

Discussion Paper No. 0006

June 2000

**Post Crisis Microfinance: Borrower Default
Characteristics During the Recession
in the Philippines**

by

*Rebecca N. Coke**

*Visiting Research Associate, School of Economics,
University of the Philippines

Note: UPSE Discussion Papers are preliminary versions circulated privately to elicit critical comment. They are protected by the Copyright Law (PD No. 49) and not for quotation or reprinting without prior approval.

Two Types of Default

In the GRP, borrowers who successfully meet all weekly amortization payments are given a larger loan in the next year. Loans typically start at 5,000 pesos, and are increased each year by 5,000 to reach a maximum of 25,000 pesos. This practice of granting loan increases based on past loan payment performance is typical in Philippine MFIs. In the bank's borrower population, default is an increasing function of loan size; borrowers with bigger loan sizes default at a higher rate than those with first-time, small loans. If default was caused solely by business failure, then we would expect a more even distribution of default across all loan sizes. The systematic increase in default is not indicative of a random shock to business performance.

First-year borrowers often stated that they were repaying diligently in order to get the higher loan value next year. At the beginning of each loan period, the borrower must decide if she wants to trade present consumption for expected future consumption in the form of business profits and future loan values. The repayment decision is necessarily a function of the borrower's valuation of future loan benefits and time rate of preference⁶.

TABLE 3.2

Loan Size		
Variable	Coefficient	S.E.
PRIN* **	1.08×10^{-4}	4.41×10^{-6}
Constant***	-.18	.035
Pseudo-Rsquared		.07
Number of Observations		8304

The borrower survey reveals that there are two main types of default. Borrowers defaulting on loans of 5,000 pesos or less do so because they *cannot* pay; they are too poor to meet the weekly amortization payments, and tend to use business profits and/or capital to finance daily family consumption. Borrowers who default on loans greater than 5,000 pesos do so because they *choose not to* pay. These borrowers typically divert loan funds for non-productive use, mainly for school fees, and stop paying their loan. When they decide that future loan benefits are no longer attractive relative to current consumption, borrowers default. Essentially, there seems to be a threshold effect. While the borrower has an incentive to repay if possible in

⁶In the estimation results, the * symbol next to the variable name indicates if it is statistically significant. *** means significant at $\alpha=.01$, ** means significant at $\alpha=.05$, and * means significant at $\alpha=.10$.

the first loan, the incentive diminishes with the second loan.

Borrowers Defaulting During the Post-Crisis Period

In order to evaluate the effects of the Philippine recession, the borrower sample was refined to include borrowers who received a loan of 5,000 pesos or less during the post-crisis period⁷. This group contained borrowers who succeeded with their small loan and received a higher loan amount in the next year, as well as borrowers who did not succeed in meeting their loan obligations. Of the defaulting borrowers in the subsample, unemployment of a spouse and/or high family living expenses were cited as being the causes of default in 44 percent of the cases. Business problems and/or failure were only responsible for 8 percent of the subsample default.

TABLE 3.3

Causes of Default: Borrowers with loans of 5,000 or less		
<i>Reason</i>	<i>Number</i>	<i>Percent of Defaulting</i>
Used business profits for family expenses	6	24 percent
Husband was unemployed	5	20 percent
Sick family member	5	20 percent
Husband left or refused to help pay loan	2	8 percent
Business problems	2	8 percent
Servicing other debt	1	4 percent
Other	4	16 percent
Total	25	100 percent

Borrowers defaulting in their first microfinance loan seem to be sensitive to exogenous shocks. This is due to the fact that these borrowers are poorer and less stable than borrowers who graduate to higher loan values. This is shown through a simple econometric model of borrower default using a limited dependent variable. If we let $y_i = 1, 2$ where 1 = default in a loan of 5,000 pesos or less and 0 = success in a loan of 5,000 pesos or less, borrower default can be modeled as follows:

⁷Borrowers who received their loan between January 1997 and June 1999. This subsample contains 80 borrowers. A second subsample of 120 borrowers was also tested; this sample added first-time borrowers whose loan had not matured at the time of the interview, but who were current in their weekly loan payments. This second subsample produces similar econometric results that are available upon request.

$$y_i = F(\beta_0 + \beta_1 \text{NONBUSINC} + \beta_2 \text{BUSPROB} + \beta_3 \text{RESIDE}) + e_i$$

The independent variables:

NONBUSINC - estimated annual non-business income of the household, including other borrower income, the income other household members (i.e. wage income), farm income, transfers, and other income.

BUSPROB - a binomial variable registering a 1 if the borrower reported experiencing business problems during the post-crisis period and 0 otherwise.

RESIDE - number of years the borrower has been living at her present address.

The results of this binary choice model⁸ are shown in Table 3.4. Non-business income has a negative and significant coefficient; this indicates that loan repayment is more likely as family income (excluding microfinance business income) increases. The coefficient on the number of years the family has lived in the community is also negative and significant. Microfinance borrowers that fully paid their 5,000 peso loan during the post-crisis period were more stable and had higher overall income than defaulting borrowers. Finally, we see that business performance is not a significant indicator of default.

TABLE 3.4

Sample Default- Model I		
Variable	Coefficient	S.E.
NONBUSINC**	-9.07×10^{-6}	4.16×10^{-6}
BUSPROB	.019	.396
RESIDE**	-.026	.011
Constant*	.719	.380
Pseudo-Rsquared		.159
Number of Observations		80

We can use a similar model to test variables associated with group lending, namely variables that measure the strength of the ties between the borrower and her groupmates. Some of the hypotheses that come from the group lending literature are:

⁸By using the probit model, we assume $F(\beta'X)$ is the c.d.f. of a standard normal random variable. See Judge, et al. (1988) for more details. This is a harsh assumption that will be revised in future versions of this paper.

- I. If the borrower lives close to her groupmates, then it is easy for groupmates to monitor each other and dissuade loan shirking. Repayment will be higher among groups that are clustered than among groups where member's homes are far apart.
- II. Groupmates who have known each other for a long time have a good information on each other's risk characteristics. They will also be able to exert more pressure on delinquent borrowers to pay because the intra-group relationships are stronger.

The following independent variables have been constructed to test these hypotheses:

DIST - average distance between the borrower's house and her groupmates' homes in meters.

YEAR - average time between when the borrower met her groupmates and when the group was given the first loan. This variable is a proxy for the strength of the borrower's relationship with her groupmates.

RELATIVE - a binomial variable measuring 1 if the borrower is related to at least one of her groupmates and 0 otherwise. This variable is also a proxy for group strength.

TABLE 3.5

Sample Default- Model II: Group Lending Variables		
Variable	Coefficient	S.E.
Distance	-3.58×10^{-4}	2.78×10^{-4}
Year**	-.034	.016
Relative	.047	.312
Constant*	.02	.31
Pseudo-Rsquared		.095
Number of Observations		80

Of the three group lending variables, only YEAR has the correct sign and is significant. Borrowers that have long acquaintances with their groupmates are less likely to default in the first loan. However, this result is most likely related to the earlier finding that length of residence in a community is positively correlated with repayment. Borrowers who have been in the community for a long time are less transient, and are likely to have strong

community support networks and better jobs. The YEAR variable is probably measuring those forces instead of group pressure. This is especially plausible given that there was very little evidence of peer monitoring and sanctions in the borrower sample.

Loan Diversion

Joint-liability contracts are supposed to discourage the moral hazard problems caused by asymmetric information inherent in the bank-borrower relationship [(Conning 1999), (Armendariz de Aghion 1999)]. If the other group members divert loan funds to non-productive uses, then the borrower is more likely to be held responsible for their loan payment upon maturity. Therefore it is in the best interest of the borrower to monitor the projects of other group members.

Yet peer monitoring seems to be almost non-existent within the GRP's groups. Diversion of loan funds to non-business purposes occurs frequently and is correlated with default. In addition, some respondents could not give the full names of all of their group members, and often had difficulties remembering their group members' projects. Several borrowers stated that their group members did not reproach them for diversion of loan funds for family expenses. There is even evidence of collusion among group members; some groups discussed diverting loan funds to pay for school fees before the loan was disbursed.

To test the effect of loan diversion on borrower default, let $y_i = 1$ if a borrower with any size loan has either defaulted or is past due by amortization and 0 otherwise.

$$y_i = F(\beta_0 + \beta_1 \text{PERCDIV}) + e_i$$

The independent variables:

PERCDIV - percent of the borrower's net loan proceeds that were diverted for non-productive purposes.

TABLE 3.6

Percentage of Loan Diverted		
Variable	Coefficient	S.E.
PERCDIV***	2.5	.53
Constant	-.12	.13
Pseudo-Rsquared		.16
Number of Observations		160

Borrowers diverting loan funds to non-business purposes usually did so to pay education expenses for family members. Investment in human capital seems to be a strong social value. One respondent emphasized that it was "very important" that she provide for her son's education, even at the expense of her loan payment. The cultural importance of education seems to inhibit the social enforcement mechanisms. The group members may have difficulties exacting punishment on borrowers that divert loan funds toward education expenses. Also, several groups colluded against the lender at the beginning of their loan, deciding collectively to spend loan funds on education expenses.

In addition to the satisfaction they receive from educating their children, the parents are investing in a retirement plan. In effect, borrowers are trading future loan benefits for expected future transfer payments from the educated child. Ironically, the education level of the borrowers and spouses does not seem to have much impact on family income; the regional economy in general appears to have a high rate of underemployment.

4 Factors Affecting Group Lending in Filipino Borrower Groups

The survey results indicate that the group lending mechanism is not working in the study areas as predicted by joint-liability lending theory. First, the group selection process theoretically screens out undesirable borrowers. Low risk borrowers will choose not to be in groups with high risk borrowers, and so groups should have homogeneous risk characteristics. Van Tassel (1999) shows that in equilibrium the bank can choose the optimum level of joint liability that discourages high risk borrowers from accepting the group lending contract altogether.

If this result held empirically, we should observe homogeneous microfinance groups. Low risk people should not accept a contract with a high-risk borrower. In addition, we should find that most high-risk borrowers are weeded out by the group selection process. However, neither of these are evident in the GRP's borrower pool. Groups are highly heterogeneous in repayment capacity, especially during the first loan. High-risk borrowers are not screened out through the group selection process; borrowers defaulting in the first loan belong to lower-income families and are relatively new in

the community. If groups were effectively screening for the bank, then these high-risk borrowers would not have been allowed in borrower groups.

Survey respondents were asked why they allowed high-risk people into their original groups. Invariably, they replied that they did not know the defaulting borrowers were going to be bad payers until after the group was formed. Some stated that the high-risk group members were the ones who heard about the program initially and convinced the low risk borrowers to join the group.

The high incidence of diversion of loan funds in the sample is another indication that the peer monitoring mechanism is not working within the borrower population. This not to say that borrower's are not concerned about their groupmates repayment and its implications for their future loans. One past due borrower acknowledged that her group members are concerned that they will be denied future loan benefits if she does not pay her loan. Yet the other group members were unable to convince the borrower that she should pay her loan. The delinquent borrower feels that her family's needs come first, and "the loan can wait." It seems that even when group members are concerned about one borrower's delinquency, they have very little power to force the borrower to pay.

The intriguing question raised by these findings is, Why are the social enforcement mechanisms not functioning in the borrower sample? The answer appears to be a mix of business limitations, gender roles, and Filipino social norms.

Microfinance Business Projects

The microfinance businesses themselves may be a contributing factor. Most projects are labor-intensive activities that seem to exhibit sharply diminishing marginal returns to capital. Table 5.1 lists the distribution of business projects undertaken by borrowers and groupmates in the survey sample. As indicated, the microfinance projects are highly concentrated in a few income earning activities. These projects have a very low profit margin, are labor intensive, and are dependent on local demand (usually neighborhood demand); projects exhibit a low potential for growth.

TABLE 4.1

Microfinance Businesses		
<i>Reason</i>	<i>Number</i>	<i>Percent of Defaulting</i>
Vending fish/ rice/ palay/ fruit/ clothes	216	29.39 percent
Sari-Sari ^a store	215	29.25 percent
Piggery	117	15.92 percent
Weaving/ making fibers	81	11.02 percent
Other	106	14.42 percent
Total	735	100 percent

Borrowers appear to have low absorptive capacity for additional capital; business exhibit sharply diminishing returns to capital after the first loan. Twenty-three percent of borrowers with loans greater than 5,000 diversify into a second business. An additional three percent put a portion of their loan amount into a savings account for "emergency use", reinforcing the theory that microfinance businesses have a limited capacity for capital absorption. This leads to a low borrower valuation of future loan benefits after the threshold of 5,000 pesos. The probability of default increases as the borrower's present discounted value of expected future loan benefits decreases.

Gender Issues

Group lending programs have historically targeted females in the belief that women tend make more responsible household decisions than men in many cultures. In the Philippines, in particular, the female is viewed as the "Treasurer" of the family and is therefore responsible for much of the food budgeting. However, this does not imply that the wife has sole power over spending decisions. Expenditure decisions depend upon the female's relative household bargaining power.

The survey indicates that while most households claim the wife is in charge of the budgeting (see "Overall budget" in Table 5.2), the reality of household decision making is much more complex. Decisions for particular household expenses are delegated by gender. Males are more likely to leave daily maintenance decisions to the female, such as decisions for food expenditures, but will get involved in larger decisions, such as purchasing appliances and spending savings.

TABLE 4.2¹⁰

Household Decision Making			
Category	Female	Male	Male and Female
Overall budget	68 percent	2 percent	22 percent
Food expenses	66 percent	2 percent	18 percent
Appliances	20 percent	22 percent	19 percent
Decision of how much to save	71 percent	8 percent	17 percent
Decision of how and when to spend savings	57 percent	7 percent	32 percent

The interview process revealed that females do more than just make decisions about family food expenditures; usually they use their income to actually purchase the food. Borrowers universally used business income for food expenses first, and then paid the loan if there was money left over. If the business income was not enough for both the food and the loan payment, the borrower would ask her spouse/friend/groupmate for a loan, do extra income earning activities, or liquidate assets to meet the loan payment. If she could do none of these, then she could not pay her loan.

One borrower stated that she applied for the loan so that she could buy some things for herself. When asked what type of things she wanted to buy, she replied that she wanted to purchase milk for her children. This is interesting because it indicates that the borrower shaped her identity through provision for children's needs. Buying items for herself really meant buying items for her children. Her response also showed that she was uncomfortable asking her husband for money to meet basic food needs of the children, even though she belonged to one of the richer families in the sample.

For the Filipino wife, family needs are often placed before her obligations to the larger community. This is one reason why borrowers choose to divert loan funds for family expenses even when her groupmates do not approve. Thanks to the Spanish colonial ideal of a virtuous woman, the female is often expected to sacrifice herself for her children and her husband. Aguilar (1991) attributes the self-sacrificial behavior of Filipina housewives to "conformity to a highly-prized behavioral model"; women derive self-worth through their

¹⁰Percentages do not add up to 100 because an other category was not included comprised of overseas workers, in-laws and other people. In addition, some respondents reported the categories were not applicable to their decision making process.

domestic responsibilities. Even if the borrower had plans of business expansion, her goals depend on the timing of her children's needs and her husband's goals. *Repayment success depends crucially on whether the borrower's family is willing and able to support her in the loan.*

Cultural Issues

Cultural norms play a key role in the group lending mechanism. For peer monitoring to work, the group must be able to design and enforce punishments for deviant behavior. If the punishment threat is not credible, then group members cannot shape the incentives with a joint-liability contract to be different from an individual loan contract.

In the Philippines, two strong social norms appear to be interfering with the group's ability to enforce punishments for diversion of loan funds: the concepts of *pakikisama* and *hiya*. Andres (1989) defines *Pakikisama* as 'smooth interpersonal relations' and *hiya* as 'avoidance of causing shame'. *Pakikisama* is a cultural value that requires yielding to another's opinion, "even when at times, it contradicts one's ideas or the common good [sic]" (Andres, 1989).

According to Filipino anthropologist F. Landa Jocano (1997), *hiya* proscribes avoidance of confrontations so that person does not lose face.

Keeping quiet is politeness—one way of "protecting the face" especially if there are differences of opinion... To be argumentative is to lose face before one's peers if the person loses in the debate, or, even if the person wins, he/she causes the "loss of face" of the opponent before the group. In either instance, the result is *sama ng loob* (hurt feelings)... Silence is a protective device for shielding a person from "loosing face" before others¹¹.

Both *pakikisama* and *hiya* have been noted to be the cause of closure of several micro-enterprises in Metro Manila (Andres, 1989).

The *pakikisama* resulted in the extension of credit to customers even if such erodes the capital base of the business and negates opportunities for increased profits. *Hiya*... effectively prevented the entrepreneur from aggressively collecting his or her collectibles which in many cases led to loss of capital and closure of the business¹².

¹¹Filipino Value System: A Cultural Definition, p72-3.

¹²Positive Filipino Values p147.

Post Crisis Microfinance: Borrower Default Characteristics During the Recession in the Philippines

Rebecca N. Coke¹

June 27, 2000

¹The author is currently a Visiting Research Associate at the University of the Philippines School of Economics (UPSE). She would like to thank the faculty and staff of the UPSE for their comments and support. The author would also like to acknowledge support from a Fulbright Research Grant. Comments are welcome by email: rebeccacoke@yahoo.com. PRELIMINARY DRAFT- Please do not cite.

Such business closures are also evident in the borrower sample. Two vending business (fruit and palay) closed because a customers owed them a large sum for delivered goods. Both respondents stated that they would re-open their businesses as soon as the delinquent customer paid the debt. Another borrower could not pay her loan because one customer did not pay for 5,000 pesos worth of clothing items. All three customers expressed helplessness in collecting payment even though the results were harmful for business. If social norms are harming the businesses of microfinance borrowers directly, it is not unreasonable to believe that they are also interfering with the group's ability to enforce sanctions against loan diversion and strategic default.

5 Conclusion

This study suggests that the impact of the crisis on microfinance business was small. Most borrowers are vending items related to the daily food needs of the community: fish, rice, fruit, etc. Unlike larger luxury items, these goods were not subject to sharp demand shortfalls due to the post-crisis recession. In fact, the only borrowers reporting unusual business problems were vending larger more expensive goods, such as clothing and wholesaling rice.

The effects of the crisis were indirect- occurring through the unemployment of other family members and through increases in the cost of living. During interviews, borrowers often stated that family needs came first. If the family suffered a negative income shock, then the borrower would divert business profits and/or business capital towards family expenses. Diversion of loan funds also occurred during the crisis period, perhaps as a coping mechanism for increased prices. Loan funds were most commonly diverted to pay for education expenses and for other household expenses like food and transportation.

The two main results, that low income borrowers are more likely to default in the first loan and borrower default is not correlated with business default, are troubling because they indicate the group lending mechanism may not be working as believed in the Philippines. Much of the expansion in microfinance lending has proceeded without a complete understanding of the interaction between the joint-liability contract and Filipino cultural norms and values. At the very least, the results of this study indicate that more household-level research is needed to gain a better understanding of microfinance programs in the Philippines..

6 Works Cited

- Aguilar, Delia D. 1991. *Filipino Housewives Speak*. Manila, Philippines: Raintree.
- Andres, Thomas D. 1989. *Positive Filipino Values*. Quezon City, Philippines: New Day.
- Armendariz de Aghion, Beatriz. 1999. "On the Design of a Credit Agreement with Peer Monitoring, " in *Journal of Development Economics*, Vol. 60, 195-228.
- Besley, Timothy, and Coate, Stephen. 1995. "Group Lending, Repayment Incentives and Social Collateral," in *Journal of Development Economics*, Vol. 46, 1-18.
- Besley, Timothy; Coate, Stephen; and Loury, Glenn. 1993. "The Economics of Rotating Savings and Credit Associations, " in *The American Economics Review*, Vol. 83, Issue 4, 792-810.
- Conning, Jonathan. 1999. "Outreach, Sustainability and Leverage in Monitored and Peer-monitored Lending," in *Journal of Development Economics*, Vol. 60, 195-228.
- Ghatak, Maitreesh. 1999. "Group Lending, Local Information and Peer Selection" in *Journal of Development Economics*, Vol. 60, 195-228.
- Ghatak, Maitreesh and Guinnane, Timothy W. 1999. "The Economics of Lending with Joint Liability: Theory and Practice," in *Journal of Development Economics*, Vol. 60, 195-228.
- Jocano, J. Landa. 1997. *Filipino Value System: A Cultural Definition*.
- Montgomery, Richard. 1996. "Disciplining or Protecting the Poor? Avoiding the Social Costs of Peer Pressure in Micro-credit Schemes, " in *Journal of International Development*, Vol. 8, No. 2, 289-305.
- Morduch, 1998. "The Microfinance Promise." Revised Draft.
- Van Tassel, Eric. 1999. "Group Lending under Asymmetric Information," in *Journal of Development Economics*, Vol. 60, 195-228.

Abstract

This paper seeks to understand repayment in group-lending based microfinance institutions during the period following the Asian financial crisis. A borrower-level survey of microfinance households in the Philippines is used to examine the characteristics of default. The study finds that microfinance businesses were not notably affected by the Asian crisis. Business performance is not a predictor of borrower default. However, the combined effects of high inflation and unemployment that characterized the period following the Asian crisis did impact borrowers. Non-business income is shown to be a statistically significant indicator of default. In addition, many borrowers diverted loan funds for non-productive purposes during the recession, primarily for education expenses.

Microfinance lending, or the provision of small loans to very poor borrowers, is currently one of the most important trends in development finance. Microfinance institutions (MFIs) provide credit to the previously under-served population of low-income borrowers through the use of a joint-liability lending contract. Loans are secured not by collateral, but by the co-signature of members within the borrower group. In theory, group members will pressure each other to use loan funds responsibly and to repay when their business is successful.

Even though the amount of development funding allocated to microfinance projects is increasing worldwide, there is only a small amount of empirical evidence about borrower behavior within groups. In particular, little is known about the effects of a macroeconomic shock, particularly a shock caused by a currency crisis, on microfinance borrower repayment and business performance. This paper uses household level data to discuss the effects of the Asian financial crisis on microfinance borrower repayment in the Philippines.

1 Microfinance Institutions

MFIs offer competitive financing alternatives to informal lenders in rural areas. By incorporating some of the institutional mechanisms prevalent in informal loan agreements into the microfinance loan contract, MFIs are able to service borrowers that are ignored by traditional lenders. Connections to formal financial markets, portfolio diversification, and economies of scale enable MFIs to offer loans at substantially lower interest rates than informal lenders. Microfinance loans in the Philippines carry annual interest charges and fees of between 24-32 percent. As a result, MFIs are intended to provide poor borrowers with viable alternatives to informal credit.

Microfinance lending differs from traditional bank lending in several ways. Most importantly, microfinance is differentiated by loan size; the median microfinance loan size is substantially less than the median commercial or industrial loan size. In the Philippine MFIs surveyed, the majority of microfinance loans were for 3,000 pesos¹ payable in weekly installments over a six month period with annual interest rates between 24 percent and 32 percent. Without the group lending mechanism, loan processing and administration costs per loan extended would remain similar to costs of larger,

¹approximately seventy-five US dollars

more traditional financial institutions. For example, the costs of processing a new loan application, collecting weekly payments, and monitoring borrowers for signs of malfeasance would be similar per loan extended to those in traditional financial institutions if MFIs used individual loan contracts. The substantially lower microfinance loan size necessarily implies that MFIs face higher per fixed costs per peso loan extended. In addition to high per unit administrative costs, microfinance loans are generally secured with little or zero collateral. This implies that in the event of default, lenders are particularly vulnerable to capital losses. In order to effectively manage the dual problems of high administrative costs and potentially high default losses, microfinance institutions design loan contracts containing social reinforcement mechanisms in an effort to achieve high repayment rates.

One of the main ways in which MFIs encourage high repayment rates is through what Montgomery (1996) calls a "solidarity group lending scheme". Microfinance loans are not given to an individual, but to a group of individuals. If one of the group members is unable to repay her portion of the loan, then all group members are subsequently punished for the default. This contractual institution is designed to use social norms and group peer pressure to ensure that group members do not default. Also, because the groups are self-formed, the group members effectively bear most of the screening costs associated with new loans. People of poor character and low business prospects are not allowed to join the group. A technical discussion of how group reinforcement mechanisms dissuade shirking in loan repayment can be found in Besley and Coate (1995).

In addition to the group solidarity feature, microfinance institutions often require weekly group meetings, small but frequent interest and principal payments, and even enrollment in vocational training and family health and education classes. All of these mechanisms, even the social improvement projects, reinforce community responsibility and positively impact repayment rates. Some of the social programs attached to loans are simply deployed out of a desire to encourage economic and community development. Even so, Morduch (1998) states that while social programs effectively raise program costs, they "strengthen bonds between the bank and borrowers."

Microfinance lending in the Philippines occurs through one of four main types of institutions: rural banks, cooperative banks, cooperative rural banks or non-governmental institutions (NGOs). While each institution designs and operates its microfinance lending program independently, MFI lending follows similar operational patterns, and is in fact quite homogeneous

among cooperative banks and non-government institutions (NGOs). One major wholesaler of credit to MFIs, the People's Credit Financing Corporation (PCFC), estimates that 90 percent of its clients in the Visayas region operate a group-based lending program.

The group-based lending programs are usually modeled after either the Grameen or ASA microfinance management programs; both lending programs originated from microfinance lending operations in Bangladesh. A number of Philippine microfinance programs are formally called "Grameen Replication Projects" (GRP). In general, the MFI lending pattern follows a standard operating procedure that enables program officers to select, monitor, and build relationships with poor women seeking credit. This procedure usually involves screening applicants using income criteria to ensure outreach to the poor. Prospective loan applicants must form loan groups of five members who will jointly share the responsibility for loan payment in case of default.

The lending contract between the MFI and the borrower is designed to lower the probability of default. By allowing peer groups to select and screen loan applicants, the asymmetrical informational problem between banker and borrower is minimized (Besley and Coate 1995). As long as borrowers meet the income criteria and are deemed acceptable risks by those who know them best, their neighbors, then they are accepted into the loan program. In this way, the MFI decreases both the search and monitoring costs associated with each loan.

Theory

The microfinance borrower's loan repayment contract shapes the incentives for borrower repayment. Besley, Coate and Lury's (1993) theoretical model of Rotating Savings and Credit Associations (ROSCAs) was one of the first to describe how group interaction enables pareto optimal welfare improvements over autarkic saving in the absence of complete credit markets. Both Besley and Coate (1995) and Ghatak and Guinnane (1999) discuss how joint liability lending has advantages over traditional lending, especially in the absence of collateral. Ghatak and Guinnane show how social sanctions reduce the probability of default in a game theoretic context, noting that "poor people's neighbors...may impose powerful non-financial sanctions at low cost."

Van Tassel (1999) evaluates the impact of joint-liability lending on MFI screening costs. Under asymmetric information, borrowers in his model

choose group members that are high-ability over low-ability. The lender's inability to discern which borrowers have a high probability of repayment is mitigated by making clients responsible for the performance of other borrowers. In the Philippines, most MFIs that practice group lending assume that the groups will bear the majority of screening and monitoring costs, and therefore do very little direct monitoring of borrowers²

The theoretical models of group lending do not, however, adequately address the gender dimension that is crucial for understanding MFI performance. MFI lending in the Philippines is directed towards female borrowers. This survey shows that Philippine MFI borrowers are often unable to meet the weekly principle and interest payments on the microfinance loan through the profits of their small business alone. Successful borrowers are able to do extra income earning activities, liquidate household assets, or borrow from family and/or friends during business income shortfalls. The flexibility of female labor in poor regions plays an important role in household welfare decisions. Most importantly, the microfinance loan expenditure competes with other family expenses. During her utility maximization, the borrower is influenced not only by the group pressure for repayment, but also by her spouse and family's needs and desires. In the Filipino context, the wife/mother role exerts strong pressure on the borrower to rank current family consumption above possible future business profit.

To understand the borrower's repayment decision process, microfinance theory must be expanded to incorporate non-microfinance household behavior and bargaining. How does the household's microfinance loan compete with other household income and expenditures? If microfinance households face cyclical shocks that can disrupt profit income and wage income while simultaneously increasing the cost of living, what are costs of maintaining loan payments? This empirical study analyzes the behavior of borrower households faced with a negative macroeconomic shock.

2 Recession in the Philippines

In the Philippines, the Asian crisis resulted in a contraction of the financial sector and a severe national recession. According to the Banko Sentral ng

²The results of this study indicate that this may be a bad assumption to make in the Philippine context given the prevailing social norms of *pakikisama* and *hiya*. See section 5 for further explanation.

Pilipinas (BSP), the real GDP growth rate fell from 5.2 percent in 1997 to -0.5 percent in 1998. In 1999, GDP growth rebounded only slightly to 3.3 percent. Falling output in industrial and manufacturing sectors in the post-crisis period resulted in a sharp increase in unemployment, especially among females. The BSP reports that total unemployment rose from 10.40 percent in April of 1997 to 13.43 percent in April of 1998. In rural areas, unemployment rates among female laborers increased from 11.44 percent to 14.94 percent over the same time period; rural male unemployment decreased from 6.82 percent to 9.59 percent.

The Philippine peso / US dollar value declined from 26.4 to 40.0 from the end of June to December 1997. The peso continues to remain around 42 per USD, increasing the price of imported goods dramatically. The effects of the inflation caused by the financial crisis are especially pronounced in rural areas. The National Statistics Office (NSO) of the Philippines reports that the consumer price index for households outside of metro Manila has increased by 14.58 percent over the two-year period from January 1998 to December 1999. Rising commodity prices combined with rising unemployment rates have decreased standards of living in Philippine provinces. In addition, households involved in agricultural production simultaneously suffered from severe production shocks caused by the El Nino weather system.

In the financial sector, the Filipino stock market has yet to recover from the sharp decline in trading. Traditional financial institutions, including commercial banks and rural banks, have seen a sharp increase in non-performing loans from 4.6 percent of total loans at the end of 1997 to 14.49 percent in April of 2000. Total loan volume fell from 1.573 trillion pesos at the end of 1997 to a low of 1.465 trillion in April of 1999, rebounding only slightly to 1.506 trillion pesos in April 2000.

Although much is known about the impact of the crisis on large scale lending in the Philippines, picture is less clear for microfinance lending. One important fact is that the total number of MFIs and the total volume of microfinance loans increased dramatically during the post-crisis period, unlike the rest of the formal financial sector which suffered a contraction. The expansion was due in part to an increase in the relative subsidy to microfinance loans. To control the descent of the peso in late 1997, the BSP tightened credit by raising interest rates sharply. Microfinance wholesalers, however, did not change their interest rates for microfinance credit lines to MFIs³.

³PCFC has charged a constant interest rate of 12 percent since the end of 1996.

During the post-crisis period, new microfinance lending programs were created mainly in formal financial institutions, cooperative banks, cooperative rural banks, and rural banks, not in NGOs.

3 Borrower Survey Results

In order to assess the borrower-level impact of the crisis and recession, a survey of microfinance borrowers was conducted from March to May 2000 in the Visayas Region of the Philippines. Respondents were randomly sampled from the borrower list of a Cooperative Rural Bank's⁴ GRP. This particular MFI was chosen because it is a good representative for most MF operations in the Philippines. The microfinance division of the study bank has been in operation for more than 8 years, and has one of the largest number of microfinance clients in the country.

The survey includes 160 respondents from five municipalities served by the GRP. All respondents were randomly sampled from the borrower list of the GRP's main branch office. Borrower interviews were conducted with the help of an interpreter. All respondents received their latest loan between 1997 and January 2000. Loans are granted for a one year period.

The resulting sample is comprised of three borrower types: current, past due and defaulted. Borrowers are current if they have met all of their required interest and principal payments at the time of the interview. Borrowers are past due if they have missed one or more weekly loan payments, but have not yet reached their loan maturity date. Defaulted borrowers still owe principal even though their loan maturity date has passed⁵.

TABLE 3.1

Survey Sample		
<i>Borrower Type</i>	<i>Number</i>	<i>Percent of Defaulting</i>
Current	61	38 percent
Past Due	43	27 percent
Default	56	35 percent

⁴The identity and location of the bank is concealed to maintain confidentiality.

⁵The MFI classifies defaulted borrowers as past due by maturity, restructured, or renewed.