auwal, 1996).

Despite the enthusiasm of the development community in replicating models that have worked elsewhere in the world, recent accounts of similar programs in the US reveal mixed results (Bates and Servon, 1996; Clark and Kays, 1999; Bhatt, 2002). For example, while some programs have achieved high repayment rates (Else and Clay-Thompson, 1998), some have been plagued by high loan losses (Edgcomb et al., 1996). Furthermore, most accounts of loan repayment performance are anecdotal, and often paint a confusing picture of the factors that might be positively associated with high repayment rates (Buntin, 1997). Thus, more systematic and rigorous research is needed to examine the determinants of repayment for microcredit programs in the US.³

In this article, we take a step in this direction by examining four of the oldest microcredit programs in the United States — The Neighborhood Entrepreneurship Program (NEP), Community Enterprise Program (CEP), First Chance (FC) and The Women’s Development Association (WDA). All four programs adopted a credit disbursement technique common in developing countries, group-based lending. Made famous by such third-world programs as the Grameen Bank and ACCION International, group lending requires borrowers to form groups of four to six members that provide mutual support to each other throughout the loan-disbursement process, and in some cases provide a mutual guarantee for loan repayment (Bhatt and Tang, 1998). Theoretically, group lending enables the lender to deal with the borrower group as an entity, saving the lender the costs of transacting with several different individuals. The lender thus shifts some transaction burdens to the group, in which members support and motivate each other and exert peer pressure for loan repayment. By doing so, the lender can reduce the risk of default and extend unsecured loans to low-income borrowers.

In the rest of this article, we first describe briefly the four group-lending programs we will be examining. Next, we discuss hypotheses related to the socio-economic characteristics of borrowers from the four programs. Then we present the results of a statistical test using data from the four programs. Next, we discuss hypotheses related to several contextual variables we included in our survey of NEP borrowers and present the results of a statistical test. The results of our statistical tests indicate that educational level and physical proximity to the lending program have positive impacts on one’s likelihood of repayment. Furthermore, chances for repayment are increased if the borrower has experienced lower transaction costs in accessing loans and if he or she perceives a higher chance of being sanctioned for non-repayment. Overall, these results show that both similarities and differences exist between the US and the third world in terms of what affects repayment. In the final section, we discuss how our findings can help inform microcredit program design in the US.

Four microcredit programs in the US

The four programs are located in California. While they all formally adopted group lending, they served a wide diversity of clients and have different funding sources (see Appendix 1 for a brief description of each program).

These four programs together provide a rich diversity of experiences in microenterprise development. First, the programs had different types of clientele, with NEP serving mostly African-Americans, FC serving Latinos, CEP serving mostly Asians, and WDA serving both Latino and African-American clients. The economic backgrounds

of their clienteles were also diverse, ranging from those on public assistance to those with low to moderate income. Second, all four programs had different funding sources, ranging from government contracts and foundation grants to corporate donations and program incomes.

Third, administrative processes were also different between and within agencies. At NEP, for example, a facilitator assisted with the group formation process to varying degrees. Specifically, while in some instances the decision to be in the same group was made by the prospective borrowers, in others groups were formed by the facilitator. At CEP, however, the agency formed the groups and the borrowers often had no say in the matter. Fourth, the programs’ services ranged from only lending, to the provision of loans as well as training and technical assistance. Fifth, the programs had different policies for dealing with loan defaulters. At FC loan default was usually written off as ‘bad debt’ without further legal action. Yet, at CEP default cases were sometimes taken to small claims courts.

All four programs provided us with agency records about the socio-economic characteristics and repayment records of individual borrowers. Such data allowed us to examine how individual level socio-economic characteristics affect the borrowers’ likelihood of repayment. In addition, we surveyed borrowers from the only program that permitted us to do so, NEP. A part of the survey was designed to capture each borrower’s view about the loan disbursement process, including such contextual variables as transaction costs incurred by the borrower in the process of getting loans, homogeneity of the group in which the borrower belongs, and the perceived threat of sanctions for non-repayment. In addition to the survey, we conducted a series of in-depth interviews with program officers and two focus group sessions with a total of 16 borrowers in NEP to gain more insights about the loan delivery process and the borrowers’ experiences in the process.

Although we are unable to determine if the four programs are a representative sample of all US programs, they do exhibit considerable diversity in clientele and programmatic features, thus providing a reasonable basis for an exploratory study. Our individual level analysis is constrained because we were able to examine only a limited number of socio-economic characteristics of borrowers made available to us by the four programs. Our contextual level analysis is also constrained by the fact that we were permitted to survey only a small number of borrowers in one program. Despite these limitations, our study is the first attempt of its kind to use quantitative data to examine the determinants of repayment in several microcredit programs in the United States.

Individual level variables and loan repayment

Hypotheses

We were able to collect systematic data from all four programs on six individual level socio-economic variables that have been hypothesized in the literature to be important determinants of loan repayment in microcredit: (1) the borrower’s gender; (2) the borrower’s educational level; (3) the borrower’s household income; (4) the degree of

4 We were, however, faced with several constraints in the data collection and analysis process. First of all, not all four agencies maintained good records; in fact, in the case of WDA and NEP, we were told that records for some borrowers had either not been kept or had been misplaced. While NEP provided us with direct access to client files, all the other three agencies denied such access, claiming that the information was proprietary in nature. The three agencies made available to us pertinent and selected information from client files. As a result, only a limited number of socio-economic characteristics of the borrowers could be analyzed for this study, determined mostly by whether the information about a particular characteristic could be obtained for all four programs. Furthermore, as one of the conditions insisted on by two of the agencies, we are not allowed to disclose each program’s overall repayment rate.
formality of the borrower’s business; (5) the number of years that the borrower has been in business; and (6) the proximity of the borrower’s business to the lending agency.

1. **Gender**  Low-income women are often victims of societal suppression in developing countries, and victims of lending discrimination in developed countries (Bennett and Goldberg, 1993; Rodriguez, 1995; Yunus, 1995). Some argue that lending to women can lead to their economic empowerment, and inculcate in them a culture of hard work and financial discipline, which in turn can lead to high loan repayment rates (Khandker *et al.*, 1995). Thus, women borrowers may have higher loan repayment rates.

2. **Educational level**  While many third-world microcredit borrowers have been able to maintain high repayment rates despite low educational levels, microentrepreneurs in the US are faced with different circumstances. Unlike in many developing countries, which have high demands for products/services produced by microentrepreneurs, the market demand in the US for products and services offered by microentrepreneurs is often quite low. To achieve high returns on their investments and be capable of repaying loans, microentrepreneurs in the US need to carve out distinct market niches. Compared with their counterparts in developing countries, some microentrepreneurs in the US may need more formal education in order to comprehend complex information, keep business records, conduct basic cash flow analysis and, generally speaking, make the right business decisions (Bhatt *et al.*, 1999). Thus, borrowers with higher levels of education may have higher repayment rates.

3. **Household income**  Microentrepreneurs often use their ‘business’ loans for such ‘household’ expenditures as paying for their children’s education, buying food and supplies, and paying for medical bills and other unexpected expenses (Clark and Kays, 1999). They may also use cash inflows from non-business activities and sources — such as incomes from other jobs or incomes generated by other family members — to make loan repayments. Thus, borrowers with higher household incomes may have a higher chance of repaying their loans.

4. **Formality of business**  Some microcredit programs seek to assist informal sector entrepreneurs such as street vendors and handyworkers, who are often unlicensed, and in some cases undocumented immigrants. Membership in such poor communities often implies few alternatives for generating income and obtaining credit and, as such, microentrepreneurs in these communities are eager to maintain a good credit history with the lending agency (Sirola, 1992). Thus, borrowers with less formal businesses, such as those without a business license, may have higher repayment rates.

5. **Years in business**  Microentrepreneurs who have been in business longer are expected to have more stable sales and cash flows than those who have just started. Thus, those who have run their businesses longer may have higher debt capacity.

6. **Proximity of business to the lending agency**  Most microentrepreneurs value convenience and flexibility in financial services more than they value the financial costs of accessing capital (Christen, 1992). Furthermore, if an entrepreneur’s business is located close to the lender, it is easier for the lender to get information on the borrower and to provide her with appropriate technical assistance. Thus, borrowers with businesses closer to the lending agency may have higher repayment rates.

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5 Such arguments are often based on the views of such scholars as Goldsmith and Blakely (1992), who have made a strong case in discussing the feminization of poverty in American inner cities.
In summary, six hypotheses can be specified as follows:

H1: Female borrowers have a higher chance of loan repayment.
H2: Borrowers with higher levels of education have a higher chance of loan repayment.
H3: Borrowers with higher household incomes have a higher chance of loan repayment.
H4: Borrowers without a business license have a higher chance of loan repayment.
H5: Borrowers with more business experience have a higher chance of loan repayment.
H6: Borrowers whose businesses are located closer to the lending agency have a higher chance of loan repayment.

A statistical test

A logit model is specified that consists of two probabilities associated with the dependent variable REPAY, with a value of 1 denoting loan repayment and 0 for loan default.

Table 1 provides definitions of the variables of interest. Table 2 includes descriptive statistics for each variable. In addition to these variables, several other control variables are included in the logit equation. Specifically, four dummy variables are included to represent the four programs being studied. The programs are labeled P1, P2, P3 and P4, and are in no particular order. One of the four dummy variables is dropped in the actual estimation of the equation, and in this case it is the dummy variable for the program P4. In addition to the dummy variables, interaction variables with intercorrelations less than 0.75 are also included as controls.

The results of estimating the logit model are presented in Table 3. Two variables, EDUCATN and PROXIMITY, are statistically significant at the 0.05 and 0.01 levels respectively. None of the other variables, including the interaction terms, are significant.

Discussion

The statistical results are both consistent, as well as inconsistent, with existing research on microcredit. Specifically, although the variable EDUCATN and PROXIMITY are statistically significant, the fact that GENDER is not is indeed surprising.

That EDUCATN is significant in the statistical test is consistent with the entrepreneurship literature. Entrepreneurs with higher educational levels tend to have more knowledge and skills in such areas as basic mathematics and accounting. Such human capital can assist entrepreneurs in better managing their businesses on a daily basis. Entrepreneurs with higher educational levels may also find it easier to find part-time jobs to supplement their incomes. These supplemental incomes may help the borrower to repay loans in the event of business failure.

That PROXIMITY is significant in the statistical test is also consistent with previous microcredit research. The finding, for example, echoes the Grameen Bank’s principle of ‘taking the bank to the people’. Of course, none of the four programs engaged in the type of mobile banking available in some developing countries where loan officers often transact at the borrower’s doorstep. Yet, by being closer and spending less time commuting to the lender, borrowers can put more time into running their businesses. Being closer also gives lenders more information about the day-to-day situation of

6 Officers of two of the above four programs did not want their programs to be compared to other programs in this study.
7 Although lenders in developing countries often explain the logic of mobile banking in terms of lowering a borrower’s transaction costs, in reality that is only part of the picture. A key motivation for doing so is to engage in ‘intensive loan collection’ by increasing the pressure to repay (Hulme and Mosely, 1996: 24).
borrowers more quickly, allowing them to provide the needed technical assistance to borrowers in ‘trouble’. In any event, reducing transaction costs by being closer to the lender increases a borrower’s chance of repayment.

The insignificance of the variable GENDER merits discussion, because microcredit has historically been thought of as a development intervention that addresses gender biases in credit markets and, as such, works best with women borrowers. Specifically, women are believed to be better credit risks, because they see microcredit not only as a vehicle for generating incomes for personal uses, but also for the use of the family, especially their children. Some scholars have also suggested that women are more likely than men to assist and support one another should they experience financial difficulties (Bennett and Goldberg, 1993). This is especially important for group lending programs,

Table 1  Definitions of individual level variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPAY</td>
<td>Whether or not a borrower repaid the loan</td>
</tr>
<tr>
<td>GENDER</td>
<td>Whether a borrower was male or female</td>
</tr>
<tr>
<td>EDUCATN</td>
<td>The level of formal education acquired by a borrower</td>
</tr>
<tr>
<td>HINCOME</td>
<td>The level of a borrower’s total household income</td>
</tr>
<tr>
<td>LICENSE</td>
<td>The presence or absence of a business license</td>
</tr>
<tr>
<td>YRS_IN_B</td>
<td>The number of years an entrepreneur has been in the business</td>
</tr>
<tr>
<td>PROXIMITY</td>
<td>Whether or not the entrepreneur’s business was located in the same zip code as the lending agency</td>
</tr>
</tbody>
</table>

Table 2  Descriptive statistics on individual level variables

(a) Aggregate loan repayment performance: all programs

<table>
<thead>
<tr>
<th>Sample Category</th>
<th>No. of borrowers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repayments</td>
<td>145</td>
<td>79.2</td>
</tr>
<tr>
<td>Defaults</td>
<td>38</td>
<td>20.8</td>
</tr>
<tr>
<td>Total</td>
<td>183</td>
<td>100.0</td>
</tr>
</tbody>
</table>

(b) Categorical independent variables: all programs (N = 183)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1 = Female</td>
<td>82</td>
<td>44.8</td>
</tr>
<tr>
<td></td>
<td>0 = Male</td>
<td>101</td>
<td>55.2</td>
</tr>
<tr>
<td>Business license</td>
<td>1 = Yes</td>
<td>97</td>
<td>53.0</td>
</tr>
<tr>
<td></td>
<td>0 = No</td>
<td>86</td>
<td>47.0</td>
</tr>
<tr>
<td>Proximity</td>
<td>1 = Yes</td>
<td>130</td>
<td>71.0</td>
</tr>
<tr>
<td></td>
<td>0 = No</td>
<td>53</td>
<td>29.0</td>
</tr>
</tbody>
</table>

(c) Continuous independent variables: all programs

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education (years)</td>
<td>183</td>
<td>11.34</td>
<td>3.11</td>
</tr>
<tr>
<td>Household income/month</td>
<td>174</td>
<td>1381.39</td>
<td>1340.51</td>
</tr>
<tr>
<td>Number of years in business</td>
<td>183</td>
<td>3.09</td>
<td>3.07</td>
</tr>
</tbody>
</table>
whose success hinges on the willingness of group members to help each other out when they encounter project failures or other income shocks.

Given this reasoning, why did women in our four research programs not exhibit a higher propensity for loan repayment? One possible reason is that some women entrepreneurs in the study might have been engaged in high-risk, low-return activities, which undermined their ability to generate sufficient revenues and profits to repay their loans. This explanation is supported by Goldsmith and Blakely’s (1992) research which documented that self-employed women in the US earned less than half as much as men. Another possible reason is that low-income women in the US have access to more public benefits than men of similar socio-economic backgrounds. Following Mead’s (1989) line of argument, the ready availability of government welfare programs may reduce the incentives for borrowers to ensure business success and loan repayment. Alternatively, knowing that a future source of income by way of public support is available, default may be a rational choice over repayment, especially for those who have never been engaged in income generating activities to begin with. Thus, unlike some developing countries where future credit is key to increasing earning ability or reducing future vulnerability (Morduch, 1998), women in our study might not have been that dependent on future credit as an income source.

### Contextual variables and loan repayment

#### Hypotheses

In our survey of NEP borrowers, we included several contextual variables that were hypothesized to be important determinants of loan repayment in microcredit programs:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Wald Chi-Square</th>
<th>Prob. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERCEPT</td>
<td>-3.9221</td>
<td>6.9603</td>
<td>0.0083</td>
</tr>
<tr>
<td>GENDER</td>
<td>0.3541</td>
<td>0.1818</td>
<td>0.6698</td>
</tr>
<tr>
<td>EDUCATN</td>
<td>0.2313</td>
<td>6.1249</td>
<td>0.0133</td>
</tr>
<tr>
<td>HINCOME</td>
<td>0.0002</td>
<td>0.3987</td>
<td>0.5278</td>
</tr>
<tr>
<td>LICENSE</td>
<td>-0.1075</td>
<td>0.0316</td>
<td>0.8589</td>
</tr>
<tr>
<td>YRS_IN_B</td>
<td>0.1216</td>
<td>1.5242</td>
<td>0.2170</td>
</tr>
<tr>
<td>PROXIMITY</td>
<td>2.3774</td>
<td>13.8881</td>
<td>0.0020</td>
</tr>
<tr>
<td>P1</td>
<td>0.8810</td>
<td>1.0979</td>
<td>0.2947</td>
</tr>
<tr>
<td>P2</td>
<td>1.4663</td>
<td>1.1975</td>
<td>0.2738</td>
</tr>
<tr>
<td>P3</td>
<td>-1.9767</td>
<td>1.5933</td>
<td>0.2069</td>
</tr>
<tr>
<td>GENDER x P2</td>
<td>-1.1917</td>
<td>0.9151</td>
<td>0.3388</td>
</tr>
<tr>
<td>HINCOME x P2</td>
<td>0.0004</td>
<td>0.2524</td>
<td>0.6154</td>
</tr>
<tr>
<td>HINCOME x P3</td>
<td>-0.0008</td>
<td>1.0268</td>
<td>0.3109</td>
</tr>
<tr>
<td>LICENSE x P3</td>
<td>0.0487</td>
<td>0.0006</td>
<td>0.9801</td>
</tr>
<tr>
<td>YRS_IN_B x P2</td>
<td>0.2172</td>
<td>0.3093</td>
<td>0.4825</td>
</tr>
<tr>
<td>PROXIMITY x P3</td>
<td>2.4842</td>
<td>1.7154</td>
<td>0.1903</td>
</tr>
<tr>
<td>pseudo R²</td>
<td>0.3141</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a* Significant at 0.05 level.

*b* Significant at 0.01 level.

A number of pseudo-$R^2$ measures have been proposed in the literature. The one employed here is due to Aldrich and Nelson (1984), and defines pseudo $R^2 = c/(N+c)$, where $c$ = maximum likelihood statistic and $N$ = number of observations. Because of the exploratory nature of this research, the pseudo-$R^2$ reported for this model and the one in Table 5 are for reference purposes only.
(1) transaction costs faced by borrowers; (2) homogeneity of borrower groups; and (3) threats of sanctions by the community or the program in the event of loan default.

1 **Transaction costs faced by borrowers** To access loans, borrowers may incur various types of transaction costs (Bhatt and Tang, 1998). Borrowers may be less able and motivated to repay loans if they have to bear excessive transaction costs due to complicated loan application and repayment procedures or due to ‘inefficiencies in lender delivery systems, such as missed investment opportunities because of delay in loan disbursement, due to the extra time spent processing a loan because the lending institution misplaces a document’ (Sterns, 1991: 3).

2 **Homogeneity of borrower groups** Socio-economic homogeneity of group members may be conducive to loan repayment (Devereux and Fishe, 1993). Group members of many successful third-world lending programs, for example, come mostly from similar socio-economic backgrounds (Ashe, 1985; Otero and Rhine, 1994; Wahid, 1994). Regional and kinship ties also facilitate mutual monitoring among group members and create incentives for loan repayment. Thus, homogeneity in trait among borrowers may be conducive to loan repayment.

   In some cases, high repayment is not a function of socio-economic homogeneity, but of congruency in the goals of group members. For example, a group of economically deprived individuals may all work to reverse their situation by engaging in a cooperative venture. Although the commonality of poverty appears to be key to their collective action, in reality it may have been the common desire to overcome poverty and to access large loans that makes these individuals overcome various obstacles for cooperation. Thus, homogeneity of preferences may help the group achieve high repayment rates.

3 **Sanctions** As demonstrated theoretically by Besley and Coate (1995), social sanctions in group-based lending can lead to increased repayment rates. Field studies in Burkina Faso further indicate that repayment rates are high because the threat of ex post peer pressure is carried to extremes, and has even resulted in the forced sales of household items in order to recover the loan amount (World Bank, 1997). In other instances, such as in several programs in Bangladesh, default can result in public embarrassment, exclusion from social events and even community ostracism (Khandker, 1996).

   The threat of sanctions by program management can also serve to enhance loan repayment. Often called ‘probation instruments’, sanctions may include a loss of access to future services, such as credit or savings facilities (Stiglitz and Weiss, 1983; International Labour Organization, 1997). They may also include the threat of penalties for late repayment, and in the case of the US, derogatory reporting to credit bureaus.

   In summary, four hypotheses can be specified as follows:

   H7: An increase in borrower transaction costs decreases the chances of loan repayment.

   H8(a): An increase in trait homogeneity increases the chances of loan repayment.

   H8(b): An increase in preference homogeneity increases the chances of loan repayment.

   H9: Borrowers who expect to be sanctioned in the event of default are more likely to repay the loan.

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8 Stiglitz and Weiss (1983) refer to this as 'termination threats' by the lender. Their model shows why lenders refuse to make future loans to defaulters instead of simply raising the interest rates charged on future loan periods. Such a mechanism can be useful in preventing group-borrowers from colluding and deciding not to pay.
A statistical test

The subjects for this test were the surveyed borrowers of the NEP program. These borrowers had participated in the lending program between 1989 and 1995, and had received group loans. Specifically, the 52 borrowers who were initially selected for the study were part of 11 credit groups. A total of 26 completed surveys were collected. In addition, several rounds of interviews with borrowers and program officials were conducted.

Table 4 shows the distribution of repayment performance of the entire population as well as the survey respondents. Table 5 provides definitions of the independent variables, and Appendix II explains how those variables are measured in the survey. A logit model is specified that consists of two probabilities associated with the dependent variable REPAY, which takes on a value of 1 for loan repayment and 0 for loan default. Table 6 provides the results of the regression. Among the independent variables, T_EASE and SANCTION are statistically significant at the 0.10 and 0.05 levels respectively. The two variables, HOMTRAIT and HOMPREF are not statistically significant.

Table 4 Distribution of repayment performance for NEP

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of borrowers (sample)</th>
<th>%</th>
<th>No. of borrowers (population)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repayments</td>
<td>11</td>
<td>42.31</td>
<td>22</td>
<td>40.00</td>
</tr>
<tr>
<td>Defaults</td>
<td>15</td>
<td>57.69</td>
<td>30</td>
<td>60.00</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>50.00</td>
<td>52</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Table 5 Definition of independent variables for NEP

<table>
<thead>
<tr>
<th>Variable*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_EASE</td>
<td>Perceived ease and convenience before and after loan disbursement services</td>
</tr>
<tr>
<td>HOMTRAIT</td>
<td>Perceived homogeneity of the traits of group members</td>
</tr>
<tr>
<td>HOMPREF</td>
<td>Perceived homogeneity of the preferences of group members</td>
</tr>
<tr>
<td>SANCTION</td>
<td>Presence or absence of a perceived threat of sanctions imposed by either community members or program management, or both, in the event of loan default</td>
</tr>
</tbody>
</table>

* See Appendix 2 for an explanation about how these variables are measured in the survey.

Table 6 Logit model of repayment performance for NEP

Outcome variable: REPAY = 1 (repayment of entire loan) (N = 26)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Wald Chi-Square</th>
<th>Prob. Value</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
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Pseudo R² = 0.4034

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* Significant at 0.1 level.

b Significant at 0.05 level.
Discussion

The statistical results suggest that when borrowers incur less transactions costs they tend to have higher repayment rates. Further, the probability of loan repayment increases when the perceived threats of sanctions in the event of loan default increase. Finally, loan repayment is related to neither trait-homogeneity nor preference-homogeneity of the borrower’s group.

That decreasing lender-imposed transaction costs enhance loan repayment is consistent with the literature on microcredit program design. Otero and Rhyne (1994), for example, emphasize that disadvantaged entrepreneurs value convenience, ease and flexibility of credit access more than lower interest rates. Many programs in the US, however, do not focus on minimizing borrower transaction costs (Bhatt et al., 1999). For someone who needs a microloan for working capital purposes, for example, waiting 45 to 90 days to secure a $500 loan can result in lost business opportunities, and in some cases even in the demise of the business itself. It is therefore important that lenders do away with bureaucratic processes that often result in lengthy loan applications and inordinate waiting periods for loan approval.

Some practitioners in the US might argue that waiting periods are needed for providing borrowers with training and technical assistance, such that credit is disbursed only to those who have the capacity to use the credit prudently. While the logic of building the capacity of entrepreneurs is sound, the provision of these services marks a significant departure from the practice of most successful third-world microcredit programs, such as the Grameen Bank and ACCION International, which offer little training or technical assistance to their borrowers.

In fact, this is precisely where microcredit programs in the US differ fundamentally from many of those in the third world. Most successful microcredit programs in developing countries make loans to the working and entrepreneurial poor, that is, those who have been engaged in a business for a couple of years when they apply for a loan. Such entrepreneurs often need the capital to expand an ongoing income-generating venture. They usually know exactly how the loan will be used,9 and what kinds of returns to expect from their investment. Given that a market already exists for the goods or services produced by these entrepreneurs, the chance of loan default owing to nonviable business ideas is relatively low.

For most microcredit programs in the US, such as those studied here, loans are made to a mix of existing and start-up entrepreneurs. For example, in the case of NEP, our interviews with borrowers revealed that many of them were engaged in unprofitable ventures. In some cases borrowers had no significant sales, and found it very difficult to sustain the business over the long term. In some other cases borrowers had no prior experience in running a business at all.

To ensure that borrowers have appropriate management and business capacity, program managers in NEP required all participants to undergo intensive training and technical assistance. While this kind of business training might be useful for the start-up entrepreneur, it can be costly for the existing entrepreneur who needs the loan, in some cases immediately, to capitalize on a business opportunity. Indeed, during the focus group sessions some borrowers complained about losing business opportunities owing to long waiting periods to access loans.

In addition to the transaction costs created by mandatory training and technical assistance, lax management practices and inefficient loan tracking also imposed high transaction costs on some borrowers. Interviews indicated that frequent changes in program staff at NEP led to misplaced loan documents and loss of time as prospective borrowers must call repeatedly to inquire about their loan approval status.

9 This might even include non-business uses of funds.
The finding that perceived threats of sanctions increase loan repayment is also consistent with an argument in the recent literature that *ex ante* peer support might not be the reason for the high repayment rates of overseas group-based microcredit programs. It is rather the threat of sanctions that alleviates the moral hazard problem created by the absence of traditional collateral. In the context of third-world lending programs, the costs of defaulting include not only the loss of future credit, but also public embarrassment and the loss of social standing. The fear of such embarrassment, however, was not present among NEP borrowers, because no one ever paid off anyone else’s loan. Those who had defaulted on the loan claimed that their action never caused any other group members to suffer.

Interviews with selected participants confirm that few feelings of reciprocity and trust existed among group borrowers, especially when the time came to help group-members make payments that they were unable to make. Although the borrowers felt very positively about NEP’s focus on group-based learning and support, there seemed to be an unwillingness to share personal financial information with one’s peers, much less be liable for their debts. The joint liability principle, in the case of this program, thus existed only on paper. Program staff confirmed that it was neither followed nor enforced.

When borrowers were asked the question ‘What did you think would happen if you did not repay the loan?’ the majority replied that they personally would not have felt good about having defaulted. Six borrowers stated that they feared losing access to future services. None of the respondents, however, mentioned public embarrassment as a cost of default, while only three said they feared that NEP would initiate legal action. In other words, the costs of defaulting were perceived to be quite low.10

Finally, although the finding that neither trait nor preference homogeneity was related to loan repayment runs counter to conventional wisdom on the subject (see, for example, Huppi and Feder, 1990), it seems to be consistent with the results of two recent empirical investigations. The first is Hulme and Mosely’s (1996) study of repayment performance of borrowers at the BancoSol program in Bolivia. They found that the economic homogeneity of group members did not correlate positively with loan repayment rates. The second is Zeller’s study of credit groups in Madagascar, in which he concluded that ‘policy makers and program managers should be aware that the often-postulated homogeneity among group members has trade-offs by reducing the group’s ability to repay loans’ (1998: 618).

Why might homogeneity not be an important determinant of loan repayment? The answer might lie in an argument by Elinor Ostrom (1997) that more important than the degree of homogeneity of the group seeking to achieve collective action is the extent to which group members share similar norms about trust and reciprocity. This is similar to an observation made by Bhatt and Tang (1998) that the success of a group-based, joint-liability model depends largely on whether or not the community possesses high reserves of social capital, conceptualized as shared norms, traditions and conventions. Such mutually shared views and agreements are fundamental to creating stable expectations and credible commitments among members in a group.

It is precisely such social capital that seems to be lacking in America’s inner cities (Putnam, 1993b), in which, ironically, all the four programs being studied were located. Given such a reality, this then raises the question about whether group-based lending is an appropriate microcredit technique in our inner cities. Some might answer in the

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10 An analysis of NEP’s portfolio revealed why borrowers had no fear of sanction by the program. In some cases default was never even noticed, because of a lack of adequate record keeping. In one particular instance, the same borrower was approved four loans between 1991 and 1996 totaling more than $30,000, although this borrower had paid off only her first $500 loan. While such cases might possibly be the result of administrative failures, they sent a wrong signal to other existing and prospective borrowers who felt that default would not be sanctioned, but rather forgotten.
affirmative, arguing that social capital can be created, and that it is the potential of microcredit to achieve the dual objectives of economic and social development that makes it a unique intervention. But others such as Putnam (1993a) might suggest otherwise, lamenting that social capital has deep historical roots. Where ‘civicness’ is present, it tends to persist; where it is not, it cannot be created easily. Indeed, as shown by recent advances in evolutionary game theory, it is quite possible to have infinitely repeated games that favor equilibrium featuring perpetual defection (Sethi and Somanathan, 1996).

Implications for program design in the US

This article analyzes the determinants of loan repayment for four microcredit programs in the US. Records of these programs show that higher levels of education and proximity to the lending agency increase a borrower’s chance of loan repayment, while the borrower’s gender does not appear to affect chances of repayment. Furthermore, our survey and interviews of borrowers of one particular program, NEP, indicate several contextual factors that are conducive to higher chances of loan repayment. These include low transaction costs for accessing loans and high borrower-costs in the event of default. Furthermore, lending to communities with high social capital and to borrowers engaged in income generating activities may also increase the chances of loan repayment.

Given the non-random nature of our sample of microcredit programs and the small number of respondents in the NEP survey, the results of this study can be treated only as exploratory in nature. Yet, when they are considered in conjunction with other available empirical and theoretical evidence, certain tentative implications can be drawn to inform microcredit policy in the US.

Specifically, those who are interested in microcredit initiatives as a way of achieving both economic and social development in inner cities across the US need to be aware that they are shouldering great risks and costs as they try to replicate a third-world service delivery philosophy — that of making unsecured loans to entrepreneurs. Unlike lenders in developing countries who replace the lack of tangible collateral by such collateral substitutes as social capital, lenders in the US, especially those operating in the inner city, have access to no such reliable substitutes. When unsecured loans are made based on ‘imaginary’ collateral substitutes such as community connectedness, trust and reciprocity that exist, at best, quite minimally, there are probably only two possible costs confronting a loan defaulter. One is the lender’s ‘termination threat’, which results in loss of future loans. The second is personal (not public) embarrassment, which often depends on how one feels about not repaying debt.

Regarding the first, the threat of losing access to future loans is an effective sanctioning mechanism only when borrowers are highly dependent on future credit. When loans are made to those who are not engaged in income-generating activities on the one hand, and have access to other means of income on the other, such dependency tends to be quite low. NEP made most of its loans to such ‘low loan dependency’ borrowers; as such, the threat of ‘termination’ was insufficient to induce conformance to agreed upon group and program rules. With regard to the second, one-on-one interviews with borrowers, as well as NEP staff and board members, suggested that although perceptions of personal embarrassment upon default varied from person to person, on balance, the number of people who did not care about such embarrassment probably exceeded those that did. When programs make unsecured loans to individuals who do not have to face any major

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11 This seems to be consistent with Besley’s observation that those who theoretically design group-based credit arrangements and subsequently formulate policies and programs often create institutions that are inefficient. This is usually because ‘often notoriously absent from such models are ideas . . . such as the social capital embodying the cumulative experience of the relevant population’ (1995: 124).

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costs upon defaulting, goals of achieving high loan repayment rates, such as those obtained in some successful third-world programs, are, at best, quixotic propositions.

In addition to being exposed to high risks, agencies are faced with high administrative costs when implementing third-world microcredit models in the US inner city. To reduce administrative costs, programs have to rely less on formal screening, monitoring and enforcement processes, and trust that either individual borrowers or groups will perform those functions effectively. Yet the latter is possible only in communities with high social capital. Given the low reserves of such an asset in inner-city communities, agencies that want to ensure high loan repayments need to engage in intensive loan collection processes, which are both time consuming and resource intensive.

Thus, to be viable in the long run, microcredit programs in the US need to make systematic efforts to minimize administrative costs, but at the same time maximize incentives for repayment. The results of our empirical studies highlight some possible strategies. First, compared with their counterparts in the third world, microentrepreneurs in the US are faced with a more competitive market environment and with more difficulties in developing profitable businesses (Bhatt and Tang, 1998). To enhance repayment, it is important for microcredit programs to identify potential borrowers who actually have the ability to develop a viable business. As shown in our empirical analysis, one’s business experience and household income appear to have no impact on repayment rates, but one’s educational level does show a positive impact. It appears that human capital is more important than social capital in determining the success of microentrepreneurs in the US. A possible implication of this argument is that although it may not be important for microcredit programs to evaluate a potential borrower based on her assets and prior business experience, it is important to determine whether the individual does have the necessary knowledge to run a viable business.

Second, if knowledge of business is important, does it mean that microcredit programs ought to provide or even mandate extensive training for borrowers? We caution such a recommendation because, as shown in our empirical analysis, high transaction costs imposed on borrowers tend to decrease repayment. It is indeed the problem with some programs that require various forms of procedures and training before making funding available to borrowers. Since it is inherently difficult to develop a set of training that is useful for a wide variety of business operations, many general-purpose training requirements often turn out to create unnecessary burdens on borrowers, but without actually improving their chances of success in business.

Although business training may provide information and build human and/or social capital, its ‘completion’ should not be equated with business viability. The focus of training and technical assistance needs to change from ‘completion’ and ‘graduation’ to assessing the feasibility of proposed plans for business start-up or expansion. Does the idea make sense in business terms? Has the entrepreneur mistaken the existence of a product/service with the existence of a market for it? For start-up entrepreneurs, can the market support the business’s projected sales? How long will it take for the business to break-even? Does the loan applicant have the necessary resources, from both the business and from other sources, to support living expenses till that time? In many instances, answering these fundamental questions does not require lengthy curricula and elaborate instruction schedules. In fact, programs can often assist a microentrepreneur to assess the viability of a proposed business by engaging her in a couple of hours of ‘problem solving’ technical assistance.

Third, the banking system in the US has often been criticized for undermining the poor by failing to provide adequate banking facilities close to where they live (Dymski, 1996). If microcredit programs are supposed to be a means of supplementing the inadequacies of the formal banking system, it is important that these programs are located close to their clients. Being close to the clients is not just a convenience to them, but also a way to promote financial discipline on the part of the borrowers. As borrowers have
more incentives to maintain a long-term relationship with a funding source that is convenient for them, they have more incentives to repay loans for the sake of maintaining that relationship. Such an argument is supported by our empirical analysis, which shows that proximity is conducive to repayment.

Last, but not least, programs need to adopt effective sanctioning mechanisms against loan default. While social pressure from co-borrowers can have sanctioning effects on those who default, such mechanisms work less well in communities with lower social capital. In such circumstances, programs need to develop a strong accounting and management system such that they can keep track of repayment records and take action, legal as well as programmatic, against late payments and default. To maintain such a system requires both resource and policy commitments from program managers. Yet such commitments are crucial for the long-term viability of a microcredit program.

In conclusion, US microcredit programs are faced with a set of social, economic and institutional environments that are both similar to and different from those faced by their third-world counterparts. Our study suggests that to achieve high repayment rates, US programs must take these similarities and differences into account when designing their lending arrangements. In this regard, more work needs to be done to examine if factors other than those investigated here may enhance the loan repayment performance of microcredit programs in the US.

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Appendix 1 — A brief description of the four microcredit programs examined in this study (names have been altered to protect the identities of the programs)

The Neighborhood Entrepreneurship Program (NEP) is part of a larger private nonprofit community-based corporation. The Program was one of the four group-based microenterprise development pilot programs launched nationwide in 1989 by the congressionally-chartered Neighborhood Reinvestment Corporation, whose objective was to encourage entrepreneurial activity among disadvantaged populations, especially minorities and women. It provides loans and training to its clients who are primarily low-income African-American and Caucasian women. It is funded primarily by government contracts.

Community Enterprise Program (CEP) assists disadvantaged refugees in attaining economic self-sufficiency through various microenterprise development services that include group lending programs. The program has been disbursing credit to groups since 1991, and is funded by the Office of Refugee Resettlement, which is part of the US Department of Health and Human Services. The program’s primary target market is Asian and Armenian individuals on public assistance.

First Chance (FC) a network of microenterprise programs dedicated to increasing long-term income and employment opportunities among the marginally self-employed by providing access to credit based on their solidarity group lending methodology. Since its inception in 1990, its primary target market has been low to moderate income Latino entrepreneurs, primarily women. It is funded by various foundation grants, corporate donations, and program income.
The Women's Development Association (WDA) was founded in 1989 for providing assistance to low-income individuals, primarily women, in achieving economic self-sufficiency through self-employment. Although WDA ceased operation in March 1996, its Executive Director made available to us agency and borrower-data from the agency’s archives. It made loans both to individual and group borrowers, and its client base consisted primarily of African-Americans and Hispanic-Americans. It was funded by various government contracts and foundation grants.

Appendix 2 — Measurements of contextual variables in the NEP survey

T_EASE is an index constructed from 8 questions (on a 4-point scale) that ask respondents about how they evaluate the ease and convenience of the loan disbursement process:

1. The waiting time to participate in the training program was too long;
2. The training was too lengthy;
3. The various steps one had to go through to get the loan took too much time;
4. Your business suffered because it took too long for you to get the loan;
5. Your account information was not handled efficiently;
6. You spent too much time on filling out paper work;
7. NEP staff were readily available to deal with your situation;
8. NEP staff were flexible with your schedules.

HOMTRAIT is an index constructed from 4 questions (on a 5-point scale) about the personal and business characteristics of group members:

1. Members were similar in their economic background;
2. Members operated their businesses in close proximity;
3. Members lived in close proximity;
4. Members communicated with each other frequently.

HOMPREF is an index constructed from 4 questions (on a 5-point scale) about the interests and preferences of group members:

1. Members were interested in helping each other;
2. Members were serious about succeeding in business;
3. Members were interested in each other’s problems;
4. Members had similar goals and ambitions.

SANCTION is an index constructed from 5 questions (on a yes or no basis) about what the respondent thinks would happen if he or she failed to repay the loan:

1. Community members would force me to pay;
2. NEP would take legal action against me;
3. Community members would publicly embarrass me;
4. I would feel bad for not having paid;
5. Other (please specify).

References

Bennett, L. and M. Goldberg (1993) Providing enterprise development and financial services to
women: a decade of bank experience in Asia. The World Bank, Washington, DC.
Development Economics* 46, 1–18.
San Francisco.
Adams and D.A. Fitchett (eds.), *Informal finance in low-income countries*, Westview Press,
Oxford.
Learning Project*. The Aspen Institute, Washington, DC.
*Developing Economies* 31.1, 102–21.
Institute, Washington, DC.
lessons learned*. ISED, Iowa City.
Philadelphia, PA.
on microenterprises in the United States*. ACCION International, Somerville, MA.
Huppi, M. and G. Feder (1990) The role of groups and credit cooperatives in rural lending. *The
World Bank Research Observer* 5.2, 187–204.
Enterprise and Cooperative Development Department*, ILO, Geneva.
Bank, Washington, DC.
in Bangladesh. Paper presented at the Seminar in Aging, Development, and Population, 2 July,
at the RAND Corporation, Santa Monica, CA.
Political Theory and Policy Analysis, Indiana University, Bloomington, IN.
financial institutions for the poor*. Kumarian Press, West Hartford, CT.
Press, Princeton, NJ.
—— (1993b) The prosperous community: social capital and public life. *The American Prospect* 13,
35–42.
option for welfare recipients. *Social Work* 42.1, 44–53.
Inc, New York.


