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Microfinance: Where do we Stand?

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1 Introduction

Economies are built upon people buying and selling, lending and borrowing. The beauty of the market is that, when it works well, sellers are matched to buyers and lenders are matched to worthy borrowers. But when the market does not work well, goods go unsold and promising investment projects go unfunded. We understand why markets fail – the economics of information provides rigorous underpinnings for why credit markets, in particular, are so problematic.¹ The challenge has been to move from diagnosis to prescription. The challenge is particularly great in poorer regions, where individuals may have workable ideas and relevant experience but lack collateral. Even a £100 loan can make a difference to a small-scale shopkeeper or craftsperson in countries like Nepal or Uganda, but formal sector banks have steered clear, focusing instead on larger loans to better-established, wealthier clients.

The microfinance movement has aimed to change all that. The hope is that by using innovative new contracts, microlenders can both make profits and serve the under-served. While the full promise is as yet unmet (profits remain hard to squeeze out and the very poor are tough to reach), there are a growing number of success stories and, world wide, nearly 70 million low-income individuals are served by microfinance institutions (Daley-Harris 2003).

In this chapter we first focus on the innovations that have made microfinance possible. We then deliver an overview of recent trends. We argue that the future of microfinance institutions is ultimately in the hands of international donor agencies and local governments, which have been recently promoting competition and stressing financial self-sustainability as a way to maximize the breadth of outreach. The strategy is a major

departure from traditional approaches to foreign aid, and it challenges the role of applied welfare economics as the leading framework for policy analysis. In the traditional framework, cost–benefit analyses are used to determine the allocations of subsidies that can do the greatest good for the greatest number. In the new world of microfinance, many eschew subsidies for all but start-up expenses, and the aim is to become fully profitable, independent institutions.

In Section 1 we provide background to the current debate on the role and scope of microfinance institutions. In particular, we deliver a brief explanation of how the innovative “group lending” technique gained donors’ attention, and how it captured the imagination of academic economists. In Section 3 we argue that the dissemination of microfinance institutions was facilitated by additional innovations, and we focus on four: the use of “progressive lending”, the flexible treatment of collateral, the focus on women as customers, and the promotion of clients’ savings. In Section 4 we conclude by spelling out three main areas where the support of international donors and local governments can most effectively help microfinance institutions meet both their self-sustainability and social objectives.

2 Background

Microfinance grew out of experiments in Latin America and South Asia, but the best-known start was in Bangladesh in 1976, following a widespread famine in 1974 and a hard-fought war of liberation in 1971. In the 1970s Henry Kissinger famously called Bangladesh an “international basketcase”, but 30 years later Kissinger’s prognosis proves to be quite wide of the mark. Bangladesh continues to face economic, political, and social challenges, but it is hardly a basketcase. Fertility rates have dropped from an average of seven births per woman in 1970 to half that today; the economy has slowly moved forward, despite the continuing need for macroeconomic and fiscal reforms; and the microfinance movement has taken root across the nation, with over ten million customers spread across the country’s villages. Advocates argue that the microfinance movement has helped to reduce poverty, improved schooling levels, and generated or expanded millions of small businesses (e.g. Khandker 1998). The idea of microfinance has now spread globally, with replications in Africa, Latin America, Asia, and Eastern Europe, as well as in richer economies like Norway, the United States, and England. The latest count includes over 2500 institutions worldwide, each serving on average over 25 000 low-income customers.

No person is more closely associated with microfinance than Muhammad Yunus, an economist who was teaching at Chittagong University in the 1970s. In the midst of the famine, Yunus started looking for ways to improve the lives of the villagers living adjacent to his university. Together with his students, he seized on the credit market as the most direct and effective vehicle for development. Yunus started by lending to villagers from his own pocket and found that not only was he repaid on time but that the villagers were demonstrably benefiting from the new opportunities that the loans opened up. Yunus could not self-finance an initiative that hoped to spread beyond the village, however, and the challenge was to devise a mechanism that could be quickly replicated and that ensured high repayments while containing costs. With the government's blessing, the Grameen Bank was inaugurated in 1976, based on the premise of lending to the very poor at reasonable interest rates and without requiring collateral. In order to keep focused on the poorest clients, the bank instituted a rule (eventually relaxed) that they would only lend to households owning under a half acre of land, a rough indicator for being functionally landless.

The essence of microfinance is to draw ideas from existing "informal sector" credit mechanisms – like intra-family loans, Rotating Savings and Credit Associations (ROSCAs), and local moneylenders – while creating a viable conduit for capital infusions from formal sector banks, donors, and governments.² The lack of formal financial institutions in village economies has been long-acknowledged as a barrier to development, and millions of dollars in subsidy were channeled through state-run development banks beginning in the 1950s with the aim of reaching the poor. The initiatives were poorly designed, however, and credit was allocated according to political motives rather than need, management was lax, and repayment rates plummeted. India's Integrated Rural Development Programme (IRDP), for example, ended up with loan repayment rates around 30 per cent before being re-named and reformed. The Grameen Bank managed to persuade donors that it was possible for lending institutions in rural areas to be shielded from political interference and that lending to the poor could yield high repayment rates. For most of its life, Grameen has advertised loan repayment rates around 98 per cent.³

How did the Grameen Bank change the equation? The best-known story centers on the group lending methodology. While the Grameen Bank itself has modified many of its features in its new "Grameen Bank II" format (Yunus 2002), replicators worldwide still stay by the older model. The idea is that upon expanding to a new village, the bank holds

a meeting and announces that it will soon introduce a new kind of banking operation. The bank will not require collateral and will serve the poorest only; it will make loans to individuals, but in a special way. Individuals interested in borrowing will get loans for their own, independent projects, but they must approach the bank with four others who similarly seek loans. These five-person groups meet with a loan officer from the bank once each week, at which time loans are disbursed and payments are made. To reduce transactions costs, the loan officer meets simultaneously with eight five-person groups, formed as a 40-person "centre"; the meetings take place in the village rather than at the local bank branch.

The loan contract has a twist, and this is what has most interested academic economists. The twist is that should a borrower be unable to repay her loan (about 95 per cent of borrowers are women), she will have to quit her membership of the bank – as will her four fellow group members. While the others are not forced explicitly to repay for the potential defaulter, they have clear incentives to do so if they wish to continue obtaining future loans. The key is that Grameen Bank loans (like loans from other microlenders) are more attractive than loans from other sources like moneylenders. While moneylenders may charge interest rates over 100 per cent per year, the Grameen Bank keeps its official rates at 20 per cent (and even with extra fees, effective rates are below 30 per cent per year).

This methodology has caught the attention of a large number of researchers. Maitreesh Ghatak (2000), and Beatriz Armendáriz de Aghion and Christian Gollier (2000), for example, argue that allowing borrowers to voluntarily form their own groups helps microlenders overcome an "adverse selection" problem. The problem is that a traditional bank has a difficult time distinguishing between inherently "risky" and "safe" borrowers in its pool of loan applicants; if it could, the bank would charge a high interest rate to the risky borrower and a lower one to the safe borrower. But without precise information, the bank must charge the same (high) rates to all potential borrowers, and this can trigger the exit of safe borrowers from the credit market. The outcome is inefficient since, in an ideal world, projects undertaken by both risky and safe borrowers should be financed. Villagers themselves, though, often have quite good information about the relative riskiness of their neighbors, even if the bank is left in the dark. One advantage of the group lending methodology (at least in principle) is that it can put local information to work for the outside lender. Adverse selection is mitigated under the group lending methodology, the argument goes, for

two reasons. First, in an economy where all villagers (safe and risky) know each others' types, the group lending contract (specifically the notion of "joint liability") will induce assortative matching: the safe borrowers will form groups among themselves; and risky borrowers will have no choice but to form groups with other risky borrowers. Because by definition members of the latter group are apt to default more often, participants in risky groups will have to repay more often for their defaulting peers. Safer borrowers, by the same token, will have to repay for their peers less often. While all borrowers face exactly the same contracts with exactly the same interest rates, the fact of assortative matching means that safe borrowers pay lower *effective* interest rates: their expected costs (including the cost of repaying for group members in trouble) will be lower. This in turn can induce them to enter the credit market, take loans, and improve efficiency. The very simple contract in effect means that the microlender in practice transfers some of the cost of dealing with risky borrowers back onto the risky borrowers themselves.

From the standpoint of the microlender, bringing the safe borrowers back into the market lowers the average incidence of default and thus lowers costs. With lower costs, the microlenders can in turn reduce interest rates even further. It is most likely to do so if either it faces stiff competition or if, for social reasons, its aim is simply to break even in order to bring about the greatest social gain. Group lending thereby can eliminate adverse selection inefficiencies.⁴

Another strand of argument highlights the fact that the group lending methodology can potentially mitigate *ex ante* moral hazard problems as well. This problem emerges when, after having extended loans, the financial institution cannot effectively monitor borrowers and therefore cannot write a credible contract that enforces prudent behavior. Borrowers are protected by limited liability since they have no collateral to offer (so that, in the case of default the bank cannot seize more than the borrowers' current cash flow). Borrowers may thus be tempted to undertake riskier projects than the bank would like. The gain to the borrowers is that even though such projects may yield a lower return on average, if successful, their returns from such projects can be very high. Since the borrower does not face the full consequences of failure (due to limited liability), tensions emerge. The bank can anticipate this, and will charge relatively high interest rates to compensate for the additional risk – unless a third, well-informed party forces the borrowers not to undertake risky projects.

Joseph Stiglitz (1990) explains that under a group lending methodology, the group plays such a role; since group members agree to shoulder a

monetary penalty in the case of default by a peer, the group members have incentives to monitoring each other and can potentially threaten to impose “social sanctions” when risky projects are chosen.⁵ In particular, each borrower can denounce her peer’s “misbehavior” to the community, and *de facto* prevent her from undertaking risky projects, or they can simply shun the neighbor who deviates, imposing costs that are both economic and social. Because neighbors can monitor each other much more easily than a bank can (because of geographical proximity and trade links) the effective delegation of *ex ante* monitoring from the microlender to the borrowers themselves involves efficiency gains. These gains (again, assuming that the financial institution faces competition or that it is an NGO which merely attempts to break even) will allow interest rates to fall – and they will in turn further mitigate the *ex ante* moral hazard problem.

A third potential benefit of group lending is by reducing *ex post* moral hazard. This problem emerges once project returns have been realized. But assume that the financial institution cannot observe such returns; then, borrowers who are protected by limited liability have incentives to pretend that their returns are “low” or to strategically default on their debt obligations. Group lending with joint responsibility can however lower the incidence of strategic default when project returns can be observed by the borrowers’ neighbors. Under the fear of suffering from social sanctions, borrowers will declare their true return realizations and repay when what they can.⁶ (While there may be situations in which villagers could instead collude against the bank, collusion has seldom been a problem in practice.) By lowering the incidence of strategic default (and, once more, assuming that the bank faces competition or the simply wishes to break even) group lending can potentially bring interest rates down, and thereby mitigate the *ex post* moral hazard problem as well.

The three arguments rationalize the group lending methodology as a device for overcoming credit market inefficiencies, which are in turn created by informational asymmetries between the financial institution (or the lender) and a group of borrowers. Our description thus far has also helped us understand how social sanctions in village economies or in close-knit societies can serve as an enforcement mechanism that potentially circumvents the limited liability issue.

3 Beyond group lending

The group lending methodology has a great deal to recommend, but it also has problems. In particular, Ashok Rai and Tomas Sjöström (2004)

argue that, while the contract can enhance efficiency, it can also diminish it. Consider, for example, a situation in which one borrower cannot repay and the other four partners are then under pressure. They may or may not have the resources and the desire to bail out their neighbor. If they do not, the loan officer is bound by the rules to no longer lend to any of them, even though they may each be exemplary clients and the trouble arose through no fault of their own. When it is costly to find such good clients, the loan officer will be reluctant to abide by the regulations, and often the letter of the law is not implemented. Instead, the customer in trouble is removed from the program, and the other four are allowed to stay on in a group with a replacement member (e.g. Matin 1996). The result is better for everyone, and the new Grameen Bank II introduced by Muhammad Yunus (2002) takes steps toward weakening rules around joint liability.

So, how then are high repayment rates maintained? It turns out that microfinance introduces a series of innovations, none of which have captured the imagination as strongly as group lending but which are, nonetheless, powerful in practice. Early practitioners and social scientists failed to disentangle these elements, and we next set out some of the most important aspects.⁷ The features not only help to explain how microfinance works in places like Bangladesh, but also how microfinance can be replicated in places where population densities are lower and local information networks are weaker. Upon arriving in Bangladesh, a visitor is often reminded that this country in square kilometers is as large as the State of Florida, but that instead of having 16 million inhabitants it has 130 million. Many regions of Africa, Latin America, and Eastern Europe are in contrast sparsely populated and that poses a set of challenges. The additional innovations help by not relying on group membership – and the microfinance world is increasingly moving toward traditional bilateral contracts between microlenders and individual clients.

The first additional innovation is “progressive lending”. The idea is simple: each borrower is granted a small loan of about £50 in the first period, which is typically repayable over one year in weekly installments. Then, year after year the loan size increases as the borrower demonstrates her reliability and trustworthiness. The scheme has various advantages, one of which is that it enables microlenders to “test” borrowers with small loans at the start in order to screen out the worst prospects before taking additional risks by expanding loan scale.⁸ Also, it increases the opportunity cost of nonrepayment in that borrowers become increasingly fearful about being denied access to credit in the

future since nonpayment will trigger cut-off from a growing stream of future loans.

There are two reasons why microlenders cannot entirely rely on progressive lending, however. One is that when there is a multiplicity of microlenders, threats to not refinance borrowers lose their teeth because borrowers who default on a loan can always turn to another microlender (assuming that the other microlender has poor information on credit histories, a common situation in the absence of credit bureaux). The other tension is that as the loan size increases, defaults become increasingly attractive, especially if the relationship between the microlender and the borrower has a clear final date. We will come back to remedial measures to these problems in the next section.

Another innovation consists of flexibility with regard to collateral. For banks that require collateral, they can reach a wider group of borrowers by dropping concern with the salvage value of collateral (can the bank sell the asset and cover costs of the defaulted loan?) and instead worrying about “notional” value (is losing the asset enough of a deterrent so that the borrower will behave prudently – even if the salvage value of the asset is negligible?).⁹ A case in point is the kind of collateral which is being accepted by microlenders in rural Albania, which include livestock, land, and working tools (selling them is not likely to allow the bank to cover the costs of problem loans through liquidation). One main problem with this innovation, however, is that it still requires some form of collateral and thus can undermine microlenders’ efforts to reach very poor borrowers. But it has proven effective when lending to households just below and just above the poverty line, such as those targeted by Bank Rakyat Indonesia, a leading, for-profit lender.

How then to target a population of borrowers which is considered to be both more reliable and poorer? The answer to this question takes us to the next innovation of microfinance: focusing on female customers. According to recent reports, women make up to 80 per cent of the clients of the world’s 34 largest microlenders (Priti Mody 2002). This is a major shift for banks working in low-income areas. Historically, banks had targeted farmers, which meant working mainly with men since the decision-makers on farming matters are often men. Yunus, and those who followed him, instead focused on supporting nonfarm enterprises (and often livestock-raising, but seldom crops). This opened up the door for serving women in greater numbers, since women often take the lead in processing (like risk husking) and small enterprise like craft-making.

There are two main reasons for targeting women: one is financial and the other is social. From the financial standpoint, relative to men,

women are more conservative in their investment strategies. In an early study from Bangladesh, Mahabub Hossain (1988) found that 81 per cent of women in his sample had no repayment problems versus 74 per cent of men. Similarly, Shahidur Khandker *et al.* (1995) found that 15 per cent of male borrowers had missed payments before the final due date, while all but 1 per cent of women had perfect repayment records. Similar patterns have been found elsewhere: in Malawi, for example, David Hulme (1991) found on-time repayments for women customers to be 92 per cent versus 83 per cent for men, and David Gibbons and S. Kasim (1991) found that in Malaysia the repayment comparison is 95 per cent for women versus 72 per cent for men. The reasons that women are more apt to repay are multiple, but most observers view poor women as having fewer alternative options than their husbands and being more vulnerable to the shame of noncompliance. But, at the same time, we need to stress that the evidence does not condition on other factors and these explanations are anecdotal. Once researchers control for income levels, assets, education, and other socio-economic factors, we suspect that the "advantage" of women will diminish. Banks, though, are most interested in unconditional expectations when targeting, and, for that, simply knowing that women on average are better clients has been a powerful force toward re-orienting programs toward women. Thus, from a purely financial viewpoint, targeting women can make sense.

The other reason for targeting women is that lending to women can be more effective in meeting social objectives. A growing literature in sociology and economics documents both the overrepresentation of women amongst the poorest of the poor and the greater probability that money in the hands of women is spent on children's health and education relative to money in the hands of their husbands. Microlenders such as *ProMujer* in Latin America, have thus turned to microfinance as a way to further their goal of empowering poor women and spreading knowledge on good health, nutrition, and hygiene practices.¹⁰

A fourth innovation of the microfinance movement concerns savings. Economists have focused sharply on credit market problems in low-income regions, and have left problems with the savings side comparatively neglected. One reason is that it was assumed that poor households have limited demand for saving since surpluses are small given subsistence needs. The second reason for the neglect is that it has been assumed that excess funds could profitably be ploughed into one's farm or small business, so the need for a generic saving account would be minimal. The past two decades of microfinance is showing us that these assumptions have limited appeal. Even very poor households want to save and do

save – but must often do it through imperfect informal means, like leaving money with a neighbor, sewing notes into one's clothing or hiding it in the house, and joining rotating savings groups or handing money over to a deposit taker. These means can be costly, provide no hedge against inflation, and offer limited security. One study in Uganda showed that the average loss in savings *per year* was 22 per cent for 99 per cent of households.¹¹ One source of loss is constant requests for aid from friends, relatives, and, often, husbands.¹² Having a safe, convenient, secure place to save allows poor households to better manage their money, handle large expenses like school fees and religious obligations, and start building up assets that might eventually be used as collateral. Many microfinance institutions, including the Grameen Bank, thus started by creating “voluntary” saving facilities and “compulsory” saving facilities. The former had the objective of meeting individual clients' demand for tiny savings, and deposits were made at weekly meetings. The latter could not be withdrawn without the consent of the group and, in practice, came to act as a form of collateral that could be accessed in times of repayment problems. Thus, introducing savings facilities in tandem with lending further enhanced the lenders' financial self-sustainability objectives.

The push today is to shift from an emphasis on the compulsory deposits and to move toward emphasis on voluntary deposits. One tension is that transactions costs are high since deposits and, with “voluntary” savings accounts, withdrawals are not made in fixed amounts that can be quickly recorded; amounts transacted may also be tiny. Bank Rakyat Indonesia, for example, which has been the pioneer on the saving side, allows clients to open savings accounts with balances of less than £1. Banks also need greater liquidity in order to have funds available for unexpected withdrawals, and this cuts into investment income. Most importantly, institutions that take savings need greater regulation than institutions that only make loans. After all, if the institution collapses, customers with loans outstanding do not suffer (indeed they gain by not having to repay their loans), but a collapsing bank can take customers' lifetime savings and, if unregulated, offer no recourse to the victims. Work is underway to create new regulatory protocols that are effective but not too onerous for microfinance institutions dealing with many small transactions.

4 Recent trends and policy recommendations

Many microfinance institutions initially emphasized high repayment rates, advertising that 95 per cent or more of loans were repaid, a sharp break from the experiences of inefficient state banks that they set out to

replace. Making dramatic strides in cutting costs has been harder. The result is that the average microlender has had greater difficulty attaining self-sustainability than donors had hoped. One solution has been to go upmarket, turning from the very poorest to households around the poverty line or just above it. This is the target market, for example, of the affiliates of ACCION International, a network based in Boston, Massachusetts that provides support for microlenders in the United States and Latin America.

ACCION International has been highly influential in shaping donors' minds over the past decade, advocating subsidization for start-up costs only and pushing hard for a commercial orientation. The view is that the best hope to reach the greatest number of poor and near-poor households (if not the poorest) is to get access to commercial capital in amounts that are only possible if institutions transform themselves into fully chartered banks.

Donors have been receptive to the argument and have kept a close eye on the financial statistics of programs. This is clearly a constraint for microfinance enterprises that are operating in increasingly competitive environments, and it poses a high hurdle for programs committed to serving the very poorest. Competition has created trouble in Bolivia and Bangladesh and with the growing successes of microfinance there is apt to be trouble ahead in other regions as well. One priority is thus the creation of credit bureaux that limit the possibility of borrowers getting over their heads in debt and jumping from one microlender to the next without consequence.

Another area that deserves greater consideration is regulation. In the absence of a well-functioning regulatory framework within which microfinance institutions can operate, it will be harder to operate flexible savings accounts and to effectively intermediate finances. The tension, as mentioned in the section above, is that regulation should not overburden the institutions it is trying to help. One middle ground reached in Bangladesh is to impose strict regulations on those programs that seek to create truly flexible savings accounts – but for organizations that form as cooperatives, the government tolerates light regulation as long as the institution has a greater volume of loans outstanding than the amount of deposits taken in. If the institution collapses, the winners (borrowers) will at least outnumber the losers (depositors). The trouble is that with no way of making transfers between the two groups there is still potential for substantial harm.

A final issue involves delivering services that are complementary to finance – in particular health and education services. Programs like

BRAC's Targeting the Ultrapoor ask: how can one expect microfinance to help unhealthy and uneducated individuals to grow out of poverty? In response, BRAC, Bangladesh's NGO, combines credit with training, food subsidies, and other support. It is not possible to expect programs like BRAC to undertake those broader roles while at the same time insisting that they become fully financially self-sustainable, and BRAC's success rests on a partnership with the World Food Programme involving substantial subsidization. Finding the appropriate division of labor is the most difficult but critical step in navigating trade-offs between reaching financial self-sustainability as an institution and helping customers escape poverty and make better lives.

Notes

1. Debraj Ray's (1998) *Development Economics* provides a valuable introduction to arguments. See also Armendáriz de Aghion and Morduch, *The economics of Microfinance* to be published by MIT Press in 2005.
2. There are "random" and "bidding" ROSCAs everywhere, but random ROSCAs are more often observed. In a random ROSCA, a group of individuals meets at pre-determined dates and contributes an amount of cash to a common "pot"; the pot is then given to one member of the group to use to make large purchases. Lucky participants get the pot earlier, but have to continue contributing until everyone in the group has received the pot. Reasons for why ROSCAs do not fail (i.e. why those individuals that get the pot in earlier rounds continue to show up at subsequent meetings), are that individuals in close-knit societies can overcome problems created by informational asymmetries and difficulties enforcing contracts that hobble formal sector institutions. See, chapter 3 of Armendáriz de Aghion and Morduch (2005) for a comprehensive review.
3. See the sources in Armendáriz de Aghion and Morduch (forthcoming) for more on the IRDP. Morduch (1999) provides critical perspectives on the Grameen Bank's repayment rates.
4. Beatriz Armendáriz de Aghion and Christian Gollier (2000) demonstrate, that the bank may be better insured even in urban economies where potential borrowers do not have a great deal of information about each other's types. They show a case in which, although safe borrowers cannot repay the debt of their risky peers, risky ones – when lucky – have high enough returns to repay the loans of their risky peers, which in turn lowers the overall risk faced by the financial institution. This in turn allows the bank to decrease the interest rate, which mitigates the adverse selection problem.
5. Stiglitz (1990) does not make the assumption on social sanctions explicit. Besley and Coate (1995) make this assumption, however, and demonstrate that it is necessary for their results to hold.
6. See, notably, Timothy Besley and Stephen Coate (1995), and Beatriz Armendáriz de Aghion (1999).
7. Armendáriz de Aghion and Morduch (2000).

8. See Parikshit Ghosh and Debraj Ray (1997) for a model that highlights this issue.
9. See Debraj Ray (1998) for more on asymmetries regarding the value that borrowers and lenders attach to collateral.
10. Chapter 7 of our forthcoming book reviews the new economics of gender and implications for microfinance.
11. Graham Wright and Leonard Mutesasira (2000). "Relative Risk to the Savings of Poor People", MicroSave-Africa. Cited in footnote 6 of Hirschland (2003). See Morduch (1999) for more on the hidden costs of informal mechanisms and related inefficiencies.
12. Recent evidence comes from a survey conducted in Nairobi by Anderson and Baland (2002). The authors report that one of the main reasons that women join a ROSCA is that they want to keep their savings away from their husbands' grabbing hands.

References

- Anderson, Siwan and Jean-Marie Baland (2002), 'The economics of ROSCAs and intrahousehold allocation', *Quarterly Journal of Economics*, August: 983–95.
- Armendáriz de Aghion, Beatriz and Christian Gollier (2000), 'Peer group formation in an adverse selection model', *The Economic Journal*, July.
- Armendáriz de Aghion, Beatriz and Jonathan Morduch (2005), *The Economics of Microfinance*, Cambridge, MA: MIT Press.
- Armendáriz de Aghion, Beatriz, and Jonathan Morduch (2000), 'Microfinance beyond group lending', *The Economics of Transition* 8 (2): 401–20.
- Armendáriz de Aghion, Beatriz (1999), 'On the design of a credit agreement with peer monitoring', *Journal of Development Economics* 60: 79–104.
- Besley, Timothy, and Stephen Coate (1995), 'Group lending, repayment incentives, and social collateral', *Journal of Development Economics* 46.
- Daley-Harris, Sam (2003), *The State of the Microcredit Summit Campaign 2003*. Washington, DC: Microcredit Summit.
- Ghatak, Maitreesh (2000), 'Joint liability credit contracts and the peer selection effect', *Economic Journal*, July.
- Ghosh, Parikshit and Debraj Ray (1997), 'Information and repeated interaction: application to informal credit markets', Texas A&M and Boston University, draft.
- Gibbons, David and S. Kasim (1991), *Banking on the rural poor*, Center for Policy Research, Malaysia: University Sains.
- Graham, Wright and Leonard Mutesasira (2000), 'Relative risk to the savings of poor people', MicroSave-Africa.
- Hirschland, Madeline (2003), 'Serving small depositors: overcoming the obstacles, recognizing the tradeoffs', *Microbanking Bulletin* 9 (July): 3–8.
- Hossain, Mahabub (1988), Credit for alleviation of rural poverty: The Grameen Bank of Bangladesh, Washington, DC: International Food Policy Research Institute Research Report 65, February.
- Hulme, David (1991), 'The Malawi Mudzi Fund: daughter of Grameen', *Journal of International Development* 3 (4).

- Khandker, Shahidur (1998), *Fighting Poverty with Microcredit*, Washington, DC: World Bank.
- Khandker, Shahidur R., Baqui Khalily and Zahed Kahn (1995), *Grameen Bank: Performance and Sustainability*, World Bank Discussion Paper 306, Washington DC.
- Matin, Imran (1996), 'Group credit arrangements with joint liability: Some thoughts and puzzles', *Grassroots V* (20): 44–8.
- Mody, Priti (2002), 'Gender empowerment and microfinance', University of Washington, Evans school Working Paper. [Available at www.evans.washington.edu/faculty/cla/599_00pmody.htm.]
- Morduch, Jonathan (1999), 'The role of subsidies in microfinance: evidence from the Grameen Bank', *Journal of Development Economics* 60 (1), October: 229–48.
- Rai, Ashok and Tomas Sjöström (2004), 'Is Grameen lending efficient? repayment incentives and insurance in village economies', *Review of Economic Studies* 71 (1), January 2004: 217–34.
- Ray, Debraj (1998), *Development Economics*. Princeton, NJ: Princeton University Press.
- Stiglitz, Joseph E. (1990), 'Peer monitoring and credit markets', *World Bank Economic Review* 4 (3): 351–66.
- Yunus, Muhammad (2002), 'Grameen Bank II: Designed to Open New Possibilities', October 2002 [Revision of May 2002 statement]. Available at: <http://www.grameen-info.org/bank/bank2.html>.