RDRS and the Poor: *Microfinance as Partnership*

Twenty Years of Microfinance in RDRS Bangladesh

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October 2011

RDRS Bangladesh

In association with LWF/World Service, Geneva and Related Agencies

Committed to change through empowering the rural poor

Photos: RDRS Bangladesh, Aldo Benini and Bhabatosh Nath
Cover photo: A microfinance program participant delicately weaves together many strands into a coherent whole, symbolizing the growth of partnership.

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Executive Director's preface

In February 2012, RDRS Bangladesh will celebrate its fortieth anniversary. For almost exactly half of its lifetime, we have been extending loan and savings services through a formal Microfinance Program. This study illuminates those aspects of our partnership with the poor that we have nurtured through it.

RDRS joined the microfinance revolution belatedly, compelled by institutional imperatives rather than driving its pro-poor agenda, and with results that threatened its financial and moral health. It took considerable time to institute effective policies, expand the program to serve also the ultra-poor, and to achieve operational and financial self-sufficiency.

For a long while, the Microfinance Program was completely absorbed with improving outreach and quality. Although it is among the ten or twelve largest in the country, visited and appreciated by fellow practitioners, we have not actively contributed to the debates of the microfinance industry. The existing literature already is immense, so much so that an NGO without a specialized research unit will not easily be noticed.

With the philosophical and policy climates for microfinance growing harsher, we need to be more vocal. We want to offer our positive experience to a larger audience. This study assesses this partnership rigorously, applying statistical models to loan transaction and borrower survey data. While many programs have used surveys to demonstrate changes in the welfare of microfinance clients, this study X-rays the dynamic of borrower careers on the strength of six years' worth of detailed loan records. To our knowledge, nothing like this has ever been done in earlier research.

900,000 loan records may support precise and, if the models are good, valuable statistical estimates. But as the Chinese say, even a large collection of sesame seed does not make one water melon. To see the big picture, we must emphasize key points: the ability of the ultra-poor to repay, the fact that default is rare, but also the highly fluctuating nature of these customers. To the extent that we can observe it, they have indeed improved their economic position. Many factors have worked for this; the RDRS Microfinance Program, over twenty years, has been a prominent one.

Salima

Dr. Salima Rahman
Executive Director
RDRS Bangladesh

Dhaka
October 2011

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The RDRS Microfinance Program coordination staff in Rangpur have been helpful with supporting documentation and interpretation of program history and results.

A large majority of the program fieldstaff participated, in 2010 and 2011, in a sample survey of borrowers.

Workers of the North Bengal Institute, a research affiliate of RDRS Bangladesh, and leaders of the Thetrai Union Federation, Kurigram District, supported case study work. Mr. N.A.M Julfiker Ali Hanif, NBI, made the map of the program working area.

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Summary

In February 2011, RDRS' Microfinance Program marked its twentieth anniversary. It has been participating in the vigorous growth that the microfinance industry has enjoyed for decades, and in 2005 was reckoned to be 14th largest provider worldwide. After a long period of acclaim and of almost unqualified support, microfinance is now facing harsher political and philosophical climates. Focused primarily on service delivery and financial sustainability, RDRS in the past has been absent from policy debates. It has shared its microfinance record in rare, understated publications. RDRS was busy improving a service, rather than proving a point.

Perspective on partnership

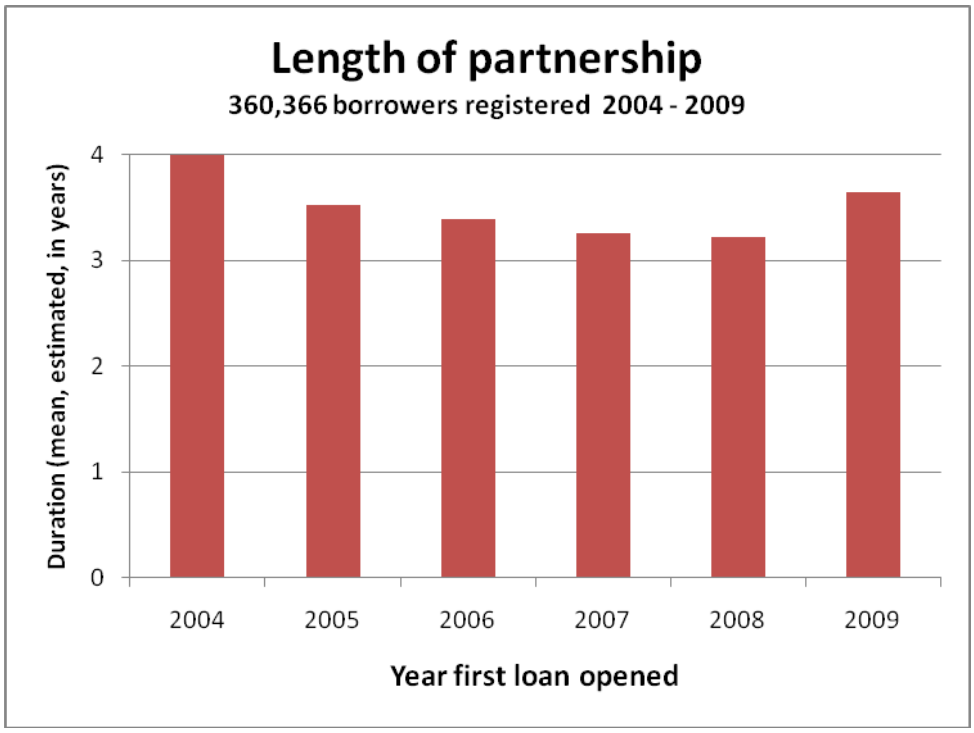
Traditional debates have veered either towards whether microfinance institutions are sustainable or if they truly reach out to, and impact, the poor. RDRS' rich experience allows us to open a bridge between these two topics: a perspective on partnership. Loans and savings create contracts, and with contracts firm claims that both RDRS and our customers must honor. If our microfinance products are relevant and reliable, the theory goes, the poor will benefit, grow less poor and have the incentive and ability to meet their part of the compact. They will stay with RDRS, attracted by numerous opportunities to receive both financial and technical services over the longer term.

We can demonstrate the extent RDRS and the poor have succeeded in this partnership through evidence. An abundant source that can be tapped for a closer look is hidden in the program's large database, known as Microbanker, a storehouse of historic loan and savings data of an extent and detail that neither survey research nor aggregate financial statistics can rival. We take advantage of a set of over 900,000 loan records in order to understand the dynamics of our relationship with poor borrowers.

Between 2004 and 2006, RDRS digitized the individual accounts of customers with whom it does business through neighborhood-based saver and borrower groups. In the next six years, to September 2010, 405,000 group members entered into close to 950,000

loan contracts. With successive, mostly larger loans, the average borrower stayed with the program for 3.5 years (the estimate includes the expected time for those with running loans beyond the end of the observation period). Turnover was considerable; the typical local group counted 17 members with active loans in mid-2009 while recording 28 during the six-year period. Half of all borrowers quit after only 2.2 years.

Figure 1: Length of partnership



Length of partnership was calculated as the time from the date a borrower's first loan was opened to the time when her last loan was closed or, if defaulted-on, the last transaction. The estimates are adjusted for borrowers still having normally running loans. This is the mean of the estimated durations (3.49 years). The median is substantially lower (2.15 years).

The obverse side: Delinquency and default

Fluctuating incomes prompt borrowers to temporarily fall behind with their payments on the majority of loans. The delinquency is mostly of low level and does not end in default. There is a critical threshold of about 30 percent of overdue on principal beyond which default soars. There is indirect evidence of rolling over of suffering loans by field units. Substantial default is rare. Roughly ten percent of the matured loans were in default, of 2.3 percent of the total principal. Defaults on more than 10 percent of the principal

happened every 19 borrower-years. The customary theory of "strategic default" whereby borrowers take larger and larger loans and then run with the last unpaid is not confirmed by the repayment pattern. The poor work hard to preserve their credit with RDRS.

The risks of delinquency and default are not uniform. Small and large loans are less problematic than those of middling size. This non-linear hazard differs from the experience of other providers, who have found the repayment of larger loans more challenging. It is consistent with the interpretation that "the poor are more honest", but only if one assumes that the screening process results in the smallest loans being handed out to the poorest. The better performance of the largest bracket is good news for business, but may indicate the concentration of larger loans in a minority of longer-serving and presumably wealthier group members. As a group ages, the distribution of loans among members grows demonstrably less equal.

Not only the borrower's own doing

Both delinquency and default by individual borrowers are stimulated by higher levels of overdue at the local group and credit organizer levels. For delinquency, that is true also of the branch-level overdue. These context effects attenuate from the group to the organizer and then to the branch. It is the group in the village or hamlet that exercises the most stringent social control and is most vulnerable to conflict. But also stress in RDRS units - in the organizer or branch portfolios - quickly translates to the individual customer.

Compared to the pattern that a study detailed in 2000, default has been much less prevalent across the loans of the 2004-2010 observation period. The current levels seem to vindicate the mutual trust and dependency between RDRS and the population in the northwest that needs and wants such services.

The 3.5-year mean duration of the borrower careers nevertheless calls for serious reflection. Earlier impact assessments among RDRS program participants suggested that the lifecycles of poor households moved in spells of improvement and decline that typically each lasted between 2.5 and 4 years. Their fast changing fortunes may place limits also on their tenure as micro-borrowers, rendering some unable to receive or

service new loans when a crisis hits, and discouraging others who used their loans for emergency measures from adding further debt afterwards. The majority of borrowers, however, including the ultra-poor, have in recent years increased their debt capacity, as the declining default rates attest.

Back to the big picture

If that is indeed true for a large segment of RDRS' customers, it may be appropriate to evaluate the program not so much in business growth terms, and more as an insurance mechanism for the poor. In fact, a small first loan of Taka 3.500 keeps the RDRS borrower in the program for over two years, during which time repeated loans are made available for earning opportunities or other urgent needs. The poor badly need insurance, but rarely obtain it under explicit insurance terms. If RDRS supplies it through loans, it can only strengthen the productive partnership.

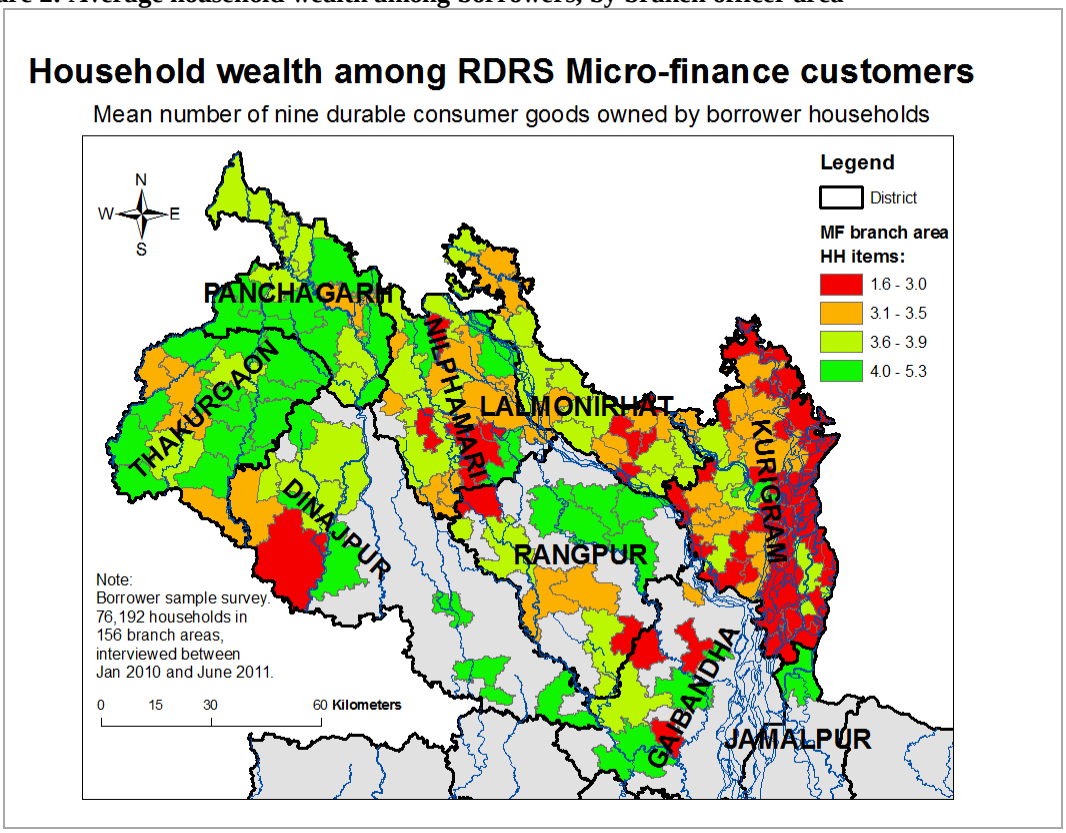
Microfinance is not the only quasi-insurance to which RDRS program participants have access. The poor suffer a broad spectrum also of non-financial risks. RDRS social development programs, and more than any others: the Union Federations, mitigate some of them, notably the risks of violence against women and of complete helplessness in the event of sudden disaster and destitution.

The relationship between the Microfinance Project and the Federations has not yet been developed to great mutual synergy. A history of failed credit intermediation has made both sides wary of engagement. It can be argued that the rural communities no longer need the guiding hand of NGOs to coordinate their participation in various programs. Borrowers join Federations, and Federation members take loans from RDRS, entirely by their own choices. However, the Federations provide RDRS with a kind of legitimacy that no other microfinance institution enjoys in the northwestern region. Ultimately, in moving closer to formal insurance, the Microfinance Program will need their cooperation in order to protect itself from the universal problems of moral hazard and adverse selection. Appropriately coordinated monitoring systems will make impact demonstration more cogent, on both sides of the microfinance - social development divide.

The borrowers of 2010-11

After seven years of working with individual customers, the Microfinance Program caters to a very diverse clientele. From the data that the frontline workers collected on 70,000 borrower households, distinct distributions of wealth and food security emerge. Not surprisingly, wealth is still highly correlated with the levels known of the surrounding communities from which RDRS recruited these borrowers. Thus, in this map, a swathe of red color in the chronically poor riverine areas of Kurigram District, red islands in the center where the program for the ultra-poor led to the opening of new branches, and a hotspot of tribal population in the West all acknowledge the modest economic standing of the mass of borrowers.

Figure 2: Average household wealth among borrowers, by branch officer area



This measurement of current household wealth can be combined with indicators of the preceding borrower career. While causal interpretations are not feasible - we do not know the selection factors, nor the current condition of the drop-outs -, nevertheless, for those

still observed in 2010-11, a positive association emerges clearly. The effect of growing loans is stronger than what we can attribute to the initial poverty level.

What we know, and what we don't know

Microfinance research has advanced a number of small theories, if not a unified edifice. The ability to estimate models of borrower behavior with a large dataset has allowed us to speak to some, while also exposing areas of continued ignorance:

- **Individual risk:** It was thought that the risks of microcredit were exacerbated by "strategic default". In this view, the borrower continues to repay a series of growing loans until the unpaid balances are larger than the likely utility of future loans, at which time he quits repaying and possibly seeks other lenders. However, while our econometric model is less than compelling, default is so rare that its strategic flavor is unlikely to be a dominant disposition among RDRS borrowers.
- **Group risk:** We find better support for the theory of "borrower runs". This assumes that when borrowers perceive that increasing numbers of fellow borrowers are defaulting on their loans, they too lose the incentive to pay back. Delinquency and default thus accelerate. In fact, we have found that higher overdue levels held by the local borrower group and, to a lesser degree, by the responsible credit organizer push the individual member in this direction.
- **Institutional risk:** The most important finding concerns the relationship between outreach and sustainability. While these explicitly were not the topics on which this study set out, the good repayment record of the ultra-poor borrowers with RDRS is a key achievement in the partnership perspective. The RDRS Microfinance Program, after 2004, has been able to reach out to this group in large numbers, while at the same time dramatically improving its financial performance. Outreach to the very poor and financial health of the institution can reinforce each other.

Why these risks have remained manageable is less well understood. The frequently heard RDRS adage that "the poor are more honest" can easily be countered by the less flattering necessity for the poor to maintain their credit, possibly at great hardship. A very significant contribution to the welfare of the poor may have come from savings mobilization. This, while critical for the expansion of the Microfinance Program as well as for the customers' own stability, has not been investigated, for lack of data. Thus, three areas - integration with social development; the existential dependence of poor people on lending institutions; and the interaction of loans, savings and insurance - need further scrutiny for a fuller understanding of this partnership.

The marvels of history

With 380,000 group members at the end of 2010, the Microfinance Program boasts a vaster constituency then the RDRS Union Federations with their 260,000. It is therefore easy to forget that in 1998 the Microfinance Program was dangerously moribund, causing RDRS financial losses and integrity issues. It took seven years to work a radical turn-around, which in retrospect must appear miraculous. The program has since greatly expanded also among the ranks of the ultra-poor. The results have been excellent, but as unpredictable as those of the Federation movement in its early days. Both sides, RDRS and the people, have kept their part of the compact, sometimes with difficulty, but ultimately in a well-sealed partnership.

Acronyms and abbreviations

ASA	A Bangladeshi microfinance NGO
BRAC	A Bangladeshi development and microfinance NGO
CARE	CARE Bangladesh. A development NGO.
CCDB	Christian Commission for Development in Bangladesh. A development NGO.
ICCO	Interchurch Organisation for Development Cooperation. A Dutch donor agency and core partner of RDRS Bangladesh.
LWF	The Lutheran World Federation. An ecumenical apex body that, prior to 1997, founded and operated RDRS Bangladesh.
MFI	Microfinance institution
NGO	Non-governmental organization
PKSF	Palli Karma Shahayak Foundation. A credit wholesaler and partner of RDRS Bangladesh.
PRIME	Program Initiatives for Monga Eradication. A PKSF-led poverty reduction initiative in areas affected by seasonal hunger (monga).
RDRS	RDRS Bangladesh. Also known as Rangpur Dinajpur Rural Service.
RECC	Rate of effective cost of borrowing
USD	United States Dollar. USD 1 = approx. Taka 70.

[Background:] RDRS Bangladesh

RDRS Bangladesh was established in 1972 as a field program of the Geneva-based Lutheran World Federation (LWF) when Bangladesh was an emerging nation and the vast majority of its population lived on the edges of starvation. Its first task was to provide relief and rehabilitation for refugees and those left destitute after the War of Independence. RDRS derives from “Rangpur Dinajpur Rural Service”, named after the Rangpur and Dinajpur region in north-west Bangladesh.

During the period 1975 to 1990, RDRS completed its transformation from a relief agency to a multi-sectoral rural development NGO, retaining its regional identity and focus in the northwestern poverty belt. Its working area nowadays comprises over 22,000 sq km, spreading across 64 sub-districts with 475 Union Councils. Among an estimated population of 20 million, 2.3 million are involved in the RDRS development programs.

During the late 1980s and through the 1990s, a radical shift took place in RDRS’ philosophy and field activities towards a group-based delivery system, with Union Federations and other community-based organizations emerging as the medium for the message. In this decade, RDRS, like many other Bangladeshi NGOs, built up a large micro-credit program.

A mid-sized NGO among 19 million people

In 1997, after 25 years as a field office with expatriate senior administrators, RDRS became an autonomous, national development NGO, governed by a board of trustees and run by Bangladeshi managers. The supportive relationship with LWF and its partners continues, with aid agencies in Nordic countries and in Holland as its long-term core partners. In 2010, RDRS was working with over 19,800 organized groups, with members drawn from 410,000 households. It had a total staff of 2,940, of whom twenty percent were women, and administered resources worth US$ 19 million[1]. In addition, its Micro-Finance Program disbursed loans worth Taka 2,346 million (approximately US$ 34 million).

RDRS' programs are organized around four strategic priority areas: civil empowerment; quality of life (particularly in health and education); natural resources and the environment; economic empowerment. In terms of size, RDRS is a mid-field player in the Bangladeshi NGO population, much smaller than the brandname giants BRAC, Proshika and ASA (Grameen Bank, technically, is not an NGO), yet larger than all but 10 – 15 other NGOs. The field coordination office is in Rangpur, the major city of the working area. The population of the working area was estimated to be around 19 million.

RDRS works closely with 363 Union-level federations, which grew out of the association of small groups of landless people, poor women and small farmers that RDRS had organized in villages in 55 Upazilas in 11 districts. In 2010, their combined membership stood at 260,000.

[1] This information has been compiled from the 2010 Annual Report.

Introduction

Through this study report, we hope to offer an instructive description of RDRS' micro-finance program. Micro-finance is a field on which an abundance of literature has been produced, apace with its rapid expansion. It is also a subject on which most observers seem to have hardened opinions of one kind or another. This obliges us to be selective in the aspects of the program that we describe. We do not want to further contribute to the well-researched topics of impact and sustainability. We seek to develop a new perspective, one congenial to RDRS. We look into its microfinance program as a *partnership with the poor*. We fathom the depth of this partnership quantitatively, using transaction data, supplemented with program history, borrower survey data and a case study.

A rougher climate for microfinance

The wider backdrop to this study is highly charged. It comes at a time when the microfinance industry takes critical stock of its long phase of expansion (The Economist 2005; Johnson 2009; specifically for Bangladesh: Osmani and Khalily 2011). Lately, some have drawn parallels with the crisis in the global financial system (Beirne 2008). Localized crises have indeed flared up, some in RDRS's wider neighborhood, such as the 2008 borrower rebellion in Pakistan (Burki 2009) or the 2010 clamp-down on the industry in Andhra Pradesh, India (Bateman 2010). In Bangladesh, the government has seen fit to cap micro-loan interest rates (AFP 2010). Recently, it has singled out the Grameen Bank for criticism, a sure sign that even a paragon of development success and winner of a Noble Prize is no longer immune to public reevaluation of the microfinance industry. Professor Yunus was removed from its chairmanship.

Partnership - the perspective of this study

Looking at the RDRS Microfinance Program from the perspective of the partnership that unites this NGO with the poor of the northwestern region may seem to invite fuzziness. We avoid the danger by giving it a partial, but precisely measureable definition, the length of the business relationship between RDRS and borrower.

We take advantage of RDRS' extensive borrower and loan database. It retains a wealth of historic transactions that allow us to reconstruct borrower careers in great detail. Nowhere else in the literature have we seen dynamic analyses going so deep into the parallel evolution of tens of thousands of borrower-lender relationships.

We are particularly eager to gauge the extent of longer-term stable client relationships. That such relationships work to the advantage of both lender and borrower is commonly recognized (Pagura 2004). This focus is congenial also to a regionally defined NGO like RDRS, with its almost 40-year old tradition of serving communities in a disadvantaged region. We train our lens on the growth of loans and, inversely, on loan delinquency, default and client exit. We neglect the equally important savings aspect because RDRS digitized savings information at a more recent date that does not supply the minimum historical depth yet.

The choice is motivated both by interest and by the data situation. We will describe the latter further below. The fixation on the growth and fulfillment of loan contracts excludes a number of topics that have dominated micro-finance debates. These have traditionally favored one or the other of two lines of enquiry - outreach and impact on the borrower side, or performance and sustainability of lending organizations. This study speaks to them indirectly only.

The larger environment

Even if we cannot contribute to the classical themes, it is obvious that the RDRS microfinance program is not operating in isolation from the larger policy and operational environments. We will describe both. The next section enumerates some of the key areas of policy debates. Our overall impression is that assumptions that the concerned policy community may once have taken for granted have been increasingly questioned in recent debates, but that RDRS' operations have largely remained unaffected by the loss of philosophical certainty. This may be due to a variety of factors - the relentless competition by other providers that focuses attention on local management, RDRS' stable and constructive relationship with the credit wholesaler Palli Karma Shahayak Foundation (PKSF), and the northwestern macro-economic environment characterized by continuous growth and the absence of major disasters in recent years.

We have little precise information about the competitors in RDRS' regional market and describe the operative environment chiefly through an account of the program history.

The philosophical and policy environments

The research tradition that informs microfinance debates is over fifty years' old if one takes as a starting point Wai's seminal paper on credit outside the formal banking sector of developing nations (Wai 1957). In other words, it is older than microfinance as a social technology itself. It has also grown so voluminous and sophisticated that observers other than specialist econometricians and policy scholars depend for orientation on a small number of landmark events and findings. The Nobel Prize awarded Dr. Yunus and the Grameen Bank in 2006 ratified microfinance as an effective tool of poverty reduction. But lately some of the tenets of faith in the industry have been undermined. Research often appears inconclusive, with key findings called into question by newer studies contradicting them. The claim that micro-loans raised the incomes of the poor in Bangladesh was essentially based on two key studies (Pitt and Khandker 1998; Khandker 2005). Their validity has been attacked (Roodman and Morduch 2009) in a debate that is ongoing (Ravallion 2011).

Talking at cross-purposes?

There also seem to be disjointed disciplines at work whose languages, methods and findings are less in contradiction than simply out of touch with each other. Econometric research typically relies on large-sample surveys, theories of the firm and household economy and on abstraction from development activities other than financial services. Bangladesh was the pioneer also in quantitative microfinance research (Khalily 2004). Social anthropologists deepen case studies, have a post-modern concern with language and ideology, and are sensitive to institutional codes other than finance. By and large,

they are indifferent to issues of representativeness, selection bias and cause-effect demonstration that pre-occupy econometric approaches to microfinance (Mayer 2007).

The example of women's empowerment

These differences have occasionally mattered even for a non-academic organization like RDRS. Debates have been particularly contrarian on the question of female empowerment. Working with poor women has been a constant element in RDRS strategic plans. It is also a source of pride which both its microfinance and other programs share in the light of perceived achievements. In Bangladesh, women form the large majority of NGO microloan borrowers. Some studies became classics in the field. Pitt et al. (2006) ascertained a variety of positive effects that these loans produced for the welfare of borrower households and in particular for the decision power and mobility of women.

An oppositional literature, worried by increased domestic violence over the control of loans (Schuler, Hashemi et al. 1996; Schuler, Hashemi et al. 1998), has put an accusing finger on the emotional stress and anxiety that reckless borrowing and inflexible repayment regimes cause poor women. It depicts microfinance NGOs in the unfavorable light of social control agencies oppressing poor borrowers. These clients comply because they are desperate to maintain their credit. The female empowerment debate is typical of disciplines talking at cross-purposes, with rare attempts to incorporate the other side's concerns. Reaching over the usual demarcation lines, Ahmed, Chowdhury et al. (2001) contradicted the anxiety thesis with representative survey findings. Yet, in a pool of millions of borrowers, there are enough debt spirals, local disasters, organizational malfunctions as well as systemic and incidental conflicts to be found in order to always sustain the flow of critical assessments (Karim 2008; Hussain 2010).

When the debate strikes home

It is doubtful that the RDRS field management, concentrated in the northwest, was ever keenly aware of academic debates on microfinance, but some have occasionally fired a shot into the RDRS frontyard. In 2005, a long-term Dutch partner agency made queries based on an ethnographic case study (Huq 2004) that painted RDRS workers as persecuting a delinquent borrower who had just lost her son. Subsequent investigation established that the woman had never been an RDRS client, but the author knew the Bangladesh microfinance field well enough to ask some legitimate questions of a wider interest, notably about the disjoint between vigorous credit expansion and lagging technical support for the small businesses that it financed. Case studies like Huq's have also been more effective than survey research in highlighting poor borrowers' trajectories across multiple lenders.

Of a more powerful impact on RDRS' practice has been a local instance of the long-raging debate on outreach. The issue whether microfinance reaches not only the poor (which is uncontested), but also the poorest, is undecided. However, around 2005, the domestic politics of Bangladesh forced "Monga", seasons of low agricultural employment and hunger, onto the agendas of microfinance agencies (Khandker, Khalily et al. 2010). By 2006 NGOs like RDRS that depended on PKSF financing found

themselves diverting their field machinery to the rapid implementation of the so-called Program Initiatives for Monga Eradication (PRIME). Clearly, and regardless of what RDRS may have felt about its extant coverage of the ultra-poor, politics forced the arm of microfinance institutions with a kind of energy that academic debates, however sophisticated, cannot muster.

The interest-rate issue

With the recent pronouncements on interest rate caps in Bangladesh, politics is again adding momentum to what began as an academic and policy debate. Positions on interest rates have long been divided between those who wished to increase them (to reduce subsidies) and those who stressed that demand fell when rates rose, meaning the poor could no longer afford credit (Banerjee and Duflo 2010). Others have pointed out that the face rates (typically between 10 and 18 percent p.a.) and the actual rates implied in amortization, fees and compulsory savings diverge widely. Ahmad (2007: 32) calculated rates of effective cost of borrowing (RECC) from four large microfinance institutions of between 30 and 42 percent[2].

Microfinance organizations operate on thin profit margins because of the high cost of servicing numerous small loans. They have not always been transparent about their cost structure (Yaron and Manos 2010), thus shocking outsiders who learn of the real interest rates. De facto, 30 percent interest is significantly cheaper than the rates that poor borrowers pay informal moneylenders, merchants and relatives. It tends to be lower than the marginal product that borrowers earn in businesses expanded with loans. Below-market rates harm the poor because richer customers, who are politically more influential, usurp access to subsidized credit (Dulal, Gingrich et al. 2008). On the downside, higher rates will drive up failure rates among the businesses that do get started on such loans, and will tend to land some of the poor in deeper debt traps. When sufficiently many of these are noticed, and the charge of intransparency sticks, the issue becomes moralized, and a political reaction may be provoked.

The loss of certainty

What are the consequences of growing scientific uncertainty regarding the impact of microfinance? For NGOs like RDRS, they are not obvious. Which of the research findings gets translated into action may depend on the choices and effectiveness of advocacy networks (Ahmad's study of effective interest rates was supported by ActionAid) and on the agendas of regulatory and donor agencies. NGOs with a lower profile and a stronger field orientation may lag in their perceptions of the changing debate. In its graphic collection of borrower biographies, RDRS (2008b) emphasized opportunity, growth and empowerment - in other words, outcomes that econometric research has found difficult to demonstrate as consistent direct effects of microloans. It did not much talk about a main effect on which there is a fair degree of consensus: the reduction that microfinance achieves of the insecurity in the lives of the poor (Islam 2009; Rosenberg 2009a), under such headings as consumption smoothing, reduced vulnerability to economic shocks, quasi-insurance. These latter concepts are harder to communicate than

[2] Grameen Bank, BRAC, ASA and Proshika. Curiously, RDRS is noted with a base rate of 12 percent (op.cit., 31), but is not included in the RECC example calculations.

the picture of the happy widow who started with two goats and now, two loans later, owns four cows.

If a major disaster were to strike RDRS' working area, its long-term partners would likely pour in funding in a traditional relief and rehabilitation format. How would they look at RDRS' micro-finance program? Would they consider funds to extend loans to disaster victims? On what terms? Would they be willing to recapitalize RDRS for existing loans forgiven or rescheduled? Besides the ingenuity of microfinance institutions in preparing for, and responding to, such contingencies (Islam 2008), factors determining donor response would likely include philosophical assumptions on the legitimacy and effectiveness of this sector.

The debates have not challenged RDRS

On balance, the loss of philosophical certainties in the microfinance industry has not challenged RDRS. After all, even for an intervention that puts money directly in the hands of poor people, its major impacts may be indirect. Beck et al.'s (2007) widely cited study on what the development of financial services has done for the poorest estimates a 40/60 proportion between direct (more equal incomes) and indirect (overall economic growth) effects. In a specific local context such as RDRS' working area, those intricate causal streams are all the harder to gauge. In the face of such complexity, econometric research itself is notching up the methodological bar, by increasingly favoring randomized trials (Banerjee, Duflo et al. 2009). This will only deepen the gulf between academia and the average microfinance NGO, reserving the seats at the policy table to the few large institutions equipped to leverage such developments.

Focused on its rural constituency

It is therefore more relevant to probe for aspects of the microfinance reality that the academic and policy debates have scarcely addressed. For NGOs like RDRS, the place of microfinance within multisectoral rural development programs is of great concern. There is a historic parallel between the separation, organizationally, of RDRS' microfinance from its other programs and the general lack of research into the effects of associated non-financial services (such as health services or adult literacy training; Godquin 2004: 1913). In other words, little is known of the synergies (positive) and opportunity costs (negative) of microfinance. This holds for RDRS as well. For its impact surveys, started around 1999, the microfinance program supplied the initial information infrastructure, but it proved impossible to reconstruct the participation of the sample households in the various RDRS programs and projects.

This difficulty is more than a footnote from a monitoring unit. In a survey conducted for RDRS, Alam (2008: 64) found that what the rural constituency expected of NGOs overwhelmingly were financial services (savings deposits: 95 percent of the interviewees; loans: 91 percent). The public hardly seemed to associate NGOs with any other types of programs; the next most frequently mentioned area - education - garnered a mere 4 percent of the response. This hints at a danger; the legitimacy of NGOs in Bangladesh is nowadays tightly linked to that of interest-bearing loans.

A blind spot in most of the quantitative outreach and impact research, legitimacy issues have been highlighted, at least sporadically, by more qualitatively arguing researchers. Goetz and SenGupta (1996) were among the first to warn that NGOs' heavy involvement in microfinance may have weakened developing organizational solidarities among the poor. Others have reported wide-spread popular discontent with prevailing microfinance practices, particularly inflexible repayment rules. Largely unknown to western observers, and with unforeseeable practical alternatives, there is a lively search going on within the Islamic society as to how financial services for the poor can be delivered in religiously acceptable, yet efficient manner, and how they can be organized alongside more traditional charity (Mesbahuddin 2010).

Many of the criticisms may be well justified as long as they stick to the evidence from the field. Some of it seems overblown, though, such as when commentators associate microfinance institutions in Bangladesh with neo-liberal credos, the "Washington consensus" and similar grand schemes of a global import. RDRS may be employing more than half of its workforce in microfinance, but, typically of rural development NGOs, it pursues a hybrid agenda, some of which has a decidedly communitarian taint.

Is microfinance oppressive?

A more interesting and down-to-earth question is whether microfinance NGOs exercise social control of a kind that helps or harms the poor. Again, it is instructive to note how different disciplines hold opposite assumptions in this regard. Some behavioral economists suspect that "microfinance borrowing could be a way for the poor to commit themselves to a savings plan" (Banerjee and Duflo 2010: 74). This could be considered a beneficial consequence, apt to make them less vulnerable. By contrast, Karim (2008), from her anthropological fieldwork, asserts that microfinance NGOs systematically silence dissent and criticism, not least by hiring public intellectuals, who otherwise might have spoken out against excesses. If that is indeed so, it may work in Dhaka, but university professors would be the least fit of all appeasers to quench a borrower revolt in a rural district.

One should not rashly dismiss the social-control thesis. Rankin, observing microfinance in Nepal and Vietnam, with their vastly different political systems, was struck by the similarity of the tactics by which borrowers "bent the rules discretely so as not to jeopardize their access to a much-valued service" (Rankin 2010: 188). Covert resistance, of course, is a well worn figure from peasant and colonial studies, and it may have ground truth in Bangladesh as well. A study that RDRS commissioned into the reasons of loan default in 2000 estimated that over a quarter of all defaults were caused by tensions between the program and the borrowers (Karim 2000: 66). These were less important than business failure and use of loans for consumptive purposes, but still significant. The finding was not replicated later on - not because RDRS wanted to suppress it, but because the researcher, a university professor, and the concerned staff did not find a common language.

So far, mostly an indirect impact

On balance it seems fair to say that the *direct* impact of academic and policy debates on the RDRS microfinance program has been minimal. RDRS has been noticed for the quality of its program. It won the European Microfinance Runner-up Award in 2006. Senior staff have been been trainers in Institute of Microfinance courses. Yet, RDRS has not advocated a public position on any microfinance policies.

The *indirect* effect of the debates is speculative, but may at times have been strong. Whenever scientific consensus in a policy field weakens, the political contestation around it may intensify (Guay 1999). By 2005, large-scale programs for the ultra-poor in the northwestern region - by CARE and BRAC, among others - had been documented to the point where they were more widely noticed in the capital. They helped shift the public perception of hunger seasons; as a result, politicians and media demanded drastic action, mobilizing the microfinance community, including RDRS, for new programs. At present, a general weakening of trust in the market mechanisms is making it easier to advocate more stringent regulations of the microfinance industry such as regards the interest rate.

Thus, while an interested observer will want to rate the RDRS experience against the wider backdrop of the microfinance movement, it is also obvious that the great debates have not caused RDRS much drama. This segment of the task environment has been placid. It is time, therefore, to turn to the more immediate operative environment, which, at times, has made for more turbulent history.

Historical elements

The adoption of a particular microfinance model

As far as living memories reach back, RDRS' first inroads with loans were in the late 1970s when the Agriculture Program supplied local cooperatives with irrigation and tilling equipment on credit. These loans were few, of a size above any "micro" notion, and universally defaulted on. In response, the feeling that RDRS was institutionally unsuited to handle credit was elevated to an organizational dogma. The nascent microfinance programs, notably the Grameen Bank's, were observed with mild interest, but with no practical consequence for most of the 1980s.

A late awakening and ..

It is fair to say that RDRS remained indifferent to the microfinance revolution until the impact in the core constituency forced it to take note. Around 1985, field managers raised the alarm over increasing defections of local groups that RDRS had organized around adult literacy and agricultural extension to aggressively expanding Grameen Bank branches. In Dhaka, RDRS informally explored possibilities of a division of labor, with Grameen providing loans to RDRS groups, and RDRS taking care of social and technical support. In the field, however, MFI and NGO workers demanded total allegiance and group arrangements in line with their own policies. The landless, poor women and small farmers in whose collective advancement RDRS had invested so much voted with their feet, switching in escalating numbers to organizations that offered them loans.

RDRS did not immediately respond by developing its own microloan program. It had, since the early 1980s, encouraged group savings in collaboration with commercial banks. Many of its groups held mixtures of short and long-term deposits; field staff of programs working with landless and small farmers routinely facilitated interactions between group cashiers and bank branches. The idea of leveraging these networks for loan provision was a natural extension of existing savings mobilization. It was first harnessed to bank loan provision for the purchase of manual irrigation pumps - the famous "treadlepumps" that were a key element of the RDRS brand. Pumps were fielded in cooperation between groups, dealers, banks and fieldstaff in several districts between 1988 and 1993.

These arrangements with commercial banks proved clumsy and unscalable. Often, a small farmer intending to buy a treadlepump on credit would lose two working days procuring a passport-size photo and another day signing an application form at the bank branch (Khan 1990). At this pace, RDRS could not hope to flush its beneficiary population with the number and volume of loans capable of stemming large-scale defections. RDRS decided to operate its own microfinance program. It opened the Credit Coordination Unit in Rangpur in February 1991.

.. a difficult beginning

Paradoxically, the incipient loan program remained captive to the idea of branch offices doing business with individual clients living far away. Its first two coordinators were recruited from commercial banks and brought with them no experience with NGO-organized groups. The Unit seems to have had little field exposure. It developed the program on the premise of an intending borrower who submits a loan application to the nearest local branch office on the strength of some project plan that makes repayment plausible and who, during the lifetime of the loan, will keep dealing with the branch personally. The only changes made were groups instead of individual borrowers, and RDRS sub-district offices instead of bank branches. With the Grameen model, RDRS' shared group liability and lack of collateral; it tried to do without Grameen's key pivot, the mobile credit organizer.

The result was abstruse. Loan disbursements were jump-started from Tk. 15 million in 1991 to Tk. 300 million in 1996 through existing field administrations totally unprepared for it. Abridgements and abuses began eating into the integrity of fieldworkers and district staff at once. Contrary to policy, field staff would not only make project assessments on behalf of local groups, but also handle their cash. Staff and group leaders would frequently pocket parts of the demand drafts encashed; the rest of the members would not know the approved amounts for which they were held liable. Non-performing loans were widely rolled over into larger ones, nurturing the illusion of good, if not excellent recovery. Between 1991 and 1999, RDRS went through an experimental phase that severely assailed its integrity (Benini 1999).

The official model was not the only one being pursued in RDRS. In Panchagarh District, left-over disaster relief monies were extended to local groups with the intermediation of their (recently formed) Union Federations. The repayment of these short-term "survival

loans" was made by Federation volunteers into RDRS accounts at local banks. Recovery was 100 percent. In 1993, the then district administrator sought to expand the scheme through a proposed program of "People's Banks", to be operated by the Federations. RDRS did not accept it.

Aligning with the dominant paradigm

There are competing narratives on why this initiative was not entertained. The Union Federations were a new addition to the RDRS panorama. Their uniform adoption throughout the working area was resented by several district administrators. This format, if adopted, would also have complicated management by admitting two credit models at the same time. The philosophical climate in the wider stakeholder community was vague. The Dutch agency ICCO, one of RDRS' long-term donors, supported experiments that the Christian Commission for Development in Bangladesh (CCDB) was conducting under the banner of "people-managed credit"; RDRS must have been aware of this alternative, which, in today's lingo, we would associate with the village bank model. The Lutheran World Federation, of which RDRS at the time still was, technically speaking, a directly implemented country program, did not have a microfinance policy favoring one or the other model.

The decisive force militating for the directly-operated model arose from imperatives of institutional survival. The apparent success of the three big programs - BRAC, Grameen and Proshika at the time - was seen as a vindication of bold self-sustainability policies. RDRS managers felt that with localization approaching they needed to diversify revenue. Support from core donors would slowly recede. Profits from micro-lending would hopefully take care of the shortfall. Village banks may be small and beautiful. But they did not make money for the institution.

The victory of the MFI model was not immediate. When recovery rates nosedived in 1998-99, doubts set in about its compatibility with RDRS' goals and capacities. A difficult compromise was worked out giving the Union Federations a role in loan administration with borrowers who were their members. This was ineffective to improve recovery; in fact, it induced conflict and paralysis in a good number of federations. As late as 2000, ICCO organized a workshop with RDRS to evaluate the feasibility of alternative options. On the table were the existing commercial model, CCDB-like village banks and transfer of the entire microfinance program to another institution.

The field decides

De-facto, the alternatives had already been eliminated by the field reality. In 1999, a large scale review of over 16,000 groups on record showed that only a third were still active. Overburdened with loan administration, field staff after 1995 increasingly ceased to form new groups. Both micro-finance and social development managers were keen to salvage their interests. They achieved this, starting in 2000, by separating microfinance and social development organizationally. Microfinance came under centralized management. Social development maintained more flexible arrangements alongside social development, agricultural and health domains. Neither side had any room left for grassroots-managed

forms of microfinance. RDRS aligned itself fully with the dominant paradigm in Bangladesh.

Growth and sustainability

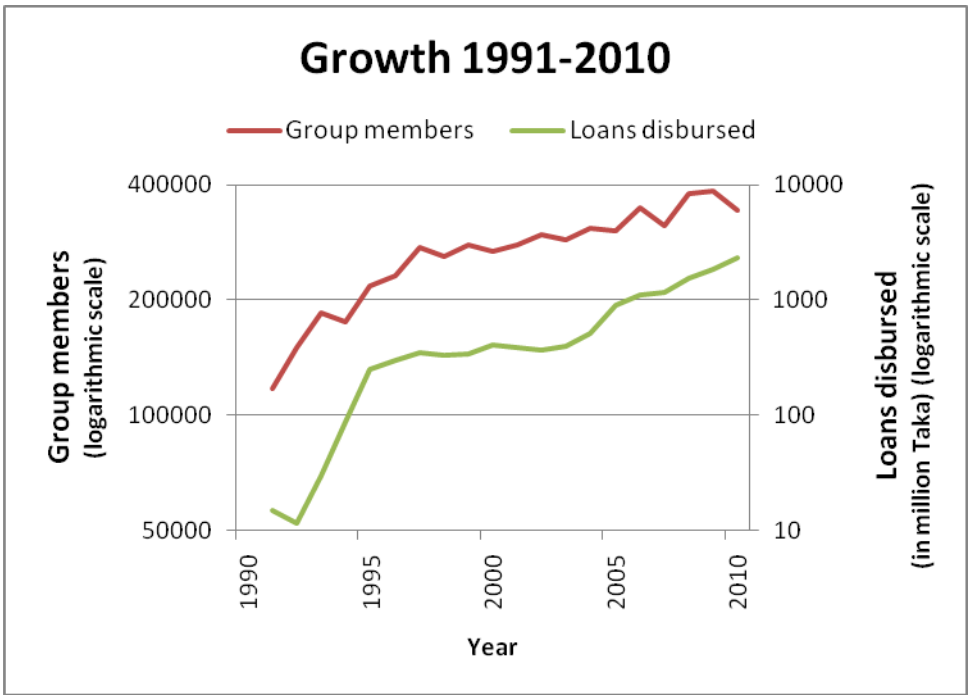
In its twenty years of existence, the RDRS Microfinance Program has gone through different spurts of growth and calms of consolidation. In simplified form, three major periods appear.

In a rapid start-up phase, meant to counteract massive defections to other micro-finance programs, RDRS benefitted from its dense group population, its existing sub-district infrastructure, and generous injections into its revolving funds by the British Development Administration and European Union. Some of these grants came in response to disasters. Eventually, the initial model was undermined by the disorganization it induced in the orderly field administration, the recognition that hemorrhaging losses would eventually not be offset by new capital injections, and the availability of an organizational alternative.

Turn-around in 2005

In a second phase, from 1999 to 2005, RDRS cleaned up the old mess and laid the groundwork for the subsequent expansion and profitability. The separation from the social organization wing proceeded in phases, and in an atmosphere of heightened conflict and staff turnover. New credit contracted temporarily. However, by 2004, the program was again functional to the point that it could embark on new ventures. RDRS started experimenting with, and later massively expanded, loans and savings for the ultra-poor. The branch network was being greatly expanded beyond the sub-district offices. A new partnership with PKSF provided the capital for the expanded program. In 2005, it achieved operational self-sufficiency. The turn-around had taken no less than six or seven years.

Figure 3: Two growth indicators



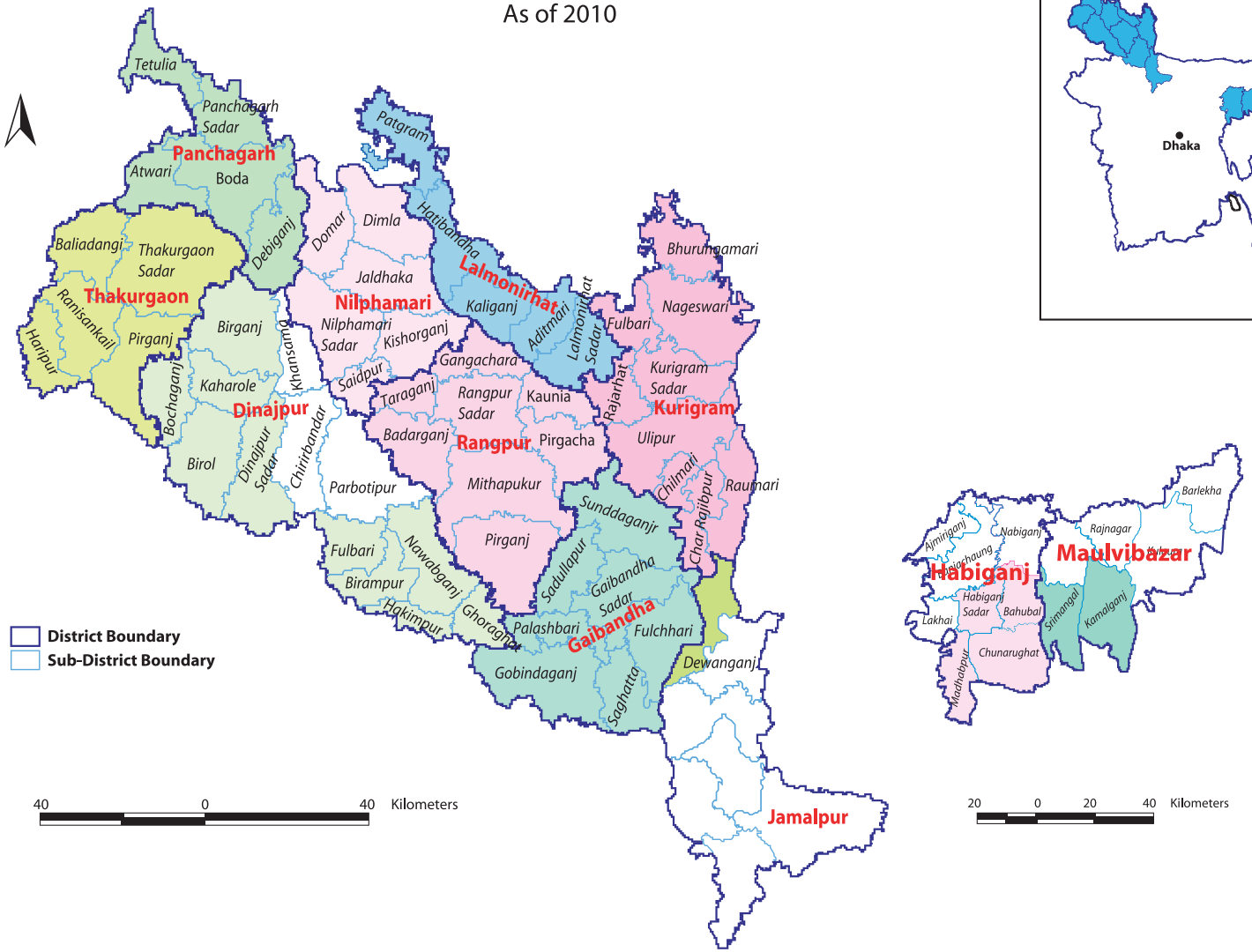
The above diagram indicates the nature of the next phase, 2006 - 2011. The two lines converge. Group members increase at the same rate as before. The growth of loan disbursements, by contrast, accelerates. Despite a massive expansion of ultra-poor borrowers, the performance of the program improves. In 2010, it achieves financial self-sufficiency. It holds Tk. 1.8 billion in assets, with a net worth of Tk. 680 million. Over half of its liabilities are in savings that it mobilized from its group members. The institutional long-term borrowings are in rough proportion with the customary focus of its social development work - about two thirds from PKSF chiefly for programs with the ultra-poor, a third from the Agricultural Development Bank for small farmer support, a smaller loan from the Norwegian Stromme Foundation, a long-term partner for tribal community development.

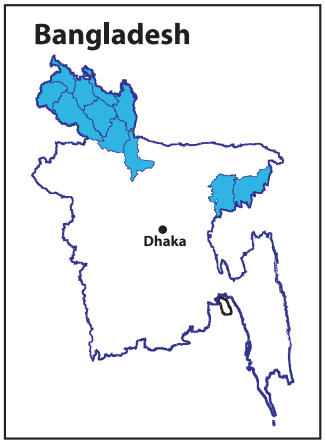
Figure 4: Map of the Microfinance Program Area in 2010

[next page]

Microfinance Program Working Area

As of 2010





[Sidebar:] The program director's view

I joined RDRS in 1997. With a twelve-year record in micro-finance, cooperative and agricultural development, I was familiar with government as well as NGO contexts. Thus I felt well prepared to meet RDRS on both major tracks - microfinance and multi-sectoral development.

My seniors gave me the best of all possible briefings - a two-month field trip. It did not take me long to conclude that RDRS, as it was set up then, was not yet well tuned to the philosophy and practice of microfinance. The prevailing arrangements were bound to lose money. In fact, RDRS was losing a lot, both money and integrity. The absence of proper controls opened the floodgates to dishonesty and corruption.

We introduced necessary tools and systems, some as basic as passbooks and collection sheets, savings mobilization, weekly repayments instead of monthly - proven practices that were commonplace in more mature microfinance programs. Yet difficulties persisted, chiefly because of a lack of autonomy in managing the program by its own professional logic.

Nowhere was this more manifest than in the frontline workers. They were overburdened. They bowed under the pressures of conflicting objectives. We gave them loan disbursement targets, collection targets as well responsibilities for delivery and coordination of traditional multi-sectoral activities - including the technical support that would help the borrowers to succeed in their businesses and to repay their loans! No human being could possibly satisfy all of those.

In retrospect, it is difficult to say whether it was the hemorrhaging loss of loan capital or the universal dissatisfaction with work arrangements that accelerated the reorganization of the RDRS programs the most. In the 2001-2005 Strategic Plan, RDRS set the objective for the Microfinance Program to become operationally separated and self-sufficient. We achieved it in time. The separation proceeded step by step, with specialized frontline workers, administration and accounts, finally legal and management autonomy. In 2004, a large expansion of branch offices brought the work closer to the doorsteps of our customers. New loan and savings products were added, making us competitive with other providers.

By 2010, the RDRS Microfinance Program became financially self-sufficient. We had succeeded in turning a subsidized program into a commercially viable one. Naturally, our team is proud of the hard-won turnaround of a program that ten years earlier had appeared doomed to failure and a danger to the entire RDRS. We are now widely respected and recognized for our achievements.

At the same time, I am very conscious of the development context. Microfinance and social development each have their own logic. If well coordinated, they can reinforce each other. We operate on the principle of most productive use of resources, our own as well as the customers'. This requires discipline, speed and constant vigilance in a tough market. By contrast, social development calls for deliberation in groups and among equals. This takes time; and there is no immediate indicator of success or failure.

Microfinance contributes in this process. Nearly 300,000 members meet in over 20,000 groups every week. They deliberate, they plan, they link to other endeavors as well. The poor, as they advance economically with the help of loans and savings, find it easier to be active citizens. I feel our program serves both growth and equality. This is what RDRS as a whole believes in, and what my colleagues and I stand for in microfinance.

Tapan Kumar Karmaker, Director
Microfinance, RDRS Bangladesh

Integration with other RDRS programs

It is legitimate to consider the exit from crisis and the ascension to self-sufficiency as bordering on the miraculous. It is also legitimate to consider the outcome as the fruit of good management and hard work in and around the program. These, however, were facilitated by certain propitious factors in the larger environment. Bangladesh has known fairly strong and steady economic growth for several years. The northwestern region was spared from major disasters. With the opening of the Jamuna Bridge in 1998, it started participating more strongly in the national economy. Absent detailed information, we presume that earning opportunities have grown for many in the RDRS microfinance clientele as well. There are, as the program director succinctly put it, *"virtually no beggars left"*.

Different parts, different rationalities

With nearly 1,500 staff total, whereof over 800 frontline workers, the Microfinance Program constitutes the largest segment in the RDRS programs. It works side-by-side with two other major components, the over 330 Union Federations and the project activities gravitating around them, and then a variable portfolio of so-called bilateral projects. Each of the three components has its own mode of institutional functioning. Microfinance essentially puts into practice a mono-sectoral rationality, with clear lines of command, industry-wide efficiency criteria and direct personal accountability. The Union Federations are autonomous partners with highly variable activity mixes that can frustrate impact evaluation. Yet, they procure RDRS popular legitimacy and brand recognition to a degree that microfinance cannot rival - many organizations give loans; only few have built a dense network of effective grassroots organizations. The bilateral projects follow the rules of the market for grants in which donors and implementers meet over ever fluctuating policies, budgets and capacities.

The track record of the Microfinance Program in cooperating with the other two components differs. Some of the bilateral projects come with a credit component. Microfinance administers the loans. The in-take agency for the participants and the authority for the project staff have to be determined. Is the new bilateral project for populations for which RDRS can use existing microfinance groups? Or do donors want to form entirely new groups so that the Microfinance Program has to make adjustments to cover them? Both scenarios have occurred, and some have initially interfered with the program's set ways and cost-containing efforts. Asset transfer programs compete with loan programs and need special transition rules if they are to be integrated with microfinance. Some of the projects have caused the Micro-finance Program to administer and supervise technical staff - health workers and livestock technicians - that normally come under the purview of the social development wing. Observers familiar with the program history have remarked on the irony of such arrangements. They re-create, on a small scale hitherto, an integrated delivery format akin to the old Comprehensive Project, which had been destroyed by the very microfinance struggles of the late 1990s.

Microfinance and the Federations

The relationships with the Federations and the direct support programs for them have proven more difficult. With the exception of roadside tree plantations, Federations have no comparative advantage in income generating activities. They are not suitable borrowers. Their cash reserves are generally modest and are held in commercial bank accounts; they do not mobilize savings for the needs of any RDRS programs. Earlier attempts to involve Federations in the management of loans and savings either remained small and locally circumscribed, or were an outright failure and loss for both sides.

Federation leaders, however, have often been called to mediate when conflicts between credit organizers and borrower groups turned ugly. In a not uncommon scenario, disgruntled borrowers impound the organizer's bicycle. A Federation executive committee member, not necessarily siding with the organizer, but keen to avoid conflict between RDRS and his local community, talks to the group and hands over the captive bike. The organizers have not always shown gratitude for this help. By and large, they have discouraged poor people from joining Federations and occasionally have warned them that joining might entail loss of credit. One can only suspect that some fear that organized borrowers would be more difficult to discipline. This may be a myth. The Federations would hardly find reasons to interfere with the operation of credit as long as there is no foul play going on.

Nevertheless, the mutualism between RDRS Microfinance and the Union Federations is less intense they it might be on purely technical grounds. In a distant echo from the experience with the Grameen Bank in the mid-eighties, good intentions are affirmed at the top, but are not practiced on the ground. Program directors find reasons neither for incompatibility nor for intense cooperation. By and large, they watch over their respective domains with polite indifference to the others. Grassroots workers and local managers, however, are exposed to the challenges of sharing office space and relating to beneficiaries who may have multiple memberships and allegiances. They seem incapable to work with the same groups simultaneously in a federation support and in a microfinance perspective. In this sense, the reorganization of the RDRS programs, while successful in microfinance, has internalized some of the structural problems that earlier were felt between RDRS and outside organizations.

Research and introspection over time

Over the years, RDRS supported a number of small studies - academic and other - meant to provide deeper insight into the functioning and outcomes of its microfinance program. The sequence of studies is instructive, not only for their key findings, but also for methods and approaches, even for the reasons why some were not continued. The historically minded reader will find a detailed account and interpretation in the appendix, starting on page 81.

Here, it may suffice to point out the changing emphases and formats. In the early years of the program, RDRS commissioned studies on impact. These were to buy the program legitimacy in line with the claims that the larger industry made to the improvement of the borrowers' welfare. While the findings - regarding, for example, women's empowerment -

were generally in line with expectations, none of those studies demonstrated impact in a particularly compelling scientific manner. When key findings were shared with RDRS' partner agencies in 1999, the internal focus had already shifted to the ever more burning issues of loan recovery and longer-term sustainability.

In 2000, an external consultant was commissioned to investigate the finer grain of loan default. His detailed statistical approach was not appreciated by the target audience in RDRS; and the lack of any practical consequence, at a time of perceived crisis, put an end to academic research in microfinance. For the next several years, the format of program audits - practically these were small studies conducted by one of us (Nath) and extensively debriefed in Dhaka and Rangpur - helped find a common language among microfinance managers and other critically interested field people. The studies - there were four between 2003 and 2006 - spoke to internal audiences.

The need for public relations material arose when the *monga* (seasonal hunger) crisis became a national political issue in 2005-06. The Microfinance Program needed to document its outreach to the ultra-poor and specifically in *monga* mitigation. By this time, the mood had grown optimistic, with most in RDRS accepting that the program was sustainable. There was room for success stories. Starting in 2007, the style of reports turned colorful, visually compelling, appealing to observers wanting insight from both image and text. A year later, the program found its authentic voice in *"Starting A New Life. Microcredit for the Ultra Poor"* (RDRS 2008c). Again, it was the strong optimism radiating from the borrower's stories that was the main message. As in the wider community of practitioners, by now, impact was taken for granted, with no effort wasted at demonstration or synoptic interpretation. The achievements justified this stance, but the language was not made for debate in harsher times.

The structure and dynamics of partnership

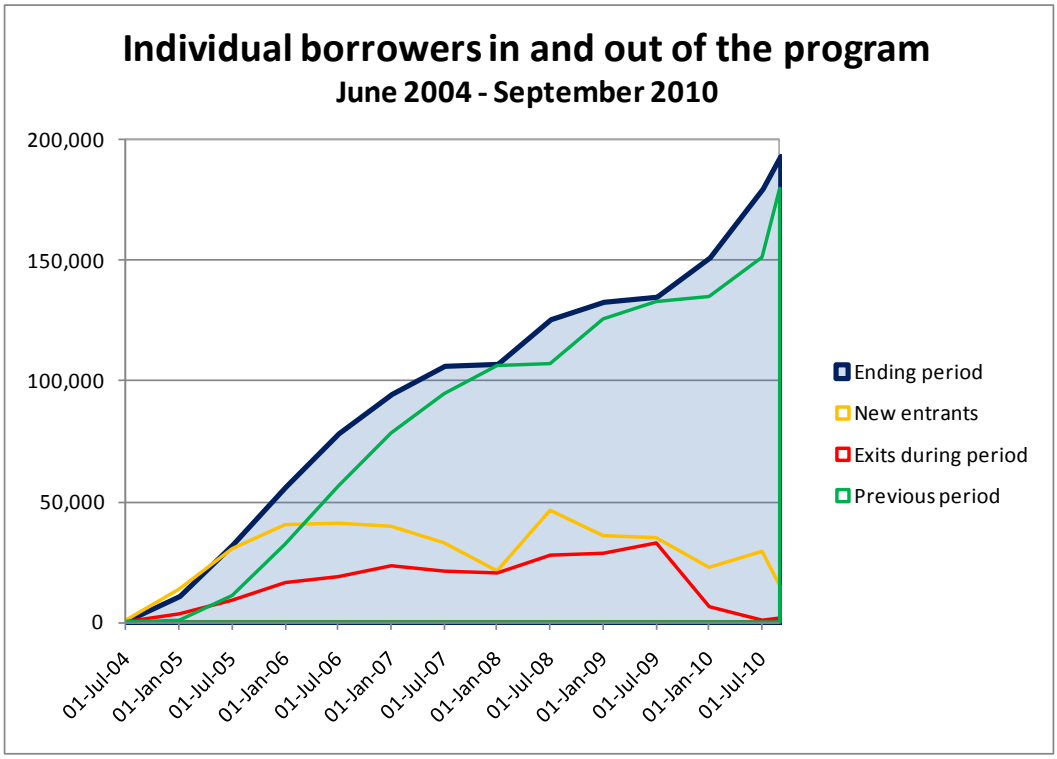
Loans and borrowers

Individual customers have existed only since 2004

In the first year of its operation, RDRS set up operations in 33 offices in the six districts where its development program was active[3]. Initially, it contracted loan and savings services with neighborhood groups that had been fostered by other RDRS programs. It was not until 2004 that the Microfinance Program added 56 branch offices under its own control. This expanded infrastructure permitted the creation, between 2004 and 2006, of individual customer identities in the program administration, above and beyond the mere group-wise accounting of transactions. This digitized individual-level data is at the base of what follows. The chart visualized the growth of the individual customer portfolio over slightly more than six years.

[3] From east to west in the then RDRS working area: Kurigram, Lalmonirhat, Nilphamari, Panchagarh, Thakurgaon, and Dinajpur.

Figure 5: Inflows and outflows of customers over time



A back-of-the-envelope sum would suggest that, with roughly 17.8 million residents in Upazilas of the ten districts where the program was active in 2010[4], and a mean household size of 4.6, 254,000 RDRS borrowers / (18.2 million / 4.6) households correspond to one borrower per every 15.2 or so households. A global estimate for 2008 put the number of micro-borrowers in Bangladesh at 27.5 million, of whom 40 percent may have been customers overlapping in multiple institutions (IFC and KFW 2009: 24). Assuming a population magnitude of 150 million, the national density works out close to [(1 - 0.4) * 27.5] / (150 / 5) ≈ one borrower per 1.8 households. If this density holds for the RDRS working area, its share in the local microloan market is, very roughly, 13 percent.

These figures hold little absolute interest, but they presage significant customer fluctuation, which we will address further below.

Borrower careers

During our observation period - 13 June 2004 through 30 Sept 2010 -, the program served 405,162 individual customers with a total of 948,032 loans. These loans varied in size from a tiny Taka 50 (about USD 0.70) to Taka 400,000 (approx. USD 5,700). The typical or median loan size was Taka 6,000 (USD 85). In order to reflect the true purchasing

[4] The 2001 census reported a population of 14.4 million for the eight districts in what now is Rangpur Division. In addition, the program was active in two Upazilas in Moulvibazaar District, four in Habiganj District, and one in Jamalpur District. These sub-districts together returned 1.3 million. We assume an annual growth rate of 1.4 percent.

power, the dollar amounts would have to be multiplied with a factor of about 2.5. Thus the size of the larger loans can hardly be considered micro-loans; they reach out to a customer segment with significantly higher debt capacity.

For most of the customers, the length of the partnership with RDRS can be reconstructed[5].

From an ephemeral one-day business to the full study window lasting 6.3 years, its range is extreme, but the quantity that really concerns us is the mean duration: on average, the RDRS borrower stays for 657 days, or 1.8 years. This simple arithmetic, however, underestimates the true duration. This is closer to 1,274 days or 3.5 years when we adjust for those with ongoing loans at the end of our observation period[6]. We have to stress, however, that this statistic is the mean duration; the median, with 788 days or 2.15 years, is substantially lower.

On average in the program for 3.5 years

During this time, she receives three loans, again within a variation much larger than this average figure. We find customers who exit after a single loan. They contrast with others taking multiple loans, up to 17. Most of these loans are consecutive; about 15 percent entail cash transactions *after* the next loan has already been opened. The mean number of loans taken depends significantly on the status of the last observed loan: borrowers who fully repaid it exited after 1.9 loans on average; borrowers with an open last loan took out 2.7 loans on average. This difference cannot simply be put down to the end of our observation period, with many loans still naturally being open; it involves the delinquent and defaulted-on loans that we will subsequently describe.

Fluctuations

Borrower fluctuation is enormous. It can be gauged in simple terms when we set observation points more or less equally distributed over the entire time window. For example, customers can be observed for having active loans, or not, at two-year intervals, such as on the 1st of July 2005, 2007 and 2009. Of all the customers running loans in mid-2005, 58 percent were still active borrowers two years later. This fraction, for those observed in mid-2007, was further declining; 37 percent were servicing loans in mid-2009. Looking at the three points in time, only 8 percent of the 405,162 customers had active loans at every one.

[5] We approximate this as the time from the opening of the first loan to the earlier of either the latest cash transaction or the latest full repayment over all the loans that a borrower took out in her career.

[6] The calculation is done in a survival model in which the last loan is defined as a failure event if it is either already repaid or the latest cash transaction took place at least 91 days before the end of our global observation period. "Failure" here is strictly understood in the sense survival analysis uses it.

[Sidebar:] Loans, freedom and community - A biography

Rahima Begum is known to a good number of RDRS staff as well as to many a visitor of its eastern working area as the tailoring and embroidery instructor attached to the Thetrai Federation, where she has been tutoring poor girls in these accessible trades. Nothing in her rural middle-class appearance or her firm, precise demeanor gives away the poverty and oppression in which she grew up and survived a violent early marriage. Different from most borrower success stories, however, hers is one of intertwined personal liberation, astute networking beyond her trade, as well as diversified use of loans, savings, and even lending.

From child bride to entrepreneur

Thetrai, a flood-prone community straddling a contributory of the Brahmaputra river, has a high rate of ultra-poor among its 5,000 or so families. Rahima's joined their ranks shortly after her father died, and the mother sold land for the elder sister's dowry. Hunger would visit the family regularly. In 1979, when Rahima was eight years' old, she and a sister were started as servants in a rich household. She remembers her masters as unkind, short-changing them on food and imposing silence during long hours of work. Intermittently, she attended primary school up to grade 3.

After four years of service, at age 13, Rahima was married to a homeless man. They moved in with her mother. Shortly after Rahima gave birth to son Rahim in 1986, her husband ran away with another girl. Rahima and her mother tried to make ends meet through a typical variety of petty trades, such as paddy husking and poultry raising. Her mother, in a gesture that anticipated Rahima's later occupation, taught her basic embroidery. Rahima caught the attention of a District Women's Affairs officer, who invited her to enroll in a handicraft and tailoring training.

The Tk. 1,000 loan that she took from a neighbor, in order to pay the training fee, was to start a long borrower career, at age 16. It was, with 20 percent monthly interest, also the most expensive ever. Yet, it bore a good investment. Rahima found work with her new skills and repaid within two months.

In 1993, her husband returned. Within days, he became violent. The next years, until in 2000 he absconded for good, were a saga of beatings, money extortion, periodic unexplained absence and the birth of a daughter, Afreen Nahar. In this period, Rahima used a succession of increasing loans to grow her paddy business, graduate from poultry to goats and cows, and, once, to help repay an outstanding loan. She climbed the loan ladder steadily to Tk. 10,000, at which point she became a lender. This was in 1994 when, in the first of six instances, she would use loans to "mortgage-in" land of fellow villagers[7].

Loans and social capital

For ten years, Rahima was working with loans taken, with one exception, all from the NGO Proshika, whose fieldworkers showed welcome flexibility in rescheduling payments whenever times were difficult. In 1997, she joined a village group under RDRS, initially to obtain a small loan for house improvements. This was the time when RDRS was introducing a series of skills training programs in the district. Rahima had a showdown with her mother and with neighbors who suspected Christian proselytism. She prevailed and a year later, after going through three courses, herself became a trainer based at the Thetrai Union Federation center. The community responded by first electing Rahima as president of her village group (in 2000) and as a member

[7] In a mortgage-in contract, the creditor rents in farm land against a pre-payment in the form of an interest-free loan to the landowner and debtor (Akanda and Ito 2008). In default, the land becomes the creditor's. Kabeer (2004) notes this investment strategy in the context of upwardly mobile households.

of the Federation's general assembly (in 2001). These positions afforded her several more trainings, including some through the RDRS Health Program and, more recently, the Bangladesh NGO Foundation.

Drawing a regular salary as a trainer, Rahima over the next ten years would operate with a mixture of smaller loans for her private tailoring business, her son's education, her farm and cattle, as well as larger ones for onward lending. The year 1998 is remembered for the purchase of her own sewing machine. Rahima quit Proshika in favor of almost continuous double memberships in RDRS and Grameen Bank groups. She was able to build savings and to invest them in a Grameen pension scheme as well as in an additional insurance plan.

She continued to accumulate leadership roles in Thetrai Union, in 2006 as a group leader for 500 women enrolled in the government's employment guarantee scheme, in 2008 as the president of the Federation's women's forum. In a major feat, she managed to get her son admitted to an honors course in political science in the district headquarters town. He soon became a member of the Federation's youth forum at home and an enumerator in one of its numerous data collection drives (Benini and Nath 2009).

The next generation starts on better terms

Concurrently, the consumption status of her household kept growing, although with considerable lags behind her productive career. It was not until after the abusive husband was out of the picture that the family was able to eat three meals a day. Then, too, Rahima was able to move from a simple hut in someone else's compound to a house of her own. Five years later, she acquired a bigger home, with, for the first time, a tubewell inside the house and a properly covered latrine for greater privacy and independence. As her son moved to college, they became users of the fast expanding Bangladesh mobile telephone network, with two handsets in her own name. By 2010, her monthly income was four times, in inflation-adjusted terms, what it had been when a well-meaning women's affairs officer sought her out in 1987.

Table 1: Rahima's loans, 1987 - 2010

Year	Source	Amount (Tk.)	Use
1987	Private	1,000	Paid training fee to join a skill training course
1988	Proshika	3,000	Paddy husking business
	BRAC	2,000	Goat rearing (50%), due loans repay (50%)
1989	Proshika	5,000	Paddy husking and rice selling business
1990	Proshika	6,000	Paddy husking and rice selling business
1991	Proshika	7,000	Paddy husking and rice selling business
1992	Proshika	9,000	Cow rearing (50%), Paddy husking (50%)
1993			
1994	Proshika	10,000	Invested in 'mortgaged-in'
1995			
1996	Proshika	15,000	Invested in 'mortgaged-in' land
1997	Proshika	8,000	Paddy husking (75%), Goat rearing (25%)
	RDRS	3,000	House construction
1998	Proshika	10,000	Invested in 'mortgaged-in' land, purchased sewing machine
1999			
2000	RDRS	4,000	Education expenses for her son (50%), tailoring work (50%)
2001	RDRS	3,000	Cow rearing
	Grameen Bank	3,000	Invested in tailoring work
2002	RDRS	5,000	Cow rearing
	Grameen Bank	5,000	Cow rearing (60%), Tailoring work (40%)
2003	RDRS	5,000	Invested in 'mortgaged-in' land
	Grameen Bank	6,000	Cow rearing (70%), Tailoring work (30%)
2004	RDRS	10,000	Invested in 'mortgaged-in' land
	Grameen Bank	7,000	Cow rearing (60%), Tailoring work (40%)
2005	RDRS	20,000	Invested in 'mortgaged-in' land
2006	RDRS	8,000	Paddy cultivation
2007	RDRS	4,000	Paddy cultivation
2008	RDRS	8,000	Met educational expenses of her son
2009	RDRS	5,000	Met educational expenses of her son
2010	RDRS	5,000	Met educational expenses of her son
	Grameen Bank	8,000	House renovation

What does the story hold for us?

In trying to place this, by all appearances, amazing personal growth in perspective, one has to avoid trivializing it as yet another microfinance success story. A success story it certainly is, on several counts: income growth, social empowerment, as well as multiple loan contracts, fulfilled to the satisfaction of all parties. The hardship of the childhood and the distress of violent early marriage compare to Rahima's leadership roles and her children's continued education like day and night.

What Rahima didn't say

Yet, the story is as remarkable for some of the elements that it does not mention. Rahima, as her biography makes amply clear, has prospered on the dual support from microfinance and social development programs that came to her as offers from outside. However, the integration of these resources in a multi-facetted, yet coherent growth path was accomplished by her personal agency, plausibly with much help from the local federation of poor people, whose member she became in 2000. There is not a single social development worker in the picture who facilitated Rahima's access to loans. Nor do we meet any credit organizer, RDRS or other, who connected

her with trainings or supported her moves to elected positions. Rahima and her local community managed these connections by themselves. Various factors - wider education, social mobilization of the poor, but also the specialized outlook of different programs in the NGOs - permit and encourage this level of local self-organization. It is miles beyond the integrated rural development claims of, say, the 1970s, when agencies endeavored to arrange the service integration on behalf of passive recipients.

Second, Rahima and RDRS Microfinance have done business together for 14 years. Nowhere in her account does any microfinance, or for that matter, social development worker appear. There are no names, anecdotes or emotions. Proshika workers are singled out for their liberal attitudes towards repayment, but they are supplanted by RDRS and Grameen, the former because membership was an advantage in accessing more trainings, the latter because of its savings products. Everything is strictly business. If ever there reigned personal charm between NGO workers and the poor, a new era has cast an icing on it.

Loans and morality

In looking back on her life, Rahima shared a number of thoughts and feelings from which a kind of semi-autonomous value sphere may be guessed. These values gravitate around dignity, reciprocity, education, cleanliness, self-development, service to the community, other people's rights. *"When I was young, I suffered violence and exploitation. I am not accepting that any more. Rights are for all. I have learned to argue in public; and I have the courage to do so".*

These values are connected to the programmatic world through her current social roles. She foiled a planned child marriage in her village by traveling all the way to alert sub-district authorities. Values resound also in her ambitions, for herself and for her children, even her old mother, for whom Rahima, not her less successful brothers, is caring. She sees herself increasingly grow into the role of a versatile resource person, valuable not only to her federation and to RDRS, but also to others such as the Grameen Bank. She is in demand, gives and receives recognition: *"People honor and value me wherever I visit them. My home is very clean and organized* [meaning: visitors see that they are welcome]. *People see me both as a good mother and as a leader"*

In no corner of this moral universe, however, is there any trace of the loan business. She has needed and used loans to get to where she is now in society. She has increasingly taken loans in order to onward-lend them in "mortgage-in" contracts (of which we do not know how they were wound up). Yet, there is a total disconnect between her formulated values and her taking and giving loans. Finance has been exiled from the moral discourse. If there is partnership between RDRS and Rahima, as our premise goes, then it is purely instrumental.

Some of this may be our over-interpretation of an autobiographic account that an outsider elicited together with a year-by-year enumeration of her business ventures and of the loans financing them. It is unlikely that the village community would so completely divorce loans and savings from their moral and political discussions. For one thing, borrower groups cannot confront the inability or unwillingness of their members to repay on time without moral judgment. Group solidarity is built on the effectiveness of granting or withholding public respect. Moreover, credit organizers, as much as other NGO staff moving in villages, are under constant observation and review. Rahima, except once in her early career, may never have faced serious problems to meet her obligations. But had the interview moved to the lives of borrower groups, the moral dimension would likely have come to light. And Rahima might even have dropped the names of some RDRS frontline workers, assuming she remembers them as persons.

Who continues after the first loan?

If fluctuations are as considerable as they seem to be, one may want to know more about the factors that help or hinder a first-time RDRS borrower to stay in the system and continue accessing loans that grow, presumably in step with his growing business and debt servicing capacities.

Just under two thirds of the first-time borrowers (61 percent) obtained a second loan. Whether borrowers took out a second loan, or not, depended on their first-loan behavior, some observed characteristics as well as on demand and supply factors that we did not observe. Being delinquent on the first loan erected a strong, but not an absolute barrier to a second loan. Even relatively low levels of delinquency (10 percent) would obstruct further collaboration. However, delinquent first-loan borrowers who finally did obtain second loans tended to receive higher amounts if they had been in arrears with more than 50 percent of their first-loan principal. This paradox may reflect a tendency, on the part of fieldworkers, to limit losses by rolling over large unpaid balances.

Larger loans the first time tended to increase both the probability of a second loan, and, for those who obtained it, its size. This effect is statistically significant, but far too small to offset the handicap that first-loan delinquency created. Similarly, both the chances of a second loan and its size improved with the number of loans that the local borrower group received in its first year of existence. The effects of loan size and group importance are readily understood from a business efficiency perspective.

But what about the borrower and her attributes? To a degree, the size of the first loan could be taken to proxy for her social status, with higher-status households suggesting greater debt capacity and thus qualifying for a higher entry level. However, the recruitment of new borrowers into particular programs offers an additional reference. We rank borrowers by the social group from which the Micro-finance Program typically recruits for particular programs. For example, Small Farmer Group members are likely to be village middle-class whereas borrowers in the so-called PRIME program (a PKSF-sponsored program) are most of them ultra-poor women.

Grouping of programs crudely as targeting the non-poor, poor and ultra-poor, we find that the poor enjoy a slight advantage to be considered for second loans while the ultra-poor suffer a mild penalty. The effect of gender cannot be evaluated simultaneously, but since by far most of the ultra-poor participants are women, the penalty works against them as well.

Those effects are small in comparison to that of the inequality within the borrowers *group*. Individuals who are members of a group that draw loans of highly variable size in its first year stand a much higher chance of getting a second loan. One can only speculate with Van Bastelaer (2000) that the presence of more creditworthy (or more enterprising) members benefits all in the group by securing them a stronger link with the credit organizers.

Dynamic incentives

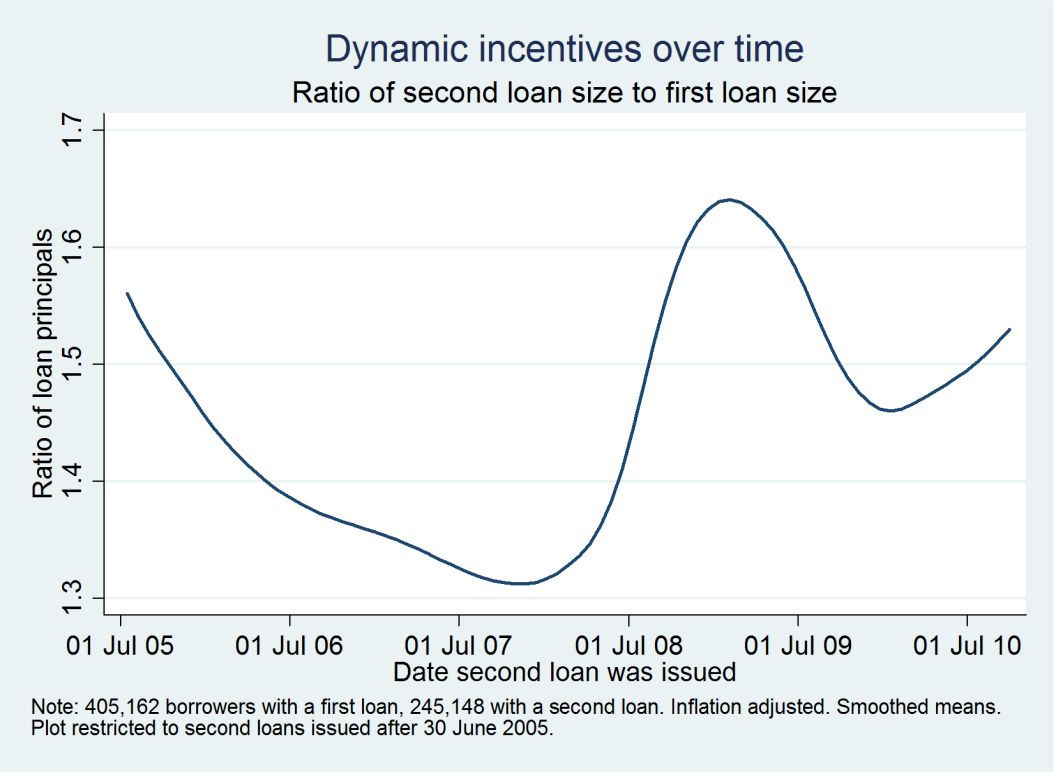
Another way of talking about the effect of the size of the first loan on that of the second is in terms of what the microfinance industry calls "dynamic incentives". The concept is that of a borrower who pays back faithfully in hopes that subsequent loans will be bigger. It implies a lender who goes along, in expectations of more productive business as well as under pressure from competitors. In fact, this is what happened to RDRS borrowers. Second loans were on average a third larger than first loans. For subsequent loans, the relative increases were more modest; and starting with the eighth loan, the trend reversed. Some of it may reflect mere administrative convenience: starting from loan no. 9, the maximum loan sizes are decidedly smaller, suggesting the use of evergreening loans to complete repayments of earlier ones, or bundling of new borrowers into an existing identity. The table below gives details.

Table 2: Number and size of sequential loans

Loan sequence	Number of loans	Loan amount (CPI-adjusted)		
		Smallest	Mean	Largest
1	405,162	73	6,664	136,032
2	245,148	52	9,077	151,713
3	144,173	109	11,116	227,141
4	80,059	102	13,283	322,906
5	43,837	103	15,492	400,001
6	19,906	51	17,011	296,124
7	6,830	106	18,562	300,001
8	1,876	987	18,053	209,280
9	600	1,152	13,776	100,000
10	230	1,152	12,254	70,000
11	120	1,152	12,012	28,263
12	58	2,083	11,132	43,802
13	26	1,152	10,980	25,286
14	4	8,169	12,944	23,036
15	1	1,152	1,152	1,152
16	1	1,152	1,152	1,152
17	1	1,152	1,152	1,152

But these expansion rates varied a lot over time, presumably with RDRS' liquidity and policies. This graph exemplifies the mean increase of second loans over first. The mean increases fluctuated between 30 and 65 percent.

Figure 6: Dynamic incentives over time



Despite those variations, there emerges a typical path of loan growth on which RDRS has led its borrowers, consistent with the theory of dynamic incentives, and in the interest of both parties.

Groups

RDRS borrowers, in arrangements that are widespread among microfinance institutions, meet in neighborhood-based groups. The groups may serve different purposes. Earlier, they assumed collective liability for loans. With contracts individualized, they still provide contact points for non-financial services and social fora, particularly for women. The essential function, however, remains that group meetings streamline transactions with frontline workers, helping to lower the cost of loans and thus to make loan provision sustainable.

We observed 405,162 individual borrowers in 151 RDRS branch offices during the six-year window. For 360,622 of them, the 15,877 distinct local groups as well as the identities of the frontline workers whom they regularly met are known. This is our core sample.

The size of groups at a particular moment varied widely, and even the ranges would fluctuate over time. Thus the largest group in mid-2005 counted 44 members; two years later, this figure shot up to 60, to settle by mid-2009 at 49. At this point, the typical (median) membership was 17. The estimated median lifespan, from first loan

disbursement to last cash transaction, is 788 days for individual members, but it is much larger for groups. Relatively few groups have entirely folded; three quarters are still active after five years. The extrapolated lifespan of 16.8 years is academic only.

Fluctuations within groups

The high fluctuation of individual customers is reflected in the turnover of group membership. Although the typical group counted only 17 members (in 2009), over time the number of persons who ever were members tended to go up. The typical group would record, in the course of six years, 28 distinct identities of borrowers. This number ranged from a low 1 - a pseudo-group - to a high 79.

This diversity is impossible to interpret from the data itself. Our initial suspicion that existing borrowers were accounted under multiple identities (as a result of which the average real borrower would have drawn more loans than the face-value data imply) was rejected. One is left to conclude that the group is not always a lived social reality in the village, but rather an accounting convenience into which field staff package their changing customer portfolios. Realistically, one must assume a tangle of real turnover and bureaucratic group definitions.

Two more questions regarding the lives of borrower groups merit brief attention before we return to individual borrower considerations. Both intuition and the literature (Pagura 2004) suggest that groups may be born fairly homogenous, yet over time their members diverge in health and wealth, in the success of their projects, and in borrower behavior. In our data, this growing diversity can be illustrated through member transitions and repeat loans as well as by the increasing variability in the size of the loans that members take in successive periods.

[Sidebar:] Changes in borrower group composition over time

The literature, to our knowledge, rarely speaks to the collective dynamics of borrower groups. For example, Painter and MkNelly (1999: 106) graphed out the average number of active borrowers by loan cycle for seven village bank programs. What they call "sustained borrowers" - those remaining active from the first cycle - shrank from 27 to 15 by the fifth loan. However, the number of active borrowers at this point was slightly higher than in the beginning - 29, up from 27 -, indicating that the banks were able to replace departed or dormant members with new active ones. While RDRS does not operate a village bank model, these results still hold a comparative interest.

We investigate similar dynamics for the population of the RDRS borrower groups. We take two approaches. For graphic visualization, we stratify groups by two-year intervals of observed group lifetime. Second, to unravel influence factors, we analyze their fifth-year activity statistically in terms of some of their earlier characteristics, measured during their third year of operation.

The flow of loans visualized

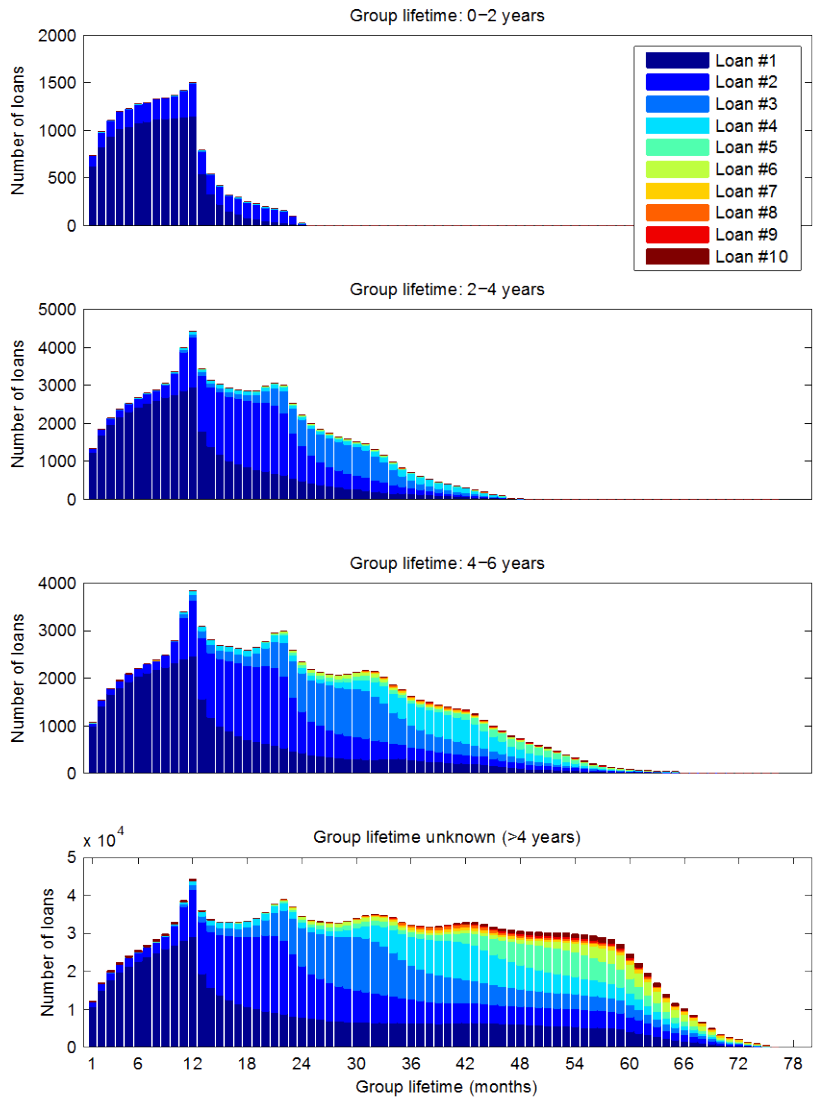
The four graphs on the next page are about a total of 2,239 groups founded in 2004 and 2005. This set excludes outliers - all groups that lived for less than six months, had more than sixty members at some point or never more than three. A group is considered dead when it has no

active loans for two consecutive months; gaps in lending activity are sufficiently rare to make this pragmatic definition reasonable.

The graphs show the flow of loans over time, by month of group existence and the sequence of loans in the individual borrowers. The graphs are segregated by the lifespan of groups. The groups represented in the fourth graph were still active at the end of the global observation period.

One particular finding leaps to the eye: First loans were disbursed for most of the groups' lifespan, way beyond their first year of operation. This means that the groups admitted new members at later points of time as well. When we consider the entire population of groups, this recruitment was almost continuous.

Figure 7: Four graphs of borrowing activity, by group lifespan



Continuous recruitment - or death

However, the rates of recruitment vary between longer and shorter-lived groups. In groups still active in September 2010, the monthly rate of new members, after the end of the launch period (12 months), stabilized around 2%. This amounts to roughly one new member every three months on average.

In shorter-lived groups, this rate fluctuated, generally below the 2-percent level. At the same time, the exit rate accelerated. More members left than were replaced. This is particularly poignant in groups that lived for four to six years. Their membership typically started contracting after the first twenty months of operation. From that point to month 40, typical size dropped from 17 to 9. By month 47 (when all of them were still active), it had shrunk to 4.

By contrast, longer-living groups barely saw any shrinkage, typically only from a maximum of 16 to 15 over the same period, and to 13 among those that we observed as being active after six years. One of the "secrets" of group longevity, therefore, appears to hide in the ability to replace members early on, so as to maintain a viable membership.

The number of loans as a function of their earlier distribution in the groups

Second, we estimate a statistical model. It relates group activity in the fifth year of operation to what these groups had done in their third year. We include all groups that had active loans disbursed in their third year, regardless of the year they were founded. There are 11,143 such groups. Death of the group is measured as zero loans in the fifth year. By this definition, 4,054 groups were dead.

Retrospectively, at first glance, we do find that groups still active on 30 September 2004, if they had lasted for more than four years, had earlier been more unequal in loan size and more strongly biased to a few large loans. The average size of the third-year loans within the group made no difference on the longevity.

However, when we take a simultaneous look8 at the different third-year group characteristics and their impact on fifth-year activity, the picture becomes more interesting. Instead of membership size, our model uses the number of loans in a group and year because it includes other properties of these loans as well.

First of all, the higher the number of loans made out in the third year, the better the chances that the group was still in business in year five after its founding. To a smaller degree, the mean size of those loans, their relative spread and the bias toward a few larger loans all contributed to the survival of the group.

Among those groups who did survive into their fifth year, the effects of the preceding third-year activity were mixed. The number of loans issued in the third year again had a sweeping effect on the fifth-year activity. Greater relative spread in the third year also favored more loans in the fifth. Greater mean loan size and greater bias to larger loans had the contrary effect - they put a break on fifth-year activity.

The momentum of groups

What does all that mean? For the continued vibrancy of borrower groups, three factors appear to be important: dynamic incentives (the growing size of subsequent loans), the recruitment of new members, and the emergence of some borrowers drawing larger loans. At the same time, some of those factors exerted a concentration effect within the surviving groups. Larger average loans in the third year and bias to large loans both reduced the number of loans issued during the fifth year.

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[8] Technically, via a zero-inflated negative binomial regression model.

These effects, however, were small compared to that of the number of third-year loans. What matters in the end is the sheer momentum of the local loan business, including through the recruitment of new members.

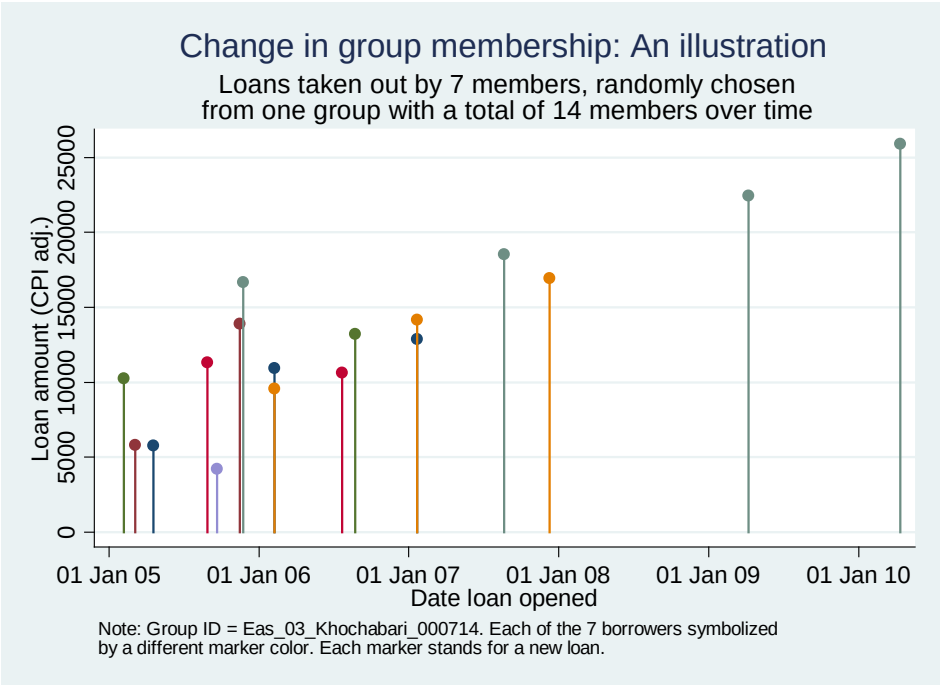
It is obvious that this analysis raises more questions than it answers. The study of large-scale group dynamics within microfinance programs still relying on customer groups is not very advanced, probably because of inherent data collection challenges. It does seem relevant, because of its likely impact on community activism and on growth and equality. Our own data await further investigation in this line. Below we resume some questions at the intersection of group and individual behavior.

Dynamics and diversity inside groups

The second question concerns financial intermediation by group members themselves. Karim (2008), in a study of Grameen Bank groups, found some groups dominated by powerful women who used their loans for onward-lending to very poor individuals. Rahman too observed onward lending at high interest rates (2007: 195). Our extended case study illustrates a type of interest-free onward-lending known as "mortgaging-in".

The following graph provides a case study-like illustration of the group dynamics. For better visibility, the loans only of seven out of the fourteen cumulative members of this women's group are depicted, with their opening dates and inflation-adjusted principals.

Figure 8: Loan sequence and changing members in an example group



Towards the end of the group's first year, a "Ms Gray" appeared, with a first loan of Taka 16,700, larger than the other loans sampled from the first two years. This person subsequently received three more loans, of growing size. "Ms Orange", entering on a lower base, comes closest to her. She took three loans, growing at a similar pace. But her loans were not renewed after 2007. The other five members were minor players, each with one or two smaller loans only.

The data support the hypothesis of increasing intra-group diversity. Loan sizes among members of given groups diverge over time. The coefficient of variation, a measure of the relative diversity, of loans taken in the first, third and fifty years of the groups' existence climbs from 0.32 to 0.42 and then to 0.51. Indeed, groups do grow more diverse over time.

Higher first loans retain borrowers for longer - why?

Do group members act as lenders? We have no data directly speaking to the prevalence of onward-lending. However, a partial test can be devised. One may assume that this activity needs to be backed up by a somewhat higher social status. In other words, an extremely poor person would not be very successful in recovering loans that he made out to others. Also, it seems plausible that higher-status persons have credentials that allow them to obtain larger loans.

Table 3: Size of first loans and length of group membership

Deciles of borrowers	First loan (median, Taka)	Length of membership (median, days)
1	3,365	777
2	4,190	910
3	4,675	738
4	5,232	863
5	5,653	733
6	6,081	749
7	6,786	704
8	7,504	801
9	8,973	890
10	12,570	1,054
All	**5,800**	**818**

Note: 405,162 borrowers ordered by the size of their first loans

One should therefore make these assumptions: Higher status persons among group members can be observed by the larger size of their first loans[9]. Onward lending is

[9] Median first loan amounts (inflation-adjusted) were Tk. 6,791 for programs chiefly aimed at the non-poor, Tk. 6,502 for the poor, and Tk. 4,579 for the ultra-poor.

profitable for them, creating incentives to stay with the group and obtain further loans. Lower-status members, observed through their smaller first loans, find lesser scope in onward lending and therefore tend to leave sooner.

The correlation between first loan size and length of group membership does indeed hold, as this table demonstrates. The highest decile of borrowers, in terms of first loan size, tends to stay longer in business with the RDRS microfinance program.

While this pattern is compatible with onward lending, it does not prove its significant presence. Members awarded larger first loans may have been identified for their better business scope in other domains, and may have thrived in them, warranting more loans and a longer borrower career with RDRS, than those others who started out with smaller loans.

Delinquency

In a study that approaches microloans from the perspective of partnership between the NGO and its program participants, loan delinquency is important, but not primarily in the way students of institutional sustainability might look at it. Delinquent borrowers do inflict costs to RDRS, but here delinquency is regarded as an indicator of the ability and willingness of the poor to honor contracts with an outside lender and to build their credit for repeated borrowing. Similarly, the level of delinquency reflects on RDRS's ability to do its part - to supply loan products that are appropriate, administer contracts correctly and possibly offer non-financial services, to the point where borrowers stay with RDRS. Delinquency statistics thus inextricably mix supply and demand characteristics. They are not good at pinpointing one particular underlying process.

Why study delinquency?

This challenge can, to some extent, be mitigated by the choice of models. With a large sample of borrowers and loans, we are luckily able to observe changes on two different time scales. The borrower's career is his private time, if you will, starting from the opening date of his first loan. RDRS' policies and field management and the impact of microfinance competitors evolve in public time, measured as calendar time. Even if they are not observable in detail, their changing effects can be filtered out.

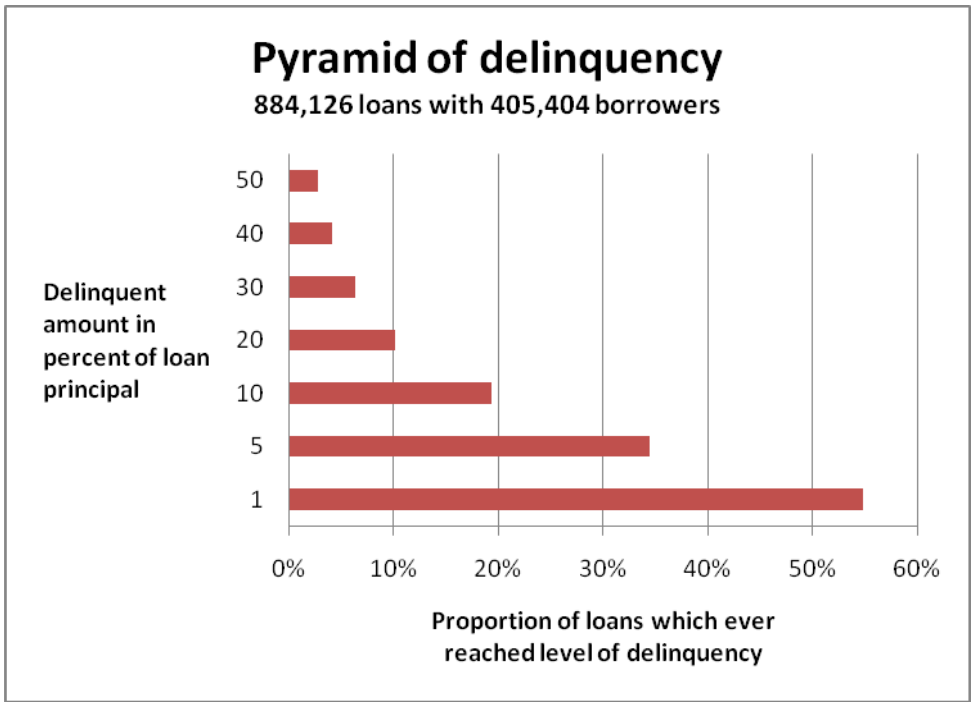
We define delinquency simply as the ratio of overdue to principal at a given point in time. This approach liberates us from institutional definitions that categorize loans as delinquent once the overdue crosses a certain threshold. Its downside is that we cannot tell the exact periods of time during which a loan was delinquent. We limit ourselves to finding out whether a loan has ever reached certain levels of delinquency, and if so, how soon in the borrower's career. A second major concern is to calculate the odds that, given the delinquency level, the borrowers will ever repay fully, and after what delays. And both steps - time to delinquency, time to recover from it - will vary with borrower, loan and outside characteristics. Some of our models estimate these hazard factors.

Overall extent

The majority of the loans issued in the RDRS Microfinance Program fell delinquent at some time or another, although at low levels of less than 5 percent of their principal. Note that this proportion (55 percent) applies to all loans in our observation period; this is different from the delinquent borrower rate defined on the active borrowers at a particular point in time (Ledgerwood 1998: 208).

By definition, the proportion of loans ever delinquent falls as the criterion - overdue divided by principal - increases. At an overdue ratio of 10 percent, less than a fifth of all loans ever went delinquent. Only three percent of all loans are ever behind with at least half their principals' worth.

Figure 9: Pyramid of delinquency



One of the consequences of these low proportions is that it is not possible to say how long it typically takes to reach these points in the lifetime of individual loans. But this can still be calculated for the entire course of borrower careers, as in this table.

Table 4: Time to delinquency

Highest level of delinquency	Proportion loans ever reaching this level	Median days in borrower career to reach this level
1-5%	55%	296
5-10%	34%	530
10-20%	19%	929
20-30%	10%	1,855
30-40%	6%	Not defined
40-50%	4%	Not defined
≥ 50%	3%	Not defined

Notes:

1. Median times in days. Values are approximate, from a model with loan periods adjusted to avoid overlapping periods within borrower career.

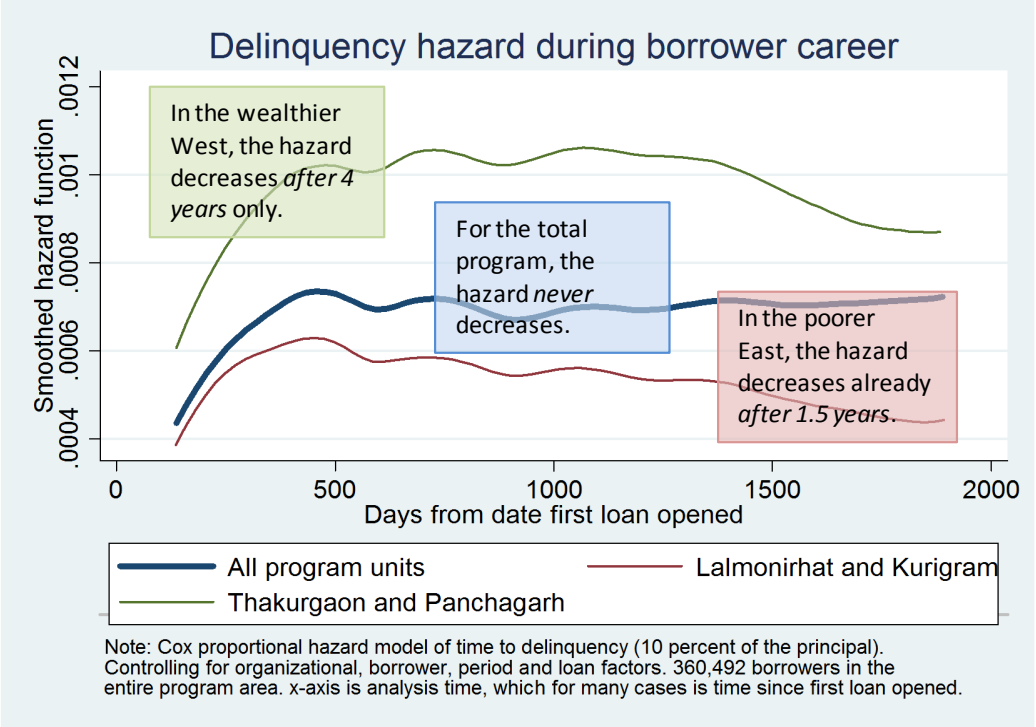
2. "Not defined" because fewer than half of all borrowers ever reached this level of delinquency.

It takes more than two and a half years for the typical borrower career to cross the 10 percent delinquency threshold, and five years to attain 20 percent.

Hazard over time

The risk of attaining a certain level of loan delinquency grows monotonously over time; and if their careers continued on and on, eventually all borrowers would reach it. What is of more immediate interest is the momentary contribution to the risk - the marginal risk or, as it is known, the hazard. The shape of this hazard over time tells its own story.

Figure 10: The changing hazard of delinquency over time



As is well known, microloan borrowers typically struggle to make payments towards the end of one-year loans. This timing is clearly visible in the wave pattern of the hazard curves. The waves suggest that to a degree borrowers refinance with new loans (from RDRS or from other providers). But the paramount finding is that after an early surge in the career of the average borrower the hazard barely changes. In other words, there is no threshold beyond which an experienced borrower would pose less of a risk.

However, there are important regional variations to this regularity. They correlate with the wealth of the community at large and with the level of competition among providers. The wealthier western part of the RDRS working area - the districts of Thakurgaon and Panchagarh - is the bonanza of a whole clutch of microfinance institutions. Borrowers have more options, some of which they exercise by allowing loans with RDRS to go delinquent. In the eastern region, particularly on the very poor river sandbar islands of Kurigram, RDRS faces less competition. Its borrowers there strive hard to maintain their credit.

In tune with this regional difference, the hazard in the east starts decreasing noticeably after about 500 days into the typical borrower career. In the western parts, this point is reached after around 1,400 days only, equivalent to four loan cycles. In neither region does the hazard fall to less than half of what it was at its peak. The lives of borrower, these patterns seem to confirm, grow easier at a slow pace.

Risk factors

The hazard of delinquency changes not only with the length of borrower careers, but also by loan, personal and group characteristics. It is further affected by what happens in real time, in terms of RDRS microfinance policies, the loan market, and the wider economy. As a result of all these factors, we have to point out some regional differences when the global averages would be less informative. We will find that there were geographical areas and times during our study period from 2004 to 2010 that stimulated more delinquency, and others that helped to reduce it.

We work our model results from the inside out - from such individual characteristics as gender and loan size, then outwards to specific group, credit organizer and branch office effects, and ultimately to the very mixed-up policy and economic environment effects.

Gender and loan size

Women become delinquent on their loans less readily than men. This finding agrees well with the general preference that microlenders have for female borrowers. Men typically reach the 10-percent delinquency threshold after 641 days into their RDRS borrower careers. Women, by contrast, take 914 days as their median delay to delinquency. In the borrower population, gender is highly correlated with poverty; virtually all of the borrowers in programs for the ultra-poor are women. The effects of gender and poverty, therefore, cannot be neatly separated in our data. Not surprisingly, then, the poverty effect closely matches the gender effect. Borrowers in programs open to the non-poor (such as small farmer groups) typically take 696 days to meet the first-time delinquent mark. The poor take 791 days. The ultra-poor 1,116.

One is tempted to interpret these gross differences as "The poor are more honest." This has been one of the popular narratives among RDRS staff, buttressed by rich anecdotal evidence. However, one should not lose sight of the equally plausible argument that the poor strain to maintain their credit, the loss of which would hit them harder than people of greater means.

The size of loans in relation to delinquency is important for several reasons. The claim that microloans drive the growth of small enterprise implies that the risks will not grow substantially, or will even diminish, as borrowers expand their business with the help of larger debt. This tendency may be counteracted by the better repayment behavior of the many ultra-poor borrowers, whose loans tend to be smaller. Finally, loan size may be tied to certain RDRS projects that bundle loans with technical support, such as for members of small farmer or tribal solidarity groups.

These factors are hard to disentangle, but they let us expect non-linear effects from loan size to delinquency. And this is indeed what we find. Compared to the repayment of small loans (up to Taka 5,000), it is the next higher loan size bracket - loans from Taka 5,000 to 10,000) that are the most problematic. Loans in the range of Taka 10,000 to 20,000 are roughly as delinquency-prone as the small loans. Loans over Taka 20,000 are the least likely to push borrowers into delinquency. The gist is that the effect of loan size is non-linear. It is the borrowers of small and large loans that reach the 10 percent

delinquency mark less often; it is the middle-sized loans that are more problematic. We can only speculate that this has to do with the correlation of loan size with certain RDRS programs (tribal, small farmers) and their varying ability to secure regular loan repayment.

The effects of group, organizer and branch

The theory of borrower runs (Bond and Rai 2005) basically says that when borrowers perceive that increasing numbers of fellow borrowers are defaulting on their loans, they too lose the incentive to pay back. Delinquency and default thus accelerate. This is to be expected particularly within the local, chiefly kinship and neighborhood-based, borrower group, in which observation and knowledge of each other's behavior is virtually complete and always up-to-date. However, it is conceivable that delinquency is accelerated under the impact also from other groups, via direct communication or through overburdened credit organizers falling behind in their collection schedules. Such problems may affect an organizer's entire portfolio. By the same logic, the working machinery of an entire branch may be under stress, hastening delinquency among the borrowers that it supplies.

We computed the levels of overdue against principal for each group, organizer and branch monthly during our study window. We then estimated the individual borrower delinquency model using those rates as context variables[10]. To guard against tautological effects - against the fallacy of explaining Mr. X's delinquency by his group's overdue which he himself helped to increase -, we use, as the context, the values of the preceding quarter-year. In other words, if Mr. X's group had run up more overdue by December, we assume that this will negatively affect his repayment behavior in the following January - March period.

Under these simplifying assumptions, and still talking of 10 percent loan delinquency, a fascinating picture of context effects emerges.

First, as one would expect, the condition of the local group is very influential. Even low levels of group overdue add to the push for the individual borrower to fall behind in repayment. With every doubling of the group overdue, the effect on the individual delinquency hazard increases significantly.

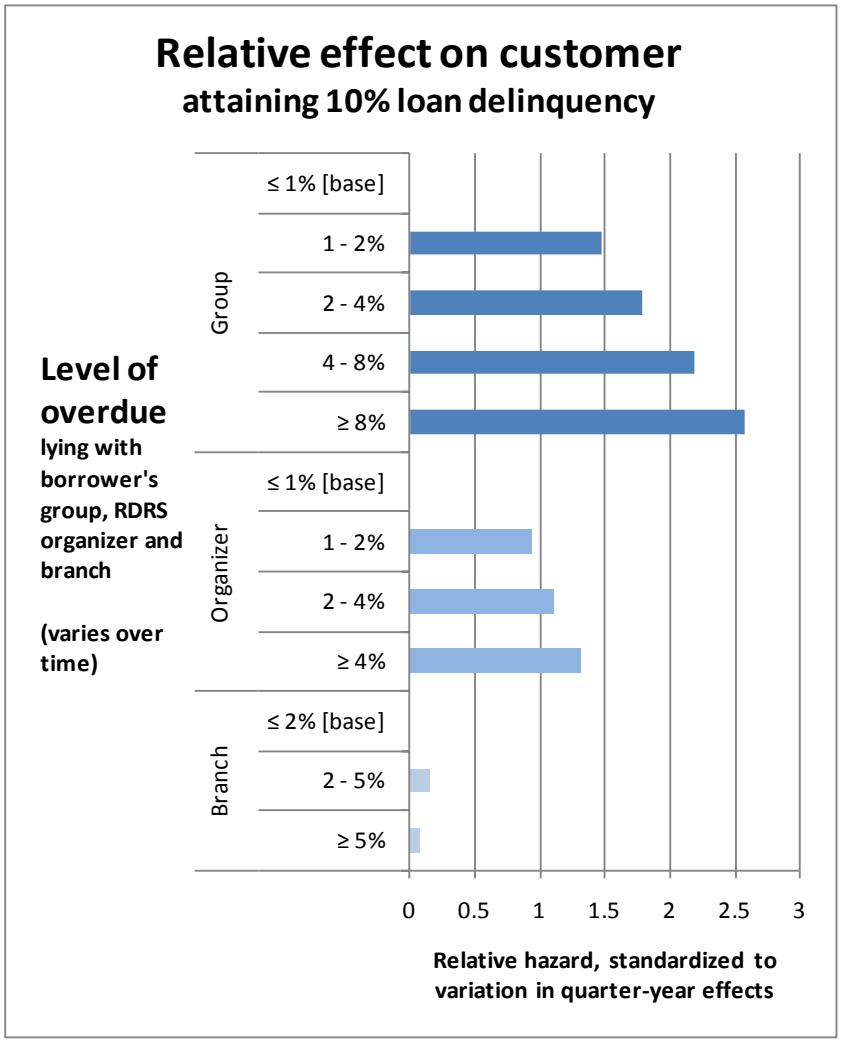
That may not be surprising because the local borrower group is the cornerstone of the microloan set-up. Beyond the group's immediate influence, the quality of the concerned organizer's portfolio matters as well. This effect is only about half of the group's effect. But it is still statistically highly significant.

Finally, the overdue in the branch portfolio is still felt down to the individual borrower's behavior. Branches struggling with more than a 2-percent overdue ratio make borrowers more likely to reach the delinquency level in the following quarter-year. But this effect is small compared to the effects of overdue at group and organizer levels. Also, branches that cross the 5-percent ratio seem to have a slightly less discouraging effect. .

[10] For technical details, see the appendix.

To give a more intuitive interpretation, we standardized these effects in comparison with the effects of the calendar quarter-years. These reflect the varying impact of overall management and competition. As one can see in this chart, the group effects are consistently above 1, thus stronger than the broad environmental factors. The organizer effects are this strong only for portfolios that carry more than 4 percent overdue.

Figure 11: Group, organizer and branch effects on individual delinquency



In other words, the context effects become diluted fast as we move away from the borrower to her group, then her organizer and her branch. But the interpretation of this structure is not straightforward. It is tempting to say that if the group discipline was strong in this quarter-year, the members will be more strongly motivated to keep up their payments in the following period. And it is similarly tempting to assume that if only the organizer maintained strict discipline across his groups, their members would more likely continue the scheduled repayments.

Why are context effects strong?

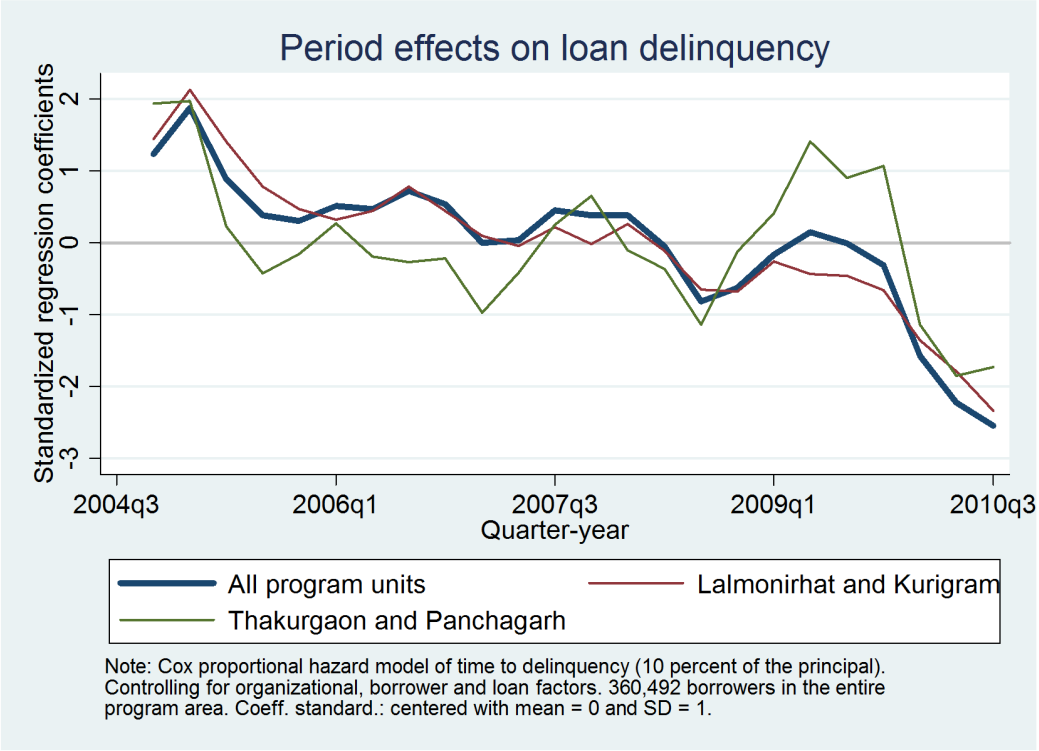
This motivational and disciplinary reasoning may be correct only up to a certain point. It does not speak to another likely cause of loan delinquency - very localized disasters or economic set-backs. Disruptions in electricity supply may take out local surfaces from irrigated cultivation, reducing wage labor opportunities for clusters of borrowers. Conflicts with a local money-lender who helped, at his terms, to keep up the credit with RDRS may drive a number of loans into delinquency, all more or less at the same time. The scenarios for this to happen are almost limitless. Since the detailed factors are not observed in our data, their effects masquerade as group or organizer effects. All this

underlines the importance of local context; at the same time it cautions against simplistic interpretations.

Larger context effects over time

There is a residual effect on delinquency that varies over time. This remainder lumps together effects from such diverse factors as the quality of the program management, the strength of the competition, and the ups and downs of the regional economy. These we cannot disentangle with our data. However, the beauty of including quarter-years in the model is that we have two different time scales: the time of the individual borrower career, reckoned from the date of the first loan; and the normal calendar time in which all social action is coordinated, including the RDRS microfinance programs. The estimates then show quarter-years that posed a greater hazard for loan repayment (above the thick gray zero line in this graph), and others more favorable (below the line).

Figure 12: Calendar quarter-year effects on the delinquency hazard



The competition and management effects have become more favorable virtually ever since individual borrower accounts were introduced in 2004. The improvement accelerated in 2009. But regional variations matter. The Thakurgaon unit suffered from a defalcation conspiracy in 2008, which promptly caused a measure of disorganization followed by higher delinquency in 2009. Progress in the eastern region was smoother.

No seasonal pattern in the delinquency hazard

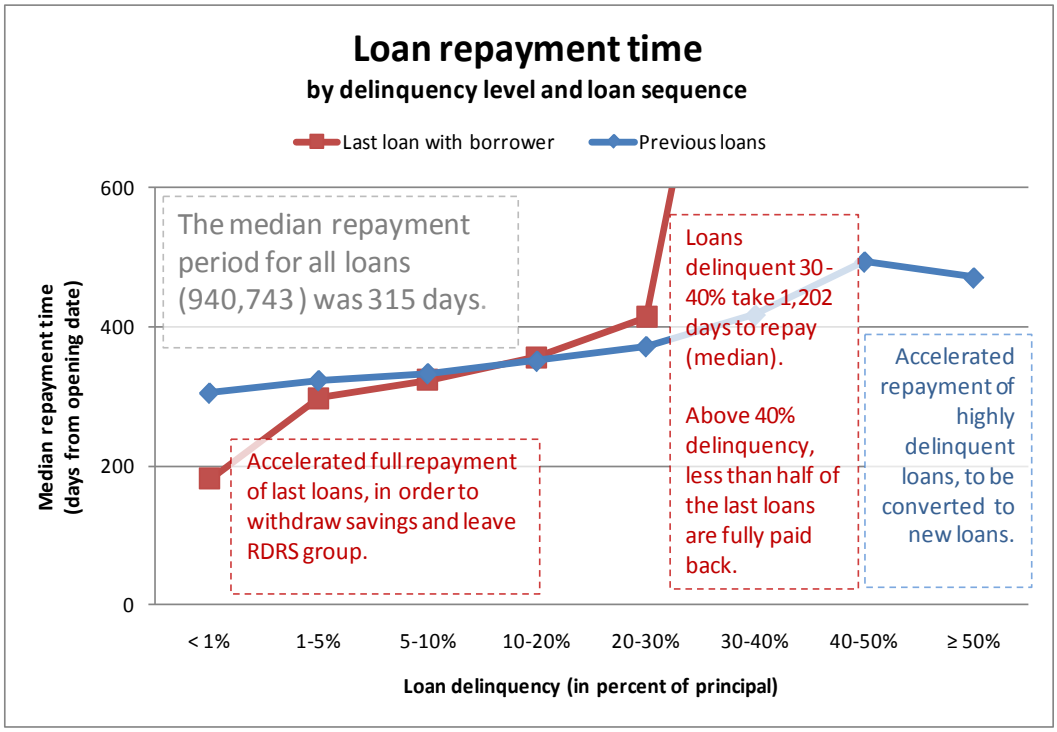
At this point, the reader may want to know whether there is a seasonal, perhaps yearly, pattern in the environmental effects. This is relevant in the context of seasonal hunger that used to plague the poor in parts of the northwestern region, making it impossible for many to service loans during bad autumn months.

The short answer is that we cannot detect a seasonal pattern in the data. There appears to be some looser periodicity at work in the western region, in the sense that conditions reverse themselves every three to five quarter-years. However, a strict periodicity cannot be found in the data of either region.

This should not be the last word on seasonal and periodic patterns in the microfinance program. Particularly, for Kurigram and Lalmonirhat, which do suffer from *monga* conditions, better tests should be devised. For example, recovery-on-time rates should be compared, as they evolve in neighboring units. Yet even in Thakurgaon, the period effects do not fluctuate randomly. They move gradually, indicating that in a highly competitive market the underlying global determinants of repayment take their time to change.

Recovery from delinquency

Figure 13: Loan delinquency and repayment periods



The road from delinquency to default is not destiny. In fact, the majority among borrowers who fell behind in repayments pay back their loans in full. Some of these

repayments may be eased by RDRS, by way of rolling over suffering loans with fresh money. This graph shows the impact of various levels of delinquency on repayment times. Sharp distinctions are visible at both ends of the delinquency scale between loans that were the last in the borrower career and earlier loans.

Loans with virtually no irregular repayments (< 1%) typically are returned within 292 days. This period is considerably shorter than the one-year period for which most loans are nominally made out. The difference is due to prepayments, particularly by borrowers who will not take another RDRS loan. For this group, the median repayment time of non-delinquent loans is a short 181 days. They are motivated to pay back fast in order to withdraw their savings and switch to other providers[11].

As loans reach higher delinquency levels, their repayment periods lengthen. From 292 days, the median repayment period moves up to 319 for loans that were at least once overdue between 1 and 5 percent of their principal. Loans that were at one time delinquent between 5 and 10 percent are typically paid back within 330 days. The repayment time for loans delinquent between 10 and 20 percent is still within one year - 354 days, and for those delinquent between 20 and 30 percent 394 days. These delays cause RDRS to lose revenue and to incur higher loan administration costs.

The 30 percent delinquency threshold, however, is a kind of boundary wall for successful recovery. Loans delinquent between 30 and 40 percent are still repaid in their majority, typically within 720 days. But a wide discrepancy opens between those borrowers who continue business with RDRS, and those opting out or barred from further loans. The median repayment time for the stayers in this bracket is 417 days, for the leavers it is 1,202. More than 25 percent of the latter have not paid back during our observation window and probably never will. Default is substantial.

The global statistic of 1,202 days of repayment time for this group conceals a large amount of regional variation. In the relatively new Srimongal unit, such delinquent loans are typically repaid within 565 days. In some of the old working areas - Dinajpur and Nilphamari - recovery is much less successful. Fewer than half of all loans in that delinquency bracket are ever fully repaid.

Highly delinquent loans - rolled over?

Above 40 percent, median repayment times for last loans can no longer be computed because fewer than half of these loans ever get repaid. By contrast, borrowers staying with RDRS pay their loans back slightly faster if the delinquency level was above 50 percent (471 days) than if they lingered in the 40 - 50 percent delinquency bracket (494 days). This reversal can be explained only by the extraordinary care that RDRS takes to keep such borrowers in its portfolio, by rolling over loans grown unserviceable.

What we are faced with here is a behavioral system with manifest bifurcations at the two ends of an important parameter - the delinquency level that loans reach during their

[11] Is this the only motivation? Pre-payments may also be strong-armed by frontline workers eager to build a repayment cushion with borrowers that they deem risky.

repayment. At both ends, stayers and leavers behave differently whereas in a wide middle range their response is fairly similar. This should not let us lose sight of the fact that the majority of the loans sail through with zero or low delinquency. It is the minority of substantially delinquent loans and the defection of good borrowers that test the sustainability of a microloan program.

Default

Of the 948,032 loans in our sample, 743,612 had matured by the end of our observation period, 30 September 2010. Of these, 11 percent carried balances that the borrowers owed. If we restrict this set to those whose last payment occurred more than 90 days back, the proportion works out as 10 percent. This may be a first approximation to the proportion of defaulted-on loans. It is not a indicator that a study of financial sustainability would consider; in fact, there is nothing called a "default rate" among the performance indicators that Rosenberg (2009b) recommends as minimum tracking parameters in microfinance institutions.

It may nevertheless be of interest in a partnership perspective that emphasizes the mutual fulfillment of contracts. Default is, in a manner of speaking, one of the obverse sides of partnership (credit contraction on good borrowers would be another). Some of the literature discusses the probability and extent of default under the heading of "strategic default" (Bhole and Ogden 2010). The strategic defaulter continues to repay a series of growing loans until the unpaid balances are larger than the likely utility of future loans, at which time he quits repaying and possibly seeks other lenders.

To partially elucidate strategic default among the RDRS borrowers, we study the repayment of their last loans. These insights are partial because loans become *last* loans in large measure because the borrowers defaulted on them. Our following model, therefore, is not a model of strategic default[12], but one that identifies factors of the repayment of last loans in the sequence of loans that given borrowers took out.

We look at <u>last</u> loans in borrower careers - last loans that

1. opened after 30 June 2005, more than a year after the start of our observation period,
2. matured by 30 September 2010, the end of our observation period, and
3. saw the latest cash transaction more than 90 days before this date.

The first restriction makes room for the possibility of a preceding loan. Delinquency in preceding loans is, of course, a likely major contributor to default. The second restriction is conceptually not compelling because one can find reasonable indications of default on non-matured loans as well. We set it nevertheless because we are interested also in the

[12] Technically speaking, it is not a valid model of strategic default because we select on the dependent variable (the position of the loan in the sequence of loans given the borrower). A model including all loans, however, is not feasible because earlier loans, most of the time, do not go into default - they are rolled over. In our data, the act of rolling over is not observed (shortened repayment periods may result from absorption into fresh loans or from prepayment).

extent of the default, defined as the overdue as a fraction of the principal. The third restriction excludes the definition of default from loans that matured in summer 2010, and which may have seen the resumption of payments within 90 days of the latest observed transaction.

The distribution of the overdue rate in last loans is such that we set a floor of 10 percent of the principal in order to qualify as default. We model the incidence and extent of this default on similar factors as in the delinquency model. We consider borrower and loan attributes, the group, frontline worker and branch office contexts, as well as the program period. We consider whether the second-last loan, if there was one, already had run into trouble.

"The poor are more honest" - are they?

Starting with the borrowers, women tend to default very slightly more frequently than men when adjusting for other variables, notably loan size. However, when they do default on their last loans, they owe a smaller part of the principal than male defaulters do. This pattern is exactly reflected in another model that includes poverty levels rather than gender. The defaulters among the ultra-poor, almost all of whom are women, owe smaller fractions of the principal. In other words, they try harder to acquit their obligations towards RDRS.

In terms of the size of last loans, those below Taka 5,000 were substantially less likely to end in default, and when they did, the percent outstanding tended to be lower. Again, much as in the case of delinquency, the loan size effect was non-linear. Default propensity and extent were largest among those who took out last loans in the range of Taka 5,000 to 20,000. The propensity, but not the extent, of default decreased in borrowers with larger loans, but not to the levels of the smallest borrowers.

This finding may support those who hold that "the poor are more honest", assuming, as we did in the delinquency model, that loan size is correlated with the wealth of the borrower. Similarly, the lesser tendency to default among the top bracket of borrowers (by size of their last loans) has causes about which we know nothing certain. If these people are significantly wealthier than smaller borrowers, they may want to keep their options open with RDRS, by repaying these loans in order to maintain their credit and return for fresh loans after a gap.

Trouble with earlier loans - a warning sign

The suspicion that trouble with the preceding loan will impact the default of the last is borne out by the data. The level of delinquency that the predecessor loan reached helps to determine both the probability and the extent of the default. As we saw earlier, the 30-percent delinquency threshold erects a magic wall against recovery. And this holds again for default on the last loan. It is the strongest determinant of whether a last loan goes into default or not. Further increases in the delinquency level of the second-last loan do not significantly add to the hazard. They only add to the outstanding once the default occurs. In other words, rolling over loans once they are delinquent above the critical thresholds may be doing little to avert default.

Delinquent groups set their members running

The continuity with our findings on delinquency extends to the context factors that we locate in the groups, credit organizers and branch offices. We measure the rate of overdue lying with these entities at the time when the last loans were opened. They thus precede, in the causal chains, the time of default. As before with delinquency, we find significant impacts on default from the overdue rates in the groups and organizers through which the borrowers obtained their loans. The structure of their effects is similar, as far as the incidence of default goes. The local group is more influential than the organizer. This is not the pattern, however, regarding the extent of the default once it occurs. The stress level on the organizer, as measured by the relative overdue in his portfolio, is insignificant. The effects from the branch level do not display a consistent pattern.

The incidence of default has fallen over the years

What about the period effects? Regarding delinquency, we saw clear improvements in the effects of management and competitive environment. This is largely the case also of the default. For technical reasons, we can estimate the period effects for years (not quarter-years) [13]. Starting in 2007, the incidence of default, judged by period effects, has successively gone down. The effect on the fraction of principal owned, however, has sea-sawed over time.

Back to the big picture

All these detailed findings about default and its determinants and ramifications may be informative, but they risk losing the big picture. Default is a comparatively rare event. Most borrowers want to preserve their credit. In theory, others who may be contemplating default strategically will defer it to a point in their borrower careers that makes it most useful. This usually is not until after several, sequentially increasing loans. In practice, default was rare.

This rarity can be expressed in two ways. Only about 11 percent of all borrowers have ever defaulted on any loan if we apply the 10 percent overdue and the 90 day since latest payment criteria[14]. Second, the incidence rate is 0.00014 defaults per borrower-day at risk, or (1 / 0.00014) borrower-days / default * (1 / 365.24) years / day≈ 19.5 borrower-years per default. This period, far exceeding our observation window, is so long precisely because default is so rare.

[Sidebar:] Not only customers, also fieldworkers are important

The RDRS Microfinance Program has hundreds of thousands of customers at the base, and, in an idealized way, one single management at the peak. Our knowledge of customers is formed almost exclusively by unearthing structure in the millions of loan transactions from which our data was condensed. By contrast, the management view translates through elements of policy and through personal and corporate narratives that highlight aggregate results and decision rationales.

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[13] Attempts to estimate models with quarter-year period effects foundered on collinearity problems.

[14] Based on 31,840 defaults on 650,097 loans taken by 297,619 core-sample borrowers. Excluding non-matured loans, and those with latest payments less than 91 days from end of observation period. Also excluding records with missing event time.

The glue between the program and its customers

This fabric of decisions from below and above, immensely complex, yet leaving a small trace in its recorded transactions only, would not hold together were it not for the field staff connecting the organization with its customers. Yet, this group of workers, who count well over a thousand in this program, are rarely graced with any direct attention in the literature (Ahmad 2002). It is common to consider field staff performance in the light of organizational objectives, such as in terms of goal conflict between loan disbursement and recovery, or of workload and mobility, or of decision autonomy and financial control. But the views that frontline workers and branch managers hold of their customers, work processes and of their own place in the organization are documented as rarely as their personal needs and aspirations.

In RDRS, microfinance field staff offer a treasure house full of insights because many of them used to work in other programs before departments were reorganized in 2000 and 2001. Some thus bring a comparative perspective to their reflections on work and personal development. In our interviews with fewer than half a dozen Microfinance Organizers and Branch Managers, we came across typical biographical and career experiences (typical because we had heard them in conversations with many others before), personal "micro-theories" of customer or branch unit behavior, as well as reflections reaching beyond the world of microfinance.

Many, of course, have come to RDRS in recent years. There is a generational gap between those who grew up in the previous era of a more integrated multi-sectoral set-up and those recruited after the Microfinance Program became autonomous.

Generations of fieldworkers

Workers who joined RDRS in the 1990s, or earlier, debuted most of them in lowly positions - as volunteers in adult literacy classes, for example. They remember the strong emphasis on continuous formation of new groups, within a social development agenda. Microfinance, for them *avant la lettre*, was born from efforts to assist group savings, not loans. When RDRS turned to offering loans in 1991, the workers faced their clients' utter puzzlement at the idea that something that had come from RDRS should have to be given back. Borrowers would literally flee from their homes at the sight of a worker arriving to collect installments. With overdue exploding in the years following, workers were made to collect at night, often meeting with rude behavior from men in the borrowers' homes. Recovery was poor also because many borrowers did not find productive investments. In the timeline sketched by one of the interviewees, it took RDRS more than ten years from the start of Microfinance Program to tune up its training programs to the point where the impact on the borrowers' commercial acumen could be felt collectively. The challenge to screen loan applications for feasible business plans persists to the present times:

> *"If the borrowers are vetted properly, if businesses are chosen wisely, they will be profitable, and there will be little difficulty in collecting loans. It is important that the organizers visit the prospective borrowers in their homes before approving any loans, assisting them in finding feasible projects. We need to maintain regular contact also after the loan was disbursed."*

What is noteworthy about these long-serving frontline workers is their eagerness to get actively involved in finding feasible projects, as opposed to simply evaluating proposals that the applicants put together. How much such an active involvement is practical does not emerge from the interviews. Newer staff appear to be more strictly focused on the procedural aspects of microfinance; their older colleagues reproach them for being "too task-oriented" and unable to relate to wider development endeavors.

The newer workers' credo seems to be simply that "microfinance works" because, as one of them summarized, *"90% of the total loans are successfully run".* Generally, they are better educated, and some bring relevant professional experience from outside RDRS. Promotion to branch manager is difficult without graduate education; the less educated older workers counter this

requirement with what they perceive as their own greater "sincerity" and their long-grown closeness "with the people".

Having joined RDRS in 1979, Ms Protiba Roy is arguably one of the longest-serving RDRS workers. For the first ten years, she was with the health program, then briefly a "Union Organizer" with the then integrated development program. She moved to the new microfinance program in 1991. Retired in 2009, she has recently been re-mobilized to work her old circuit in the Durakuti Branch, Lalmonirhat.

In the interview, she pointed out some of the well-known developments - such as the tough times when people used to throw stones after bicycle-riding female NGO workers -, but refrained from evaluative propositions of her career or of microfinance vs. social development. She simply mentioned that the borrowers liked her well - which some of us could strongly feel during the group meeting that we observed.

There is also a correlation between workers' theories and their gender. A particularly interesting one was advanced by a long-time organizer, a woman who took 17 years to work her way up from adult literacy volunteer to assistant branch manager, lacking the educational credentials to be a full manager. She was the only one to speak to the emotive aspects of microfinance work:

> *"In the early nineties [RDRS] mostly worked on social awareness. At that time we were so emotional to talk to the women. But gradually we realized that emotional dealings alone would not meet their needs. It was microfinance that allowed women to keep savings, participate in group meetings, access loans and earn money. They began to*

contribute to household budgets as the men did. This elevated their position, at first in the family, then in the community. Now women participate in decision-making, raise their voices publicly, even become leaders, playing vital roles alongside with the men. Men now treat women as 'resourceful'. This would not have happened but for microfinance and economic initiatives. It is these results that enthuses women's lives with good emotions"[15].

A male branch manager concurs that female organizers are more personable: *"They 'own' the program, they listen to the customers and their problems; they help people find solutions".* He contrasts helpful female attitudes to some of the exploitative behaviors of male organizers whom RDRS had to terminate.

Personal and procedural knowledge

But some men hold that proper management makes deep involvement with clients' troubles unnecessary. One manager surmised that if the staff maintained

"1. transparency in all their work,
2. borrower group discipline,
3. prompt and correct loan disbursement,
4. vigilance in evaluating feasible projects"

(in this order of importance), then problems of sufficient loan expansion as well as repayment would hardly arise. The obsession with "overdue" should be replaced with the kind of customer support that helps borrowers to make profitable business. His convictions were about incentives - let RDRS evaluate branch performance by customer profitability -, not conviviality and patience.

Whether these differences align primarily on gender, or rather on hierarchical positions, is impossible to tell from our small sample. One notices, though, that it is branch managers who sometimes refer to "borrower groups" whereas the organizers, in touch with the groups daily, talk about the "people" or the "women", not about an organizational device. As boundary spanners, the organizers penetrate their groups to the point of knowing each and every member personally, and probably the inner sides of the family lives of many.

Life and work

Despite the privilege of dense personal interaction, it must be recognized that the work of organizers is highly repetitive. Some complain of boredom. They accept it because, as some point out, it makes a difference to work in a better managed program, compared to pre-2000, and to earn salaries that have appreciably grown alongside the improved financial performance. The mean employment duration of microfinance staff working in July 2011 was 4.5 years, a figure that mixes recent recruits with long-timers. It may indicate that the typical microfinance occupation provides valuable experience, but not a life career. How long and how fulfilling it turns out may in part be determined by the theories that individual workers hold - as we have just learned.

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[15] Research into the emotional side of microfinance began latest in 2001 (Ahmed, Chowdhury et al. 2001), and possibly earlier in work on domestic violence (Schuler, Hashemi et al. 1996). A recent contribution is Hussain (2010). This line has followed an earlier lead by health care researchers, in other words: by a branch of social development.

A profile of borrowers in 2010 and 2011

We have so far taken the reader on a lengthy tour - from 2004 to 2010 - across a maze of repeated loan starts, delinquency levels and defaults. Many of the borrowers that we met on the way have left us before the end. Those who have stayed on until the current times can grant us a glimpse, a partial one at least, into what they actually achieved with their loans.

In fact, the borrower population of 2010 and 2011, six years after the creation of individual customer identities, presents itself as a very heterogeneous group. We have looked at their household situation with the tools of survey research. Typical values on household welfare indicators are easy to calculate, but their spread may be just as important as the averages. We will briefly sketch mean values on some indicators and will visualize the distribution over two important ones - household wealth and food sufficiency. We will then investigate the association of household wealth with borrower careers. The value of this information is purely descriptive; we cannot make causal inferences because we neither observe the factors responsible for the original recruitment nor the current conditions of those who left the program before the survey. The fact that the credit organizers diligently interviewed a large sample of their group members - 76,000 in all - does not remove this limitation.

Borrower characteristics

The archetypical current borrower is a married woman of 30 years' of age, living in a household with four persons. She has been in the program for just over a year and a half and is into her second RDRS loan. She lives in a small homestead on five decimals of her own land and, with only 0.6 decimals of farmland of her own, is functionally landless.

Since economic advancement is increasingly depending on non-farm income, land ownership characterizes the position of RDRS borrowers up to a point only. It may be more appropriately expressed in terms of durable consumer items owned (Filmer and Pritchett 2001; Filmer and Scott 2008) and of the length of time during the year when the family has enough to eat.

In this sense, the typical borrower in 2010-11 reported ownership of three out of a list of nine durable consumer goods[16]. Her family had enough to eat during nine months and was food-insufficient during three months in the year. The combinations of these characteristics vary greatly, as this table demonstrates.

[16] The list of items included: cot or bed, chair or bench, watch or clock, telephone, almirah (cupboard), electricity, TV, sewing machine, motorcycle. For scale properties, see the appendix.

Table 5: Combinations of household wealth and food sufficiency

HH items owned	Months in the year food-insufficient				
	0	1-3	4-6	7-9	10-12
0-1	0.4	0.7	1.3	1.6	2.3
2-3	0.6	1.0	1.1	1.2	1.1
4-5	1.2	1.1	0.9	0.7	0.5
6-7	2.2	1.0	0.6	0.3	0.4
8-9	3.1	0.7	0.4	0.3	0.2

Note: Figures in cells denote ratios between observed and expected numbers of borrower households. Cells with ratios above 1 - areas where borrowers concentrate - are red.

Clearly, there is a kind of three-class system. Wealthier households, those which own six or more items out of the list of nine, tend to be highly food-secure. Middle-class households - in this scheme - are spread over a wide range regarding their food sufficiency. Finally, those whose ownership score is the lowest tend to be lowest on food sufficiency as well. That said, the correlation between the two indicators is relatively weak[17]. This again underlines the great diversity in borrower socio-economic conditions.

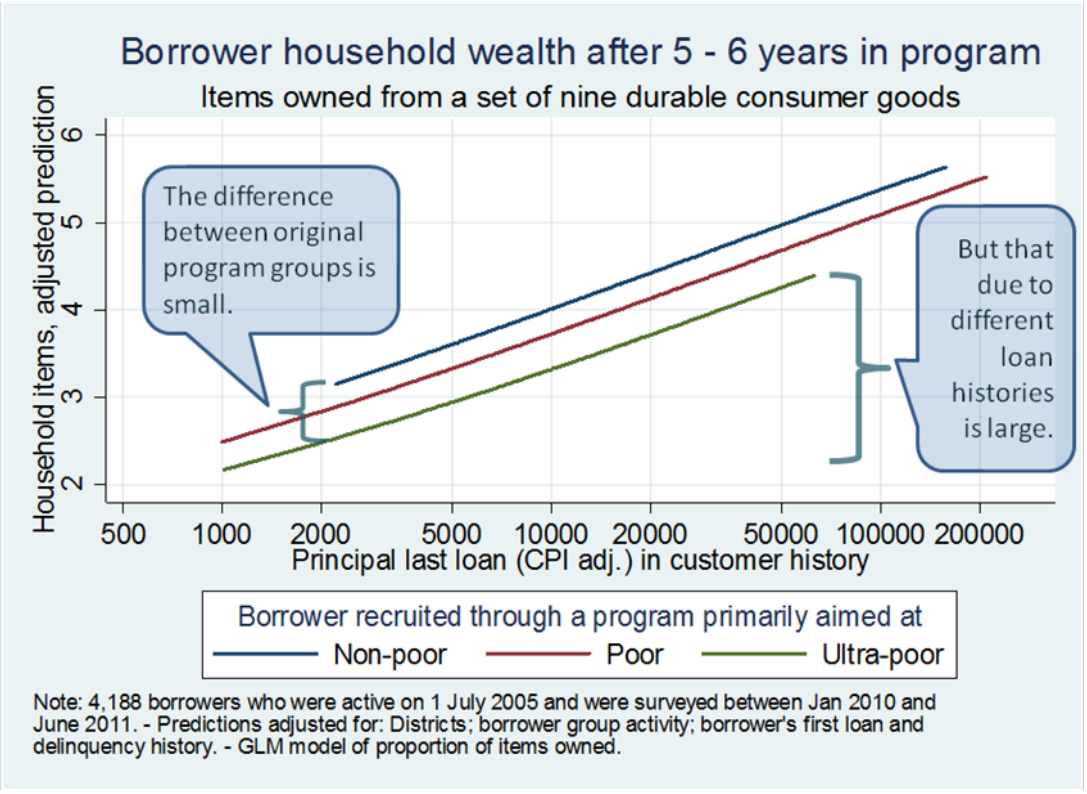
Association with loan careers

As an illustration of how the current situation of borrowers in 2010 and 2011 was intertwined with their loan careers and with the behavior of their local groups, we consider their household wealth. For comparability, we restrict our focus to borrowers who have been in the program for a long time, since before mid-2005. Again, at the risk of tedious repetition, we stress that we examine an association, not a causal mechanism. We have not observed the current situation of those who dropped out. And we know nothing, from this data, of why certain households that were exposed to the RDRS Microfinance Program became customers, and others did not.

We measure the initial poverty situation through two indicators - the typical poverty level of the target groups of the programs under which the borrower was recruited, and the size of her first loan. We summarize her loan career by the size of the last loan observed, assuming that she climbed a typical increasing load ladder. We include indicators for ever being delinquent on loans. We control for the activism of her group through the number of loans that all the members took in the first year of the group's existence, and again during the fifth. We capture internal group inequality by the spread (coefficient of variation) of the loan principals during the first and again during the fifth year. We control for unobserved regional factors through district dummies in the RDRS working area. The following graph depicts differences in current household wealth by current borrowers as a function of their last loan size and their initial target group. The effects of all other variables are artificially neutralized ("adjusted for").

[17] Somer's d, a rank correlation measure, is -0.27.

Figure 14: Predicted borrower household wealth



The essential message of the graph is already captured in the two call-outs. The differences due to the initially assigned poverty level are small. This may be for any and all of a number of possible reasons: program leakage that let "not so poor" households participate in programs meant for the ultra-poor, correlation of the initial poverty level with the size of the first loan, and the well-known intense training that RDRS invested in ultra-poor borrowers. The last factor would have made for higher returns to subsequent loans.

Whatever those speculations are worth, the difference that can be attributed to loan careers appears much larger. This concerns only borrowers who have stayed with RDRS and is only a hypothesis. First and last loans are incorporated in this model in their logarithmic scales. In other words, if the model were correct, the marginal effect of loans on wealth would decrease rapidly in the course of a borrower career.

As ever so often in research, instead of a firm answer, we find some fresh questions. Notably, in this model, borrowers in groups that were more unequal in their first year owned *fewer* household items by 2010-11 than those of more equal groups. Yet, in year 5 of their group life, greater inequality in loan size resulted in *more* household wealth for everyone. The mechanisms are hidden. Inequality in the first year may create greater conflict. It may be more acceptable some years later, driven by enterprising members serving themselves to larger loans. These persons may be more socially upwardly mobile

and may be able to use their skills and connections in ways that let others in the group benefit as well.

None of those effects is above fallacy. It is equally plausible that group members with lesser benefit from their loans quit because they found themselves increasingly bothered by their more successful peers. If we had observed them in our sample, the effect of the year-five loan inequality might have been reversed. And so on. What matters is a recognition of plausible development paths, not claims to undoubted causality. Practically speaking, we need to sit down with vocal frontline workers and borrowers who can unlock history through stories in ways statistics cannot.

Discussion

The dynamic picture: Loans between 2004 and 2010

Between June 2004 and September 2010, RDRS registered over 400,000 individual customers. These persons are microfinance participants with choices. RDRS holds a relatively small share in the regional microloan market, vaguely estimated at 10-15 percent of all borrowers in its working area. Its customers can shift to several other providers. RDRS, too exercises choice, by screening candidates and by not renewing credit to problematic borrowers. Turnover is considerable; a fifth of the existing borrowers leave in a year, to be replaced by similar or larger numbers of new recruits.

Turnover and dynamic incentives

In theory, such a system hovers on the brink of instability and can break down under more adverse competition. Beyond first loans, RDRS has done business only with two-thirds of its customers, a drain on efficiency for both sides. The mean recorded duration of the borrower relationship is 1.8 years. This underestimates the true duration since many borrowers were still active at the end of the study time. Taking that into account, the true value is closer to 3.5 years and probably somewhat higher. Many borrower groups had been formed years before their members were given the individual accounts by which we know them in our data.

The partnership is largely driven by the promise of larger subsequent loans and, for RDRS, the lower cost of administering larger loans. These "dynamic incentives" are considerable, if variable over time; average increases of second loans over first ones, for example, over time have fluctuated between 30 and 65 percent.

The lives of borrower groups

Although RDRS is nowadays maintaining digitized individual customer accounts, day-to-day business with borrowers is still being conducted through local neighborhood groups. While the group approach offers administrative convenience for the microfinance program, some of the same groups function also as the forums for services that other RDRS programs deliver, such as in small farmer extension. A summary assessment of the social reality of borrower groups is thus difficult; to judge on the basis of active loan periods, the turnover of members is considerable. Typically, over a six-year period, 22 individual borrowers would be attached to a group. Over time, groups reconfigure. The

median group duration inside our observation window was 4 years; statistical extrapolation, considering that most groups were still active by the end of our observation period, places it at 16.8 years. This is academic since no one can look into the future this far. It may be fair, though, to assume that the expected lifespan of groups exceeds that of individual members (3.5 years) by a multiple.

The life expectancy of these groups is of a wider concern; for many types of rural development programs, not only microfinance, rely on grassroots groups for the delivery of services downstream and for the harnessing of advocacy and other inputs upstream. The general concept is that groups may start with fairly homogenous members, but later often diverge through differential member success, elite capture or enforced reorganization. As far as our observed groups go, the increasing diversity can be demonstrated in the greater variability of loan sizes as the group ages.

Why smaller and larger first loans?

But what does this mean? Yes, the larger the first loan, the longer the borrower lasts in her customer relationship with RDRS, thus contributing to her group's life expectancy. This pattern would agree with an elite structure of groups dominated by richer and more successful individuals. Some may be engaged in onward lending, as was observed in other programs and in our case study. But it would agree just as well with a different interpretation. In this view, the screening of applicants by RDRS staff and existing group members is effective. Smaller risks are rewarded with larger initial loans. These borrowers are capable of building longer borrower careers with RDRS. Riskier applicants are tried out on smaller loans and tend to leave the program earlier.

A first loan of Taka 3,500 buys two years of insurance

In a development view, one of the primary concerns is to involve the poorest in a consistent growth pattern. This implies, at the very least, steadying their income streams to the point of stemming their further descent. The ability to borrow repeatedly is an indicator of that minimum stability. The pattern of group membership and first loans suggest that this may be happening. A first loan of Tk. 13,000 (in the highest first-loan decile) "buys" 1,054 days of membership. For less than a third of that initial gamble, for Taka 3,500 in the lowest decile, RDRS manages to keep borrowers in the system for an estimated 777 days. Such small loans may not be efficient against the cost of their administration, but may be effective in terms of social inclusion and minimal insurance in difficult times.

The title chosen for the above paragraph oversells the benefits from first loans; after all, it is the borrower who has to pay back the Taka 3,500, plus interest. What is significant is the marginal rate from the lender's viewpoint. It would be worthwhile, in an outreach perspective, trying to calculate the net cost of such small initial loans, taking into account also the discounted returns on subsequent loans, as an investment in small borrowers and, by implication, in very poor ones.

Delinquency as a risk of partnership

In the course of RDRS' microfinance program, monitoring loan delinquency has been an obsession. Rightly so; for its elevated levels were assailing the long-term prospects of the programs for longer than its first decade. Our concern with delinquency is different. From the partnership viewpoint, the fact that RDRS and thousands of borrowers commit to contracts is a step forward beyond old models in which project beneficiaries had a reasonable expectation, but no firm claim, to receive services. This insight is not new; others have formulated it in different terms. *"Microfinance opens up the possibility of a new culture of expectation from engagement between the poor and external institutions"* (Matin, Sulaiman et al. 2007: 24).

The loan contract does create firm claims[18]. It thereby shifts the uncertainty from the initial set-up to the fulfillment of the contract and hence to its continuation in further business. Delinquent loans demonstrate the uncertainty whereas default and exclusion re-create certainty, though in negative outcomes. Subsequent loans, savings deposits and non-financial services re-establish positive certainty. Delinquency thus entails cost as well as chances that relationships will break down. In as much as RDRS relates to the poor through financial services, loan delinquency upsets the partnership with them.

Delinquency is a matter of degree. The majority of loans in our sample went delinquent at some time or other, at low fractions of their principal. Few accumulated overdue of more than half of the principal. This is almost trivial. What is important is the length of the borrower career until a certain level of delinquency is reached, and the chances of recovering from it, as opposed to defaulting on the delinquent loan.

A critical threshold: When a loan is 30 percent overdue

To address the second point first, one of the clear findings is that there is a critical threshold somewhere between 30 and 40 percent of the principal in overdue. Beyond this level, delinquent loans lead to exit (with long delayed repayment or default) or are increasingly rolled over into new loans (the evidence for this is compelling for loans delinquent above 50 percent).

Only six percent of all loans ever reach this level, and borrowers typically take many years of consecutive loan service before they reach the 30-percent delinquency mark for the first time[19].

A perfectly manageable problem?

While the cost of delinquency may weigh heavily on the financial results of the microfinance program, in a partnership perspective it seems to be a manageable problem. In fact, many borrowers would probably argue that what is delinquent in the eyes of the lender has a positive function in their own; standard repayment protocols are not flexible enough vis-à-vis household income fluctuations; borrowers are thus obliged to

[18] Starting from this basic property, microfinance can be re-conceptualized also as a rights-based approach.

[19] The median duration of this rare event exceeds the *observed* distribution of borrower careers. An *estimate*, based on an exponential extension of a survival analysis, is for the typical borrower to reach that point after 13.4 years of loan service.

occasionally delay installments, without intent of default. The converse is prepayment of loans, by borrowers who wish to leave the program, withdraw their savings from RDRS and presumably join another microfinance institution.

While overall loan delinquency may be a limited danger, not all borrowers, and not all loans, are equally immune to it. The risk to become delinquent is correlated with a variety of factors, some of which teach us something in the partnership perspective. For one thing, the incremental risk, after zig-zagging through the first loan cycles, does not consistently decrease. In other words, even long-term customers never become fully dependable.

Risk factors

Some of the risk factors are well known, others hold surprises. That women fall into delinquency less often is a piece of conventional wisdom in microfinance, once more confirmed by the RDRS experience. Often the question is asked whether the poor are better risks (because they are desperate to protect their credit), or rather the rich (they have more productive uses for larger loans). How strongly the pre-existing wealth of borrowers and the size of the loans that they obtain are correlated is known only indirectly (the targeted programs into which borrowers are recruited offer different first loan sizes). However, loan size and the risk of delinquency are not in a linear relationship. The hazard is smaller for small and for large loans, and elevated in the middle categories. This may have to do with the packaging of RDRS development projects with loans of a certain size. The exact relationship remains opaque.

The borrower and RDRS do not act alone. Their relationship is mediated through the local group; and the RDRS policies are carried out by field staff on the frontline and in branch offices. As one may expect, the level of delinquency in the portfolios relating to a borrower's group, organizer and branch have a strong impact on his or her repayment behavior. The effects are the strongest from the closest level, the group, and are diluted successively as one passes through the organizer to the branch.

Group-level overdue adds to the risk - but why did it accumulate?

While that is expected, it is not directly obvious what these conditions imply. Why, for example, would the members of a local group have run up 10 percent overdue on their total current loan principal? This may have come about for very different reasons - an economic setback affecting several member households, a disagreement over shared liability, a dispute with the credit organizer, or a defaulting intention on the part of several after securing fresh loans from another provider. The data, or rather the data and our models, do not discern the true causes among those and other possible factors.

Strong period effects

Finally, the RDRS microfinance program as a whole has been on a path of improved performance. This is clearly reflected in the period effects in our models. Our models, however, cannot distinguish between effects of RDRS management vs. those of the external environment, particularly the competition. The picture is not uniform. As we have demonstrated, specific regions within the RDRS working area reveal different

temporal patterns in the delinquency hazard. Of particular interest is the eastern region of Kurigram and Lalmonirhat, with its *monga* (seasonal hunger) problem in the riverine areas. However, our models have failed to detect seasonality in the repayment pattern.

Default: 10 percent of the loans, and 2 percent of the loan sum

Uncorrected delinquency results in loan adjustments or default. As detailed above, 10 percent of the loans issued can be considered in default, with about 2.3 percent of the loan sum remaining unpaid. This might be called the default rate and is well within the 1 to 4 percent range that Banerjee and Duflo (2010: 63) found to be common in microloan programs. In the defaulted-on loans 19 percent of the total principal was outstanding.

Although small unpaid balances may not be an obstacle to fresh loans, substantial default typically leads to exit or exclusion. We therefore looked specifically at the association of risk factors and default in the last of the sequence of loans. We probed their impact both on the incidence of default and, when default did occur, on its extent - the proportion of the principal not paid back. Not surprisingly, some of the risks are similar to those acting on delinquency. Loan size is again non-linearly associated with the incidence of default, but more linearly in its extent. Small and large loans are less often defaulted on than those in the middle range. But when default occurs, its extent initially grows with loan size, then plateaus out. This is a more differentiated outcome that that observed by Godquin (2004: 1919) and Sharma and Zeller (1997), both of whom found simple negative effects of loan size on repayment. Women borrowers have similar default probabilities as men, but they default on smaller parts of their loans.

This pattern may agree with an interpretation that "women and the poor are more honest". But such a claim would need to go through other kinds of testing in order to qualify as a factual rather than a moralistic statement. The least that can be said is that, as a factual proposition, our findings do not contradict it.

Group, organizer and branch-level effects

The context effects from groups and organizers are similar to those that we found in delinquency, as far as the *incidence* of default goes. However, the organizer-level effects relative to the group effects are stronger than in the delinquency models. Organizers with precarious portfolios may aid exit and thereby default.

The *extent* of default responds only weakly to these contexts. The branch office effects are inconsistent with expectations and may be statistical artifacts.

Substantial default is rare

While the default risk has a manifest structure, overall default is minor problem in the partnership perspective (even so, it may still be a substantial threat to financial sustainability). Defaults on more than 10 percent of the loan principal happen every 19.5 borrower-years. They are rare events. One must conclude that the majority of customers who leave the RDRS program do so not as a result of default, but because they no longer need loans or obtain better terms elsewhere.

This implies that the dreaded "strategic default" is less important than the microfinance literature suggests. Banerjee and Duflo (op.cit.) found little evidence that stiffer competition increased default. The surprisingly strong effect of the organizer-level overdue on the incidence of default would rather suggest that full repayment is a function also of internal discipline in the RDRS microfinance program, and default the result of local management problems. Maybe borrowers commit a lot of "tactical delinquency", to make repayments more flexible, but in the end little "strategic default" because they find it beneficial to maintain their good credit with RDRS.

Compared to the year 2000, the default situation has improved

As detailed elsewhere (page 84), in the year 2000, a study of RDRS borrowers (Karim 2000) estimated that 13 percent of the first-time loans had been defaulted on. The rate was 43 percent for second loans and was even higher for subsequent loans. For the period 2004 - 2010, our study shows that 11 percent of the matured first loans carried unpaid balances. For second and third loans, the rate is 14 percent. Applying a more liberal bar for default, at 10 percent of the principal, those rates are less. After the sixth loan, default rates shrink. Clearly the situation has improved[20].

A crucial question: Why only 3.5 years?

If delinquency remains manageable, and default is a minor problem, why does the mean borrower career last 3.5 years? Why not 5 years, or 7, or more? At this point, our study suffers from the lack of external references. Although customer retention in the microfinance industry has been billed as a serious challenge (e.g., Urquizo 2006: and many others), there are few statistics available. One that is immediately relevant to our study is by researchers in the large NGO BRAC. Barua and Sulaiman (2007) computed a 44% drop-out rate over a three-year time span in borrowers in one of BRAC's northwestern programs. This is more favorable than the (possibly underestimated) 2.2-year median retention of RDRS' borrowers.

Life cycle rhythms and client exit

What comes to mind is a finding from one of the RDRS impact surveys. In a small sample of life course interviews with members of poor households, it emerged that the alternating decline and improvement spells in their personal and family fortunes typically lasted between 2.5 and 4 years (Benini, Ferdous et al. 2007). In other words, periods of improving life would usually end by some fresh setback or outright disaster after very few years. Similarly, in times of distress things started looking up within a relatively short period, measured against life years.

If such a biographic pattern holds for a majority of poor people, one may speculate with some reason that many borrowers may not be able to receive or service new loans, even after initially thriving with the help of the first few. Others may have used some loans at the height of a crisis, for example to pay medical bills. Afterwards, they may not be in a position to invest in profitable trades and thus may not want to add further debt, or may no longer be supported by their local groups. In short, the persistent high vulnerability of

[20] This comparison is valid only if one assumes that the RDRS loan roll-over practice in 2000 was virtually the same as in recent years.

the poor may be one of the key factors limiting borrower careers. Competition by several lenders adds to customer volatility, but by itself alone may not explain the 3.5-year duration in the RDRS program.

Are microloans a substitute for insurance?

Given the typically short borrower career and at the same time the surprising rarity of default, the story of microcredit may need to be told with different emphases. "Growth" and "transformation" may suit the experience of a fortuitous minority, particularly of those borrowers who manage to use loans productively for much longer than 3.5 years. For the majority, however, being with a borrower group may essentially serve an insurance function. This is undisputed as a beneficial effect of micro-savings (Islam 2009), but it may be true of micro-loans as well (Bhattamishra and Barrett 2010: present examples from traditional informal credit groups). Loans help to solve, postpone or transform existential crises. For whatever other motives most people choose not to default on their loans, maintaining one's credit for times of need is entirely plausible. And supplying this insurance function is an unspectacular, but entirely honorable effect of the RDRS Microfinance Program.

The current picture: Borrowers in 2010-11

At the end of the six-year dynamic process, we find a borrower population that is heterogeneous. Its diversity has been fed by two processes: the recruitment of borrowers from different target groups, and the different outcomes during the years of program exposure and loan use. On any of our two measures of household wealth - durable consumer goods and months of food sufficiency, we find dominance towards the lower end of the scale, with a considerable minority who are nowadays better off.

Among those who were recorded as individual borrowers prior to mid-2005 and who were still active borrowers at the time of the survey, the effects of the loan career outsize those of the initial poverty level. This result is purely descriptive; it does not bear a causal interpretation since we observed neither the initial selection nor the subsequent drop-out processes.

Conclusion

In the past two decades, the microfinance industry focused on achieving sustainability through larger operations and by building profitable institutions (Johnson 2009: 291). The debate continues over its ability to reach the poor and the very poor, and how much of the observed poverty alleviation can rightfully be attributed to its products and processes.

"Partnership" as a third perspective

There is, however, another perspective, one that bridges the chasm between institutional sustainability and borrower welfare. This is the partnership approach in which a development organization undertakes to supply meaningful and reliable financial services to the poor, and the borrowers undertake to repay their loans. "Partnership" is not a fuzzy appeal to "harmonious society"; it admits of conflict as much as of cooperation. But it takes into account the mutual dependence of borrower and lender, and the likelihood that they can develop ties beyond the financial contract.

In this rationale, we have measured the strength of the partnership between the RDRS Microfinance Program and the poor primarily through its temporal structure. We have looked closely at the length of the borrower relationship, at time to delinquency as well as time to recovery. We have also looked at the occurrence, extent and borrower characteristics of default.

The poor, while doing their part, keep moving

The time spent in a particular condition - such as remaining a non-delinquent borrower - reflects the richness and quality of the partnership in a partial and incomplete way. Nevertheless, some major regularities emerge. First and foremost, the poor by and large meet their borrower obligations. Ability and willingness are sensitive to a number of conditions, on both sides of the contract, including the quality of the local RDRS management. Regardless, serious delinquency and default are rare.

That said, the second major constant of this partnership is the very high borrower fluctuation. Half of the borrowers quit within 2.2 years. The causes are extremely varied. They range from the mobility of the ultra-poor to the heightened competition by other MFIs, limits to the growth of businesses, natural and health disasters, interference by asset-transfer and cash support programs, and even to changing write-off and loan ceiling policies of the program itself.

Why and how the two conditions co-exist is not entirely clear. Many of the borrowers say that they stay with RDRS because over the years they have been benefitted by some of its many other programs. RDRS' long history and deep roots in the northwestern communities are palpable in the style of interaction, but by themselves do not explain member duration and contractual behavior. They may, however, form a general expectation that even if one leaves the borrower career now, there will be future opportunities to join again.

Findings and theories

Our findings speak to a number of theories that have been advanced to explain borrower behavior in microfinance. These are relevant here to the extent that they can be loosely associated with the various levels of the organizational framework and with the risks tagged to them.

- **Individual risk:** It was thought that the risks of microcredit were exacerbated by "strategic default". In this view, the borrower continues to repay a series of growing loans until the unpaid balances are larger than the likely utility of future loans, at which time he quits repaying and possibly seeks other lenders. However, while our econometric model is less than compelling, default is so rare that its strategic flavor is unlikely to be a dominant disposition among RDRS borrowers.
- **Group risk:** We find better support for the theory of "borrower runs". This assumes that when borrowers perceive that increasing numbers of fellow borrowers are defaulting on their loans, they too lose the incentive to pay back. Delinquency and default thus accelerate. In fact, we have found that higher

overdue levels held by the local borrower group and, to a lesser degree, by the responsible credit organizer push the individual member in this direction.

- **Institutional risk:** The most important finding concerns the relationship between outreach and sustainability. While these were not the topics on which this study set out, the good repayment record of the ultra-poor borrowers with RDRS is a key achievement in the partnership perspective. The RDRS Microfinance Program, after 2004, has been able to reach out to this group in large numbers, while at the same time dramatically improving its financial performance. Outreach to the very poor and financial health of the institution can reinforce each other.

Why these risks have remained manageable is less well understood. A very significant contribution to the welfare of the poor may have come from savings mobilization. This, while critical for the expansion of the Microfinance Program as well as for the customers' own stability, has not been investigated, for lack of data. The frequently heard RDRS adage that "the poor are more honest" can easily be countered by the less flattering necessity for the poor to maintain their credit, possibly at great hardship. Where substantial numbers of ultra-poor borrowers defaulted, it had more to do with the sudden advent of asset-transfer or cash support programs rather than character traits or debt capacity.

Thus, three areas - integration with social development; the existential dependence of poor people on lending institutions; and the interaction of loans, savings and insurance - need further scrutiny for a fuller understanding of this partnership.

The ultra-poor - the distinction of this program

In the end, what has distinguished the RDRS Microfinance Program from others is the unusually high proportion of borrowers recruited from the ranks of the ultra-poor - generally estimated close to 30 percent of the active ones. There is no reason to wax romantic or self-congratulatory about this outreach achievement. RDRS shares the same joys and sorrows of working with this difficult-to-uplift group with all the other socially committed government and NGO actors. Also, the ultra-poor orientation would not have been effective had it not been supported by RDRS' long-standing core partners and by national institutions such as PKSF. Some of the challenges have no immediate remedy - for example, the adjustments necessary between microloan and asset transfer programs and the relationship with the Union Federations will need considerable work in future as well.

RDRS is a regionally based NGO with a firm place in the northwestern community. As such, the weight of its history may be heavier than for capital city-based agencies with a corporate management philosophy. This sometimes challenges the ability to adapt in the very competitive microfinance market. But the same history has provided RDRS with the constancy of purpose and public support that has made this partnership into what it is today.

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Appendix

Earlier microfinance studies

Ours is not the first study of the RDRS microfinance program. Some of the previous research is instructive, for its key findings, its methods, even for the reasons why it was not continued. The research effort, although never prominent, is part of how RDRS understood and described its own work and as such has introspective value.

Small studies as a tool of introspection

Over the years a number of small studies were conducted on the RDRS microfinance program. They can be broadly grouped into three thematic categories, with some overlap and with a notable change of format over time:

- Starting with Haque et al. (1996), the major focus was on the impact of loans on the borrowers' welfare, in tune with RDRS' major philosophical and self-evaluation concerns.
- With rapidly growing overdue and defaults in the late 1990s, however, the sustainability of the program took centerstage. Two studies were conducted focused on repayment and default. In the eyes of the program management, they stated the obvious. They had little prescriptive value and were not continued.
- Over the following years, a trusted external program auditor whom RDRS had been using for other purposes as well conducted a number of small- and medium-sample borrower surveys, reverting to impact concerns.
- Recent years brought a noticeable change of style when successful borrowers were featured in more colorful brochures, some of which qualify as research summaries while others are visually compelling testimonies to the vibrancy of communities served by RDRS.

An early impact study

Haque et al. (op. cit.) is a wide-ranging study attesting to improvements in the quality of life of borrower households across a range of spheres. The authors used a before/after and case/control design that permitted comparisons with non-borrowers in villages in which RDRS was active and with households in non-RDRS-villages. They calculated a mean return on borrowed capital of 177 percent, increased incomes in borrower households compared to the pre-loan time (76 percent over two years) and compared to control households, as well as more modest increases in reported non-food expenditure categories. The evidence for nutritional advances and for women's empowerment remained vague.

This study, while methodologically careful, illustrates some of the limits of dealing with the complexities of micro-finance. Pre-loan household data were elicited retrospectively, with unknown expectation bias. Loan-financed projects were evaluated on the basis of loan size and labor only, without regards for other household assets possibly employed for them. Outside their financial calculation, the authors seem to be speaking interchangeably to the situation of RDRS clients and to that of rural society in general.

Qualitative changes proved difficult to nail down to RDRS membership, and even more so to loans and loan-financed activities.

A similar ambivalence prevails in what the author had to say about the sustainability of the program. They noted that *"it took only three years .. for RDRS to make the credit program viable"* (page 23); they also sounded warnings in the face of the *"spectacular .. disbursement of new loans"* (page 17) and increasing overdue. Finally, the study was prophetic in the sense that it predicted the split of the multi-purpose frontline workers - the RDRS "community organizers" - into specialized credit officers and non-financial workers. In fact, the integrated organizer concept was abandoned a mere four years later.

Women's empowerment

Microfinance's contribution to women's empowerment remained such a burning issue that RDRS asked its external program auditor for a rapid assessment in 1999. Nath (1999) found major advances on several indicators. A small majority of female borrowers (57 percent) felt that, as a result of their contributions to household incomes, their husbands treated them as equals, up from 30 percent before they had entered the credit program. A stunning 87 percent of the women always had some cash in hand, up from a mere 10 percent before loans. A similar percentage (86 percent) of the interviewees was confident they would be allowed to cast their votes in elections, a sign of less constricted female mobility. Access to family planning rose from 13 percent to 21 percent among concerned women, a low absolute figure, but a noticeable change over the baseline. Nath's sample households had seen their incomes increase by 44 percent since they joined the credit program. However, Nath also observed that many female borrowers, particularly in the poorer areas, were stuck in *"a narrow range of low-profit traditional activities"* (p.34).

Conflicting findings from small and large samples

The profitability of the micro-enterprises financed with loans came under a critical lens during RDRS' self-evaluation in the same year. Nath and Das (1998) had collected detailed data on the asset position of a sample of borrower households before and after loans. A re-analysis of their data (Benini 1999) revealed that loans were associated with insignificant asset growth in the households of female borrowers, and with significant losses in those of male borrowers. Small businesses such as groceries were associated with considerable losses. Women in the poorer parts of the RDRS program area suffered particularly from the scarcity of profitable business opportunities.

While this sample was relatively small (159 households), RDRS' monitoring unit weighed in with a much larger data set - data on over 15,000 small neighborhood groups with highly variable loan exposure. Although only the data aggregated at the Union level became available for analysis, a fascinating pattern of effects emerged. The monitoring unit measured the strength of the RDRS group approach through the percentage of groups that deposited regular savings. Similarly, it measured the credit program coverage as the percentage of group members with current loans from RDRS. On the side of women's groups, both indicators were strongly and positively associated with girl's education and the use of family planning. In addition, loan coverage went hand in hand with household assets (radios and bicycles) and women's own cash. In men's group, this pattern was

reduced to the positive effects of savings discipline on girls' education and family planning. Greater loan coverage showed no beneficial effects.

For both male and female groups, the effects of the local context - the fixed effects of the districts - were stronger than those of savings and loans. In other words, the larger social structures, on which RDRS exercised no control, clearly dominated the program variables, thus demonstrating barriers that microfinance programs find hard to overcome.

The focus shifts to repayments

RDRS shared the findings of its 1999 self-evaluation with its partners. Thus it was appropriate, in talking of microfinance, to emphasize the impact perspective. Internally, however, all alarm bells were ringing over galloping default and hemorrhaging losses. The focus of studies shifted from impact to repayments in a very short time. Again, we find attempts to put to good use large data sets from the existing monitoring system side by side with a more targeted sample survey.

In the summer of 1999, the monitoring unit and the microfinance program together conducted a comprehensive survey of, by then, over 16,000 neighborhood groups that RDRS had supported over time, and which were still traceable. Loans and savings were still being managed at the group level; the microfinance database, while greatly improved, did not hold records of individual borrowers. A considerable fraction of groups was no longer active, or pursued activities without involvement with the RDRS microfinance program. Loan recovery was poor. This situation gave rise to two dominant research questions: What groups had active loan? And: Among groups with active loans, why were some repaying well, and others not?

Old burdens and new epidemics

"Default in a micro-lending NGO" (Benini 2000) tackled both questions from assumptions that had largely arisen from conversation with program staff, while intuiting the concepts of borrower run and of strategic default. Exit from the program and default on active loans were both seen as the combined result of a contagious process and of excessive burdens of the past. In this view, exit and default were spreading among members of a group and among groups like a disease between infected and susceptible units. Accumulated overdues from old loans gone bad discouraged borrowers from servicing active loans, again accelerating default and exit.

Logistic regression models for groups with active loans and for active borrowers with high repayment by and large supported this double-factor theory. However, the real surprise was the very strong effects, both on active loans and on repayment, of high group savings. Historically, savings support for small groups predated the RDRS loan program; savings discipline had always been perceived as an indicator both of group vitality and of continued allegiance with RDRS. This bond appeared to be shaping behaviors vis-à-vis the loan program several years after its inception. In keeping with microfinance's conventional wisdom, female groups proved superior both in program participation and in repayment.

An in-depth study of default

With financial sustainability being the dominant perspective, RDRS brought in an external researcher to X-ray the pattern of default. Credentialed through a previous study of client exit from Grameen Bank, Karim (2000) documented the correlations among borrower characteristics, loan histories and default in a careful survey of 400 RDRS loanees. The wealth of detail that he presented made the study inaccessible to practically oriented program staff. However, if one had to choose one main finding, it was that RDRS had not found the right incentives to build consistent borrower careers. While 13 percent of the first-time borrowers in the sample defaulted, this proportion jumped to 43 percent for second loans, and kept rising with each successive loan. Karim did not use the term "strategic default", but the pattern that he uncovered was fully consonant with it.

In fact, by comparing Karim's statistics to findings of RDRS' 1999 impact survey (which looked at the condition of RDRS beneficiary households regardless of microfinance participation), it was evident that the income advantage of belonging to an active RDRS group was barely larger than the average outstanding loan. The new loans made out in that year were about 50 percent larger than the benefit to be expected from active membership. Thus it was rational for a member to comply to the point of receiving a new loan and then - run!

Program audits as a common language

Karim's study was, as far as we can determine, the last contribution by academic researchers to a deeper understanding of the RDRS microfinance dynamics. Despite its long-standing collaboration with university researchers, particularly in agriculture, RDRS, as far as microfinance was concerned, did not find a common language with them. Karim's diagnosis restated what was obvious to many insiders while his prescriptions in part seemed impractical. The increasingly solid command of the Microbanker application, enriched with the staff's own reporting modules, removed the need for outside expertise.

Instead, RDRS would over the next few years call again on its trusted program auditor, who, although formally "external", de-facto enjoyed the trust and access of an insider. Nath (2003a, 2003b, 2004, 2006, 2009) employed small-sample survey formats. What held them together was the trinity of the microfinance theme, his practical orientation and a wealth of insight into impacts. While easily understood, they also had narrow limits. Nath's samples did not overlap with any previous samples, neither his own nor those of the RDRS annual impact surveys. Although he did little to build a panel survey or otherwise cumulative tradition, he found a common language and camaraderie with the senior staff in Rangpur and the confidence of many of his interviewees.

Loans were too small, yet customers were satisfied

Nath's borrower satisfaction survey (2003b) followed a year after RDRS had completed the separation of microfinance and other program roles in its frontline workers. Access to loans in active neighborhood groups earlier formed by RDRS remained high (88 percent of the members of his 20 sample groups were borrowers), and so was delinquency (with 44 percent of the outstanding loan sum being overdue). Nath identified the vicious cycle, noted also in recent synoptic studies (Banerjee and Duflo 2010: 63-64, in connection with

interest rates), of high delinquency, small average loans as a result of larger subsequent loans being denied, and defection to other providers offering larger loans.

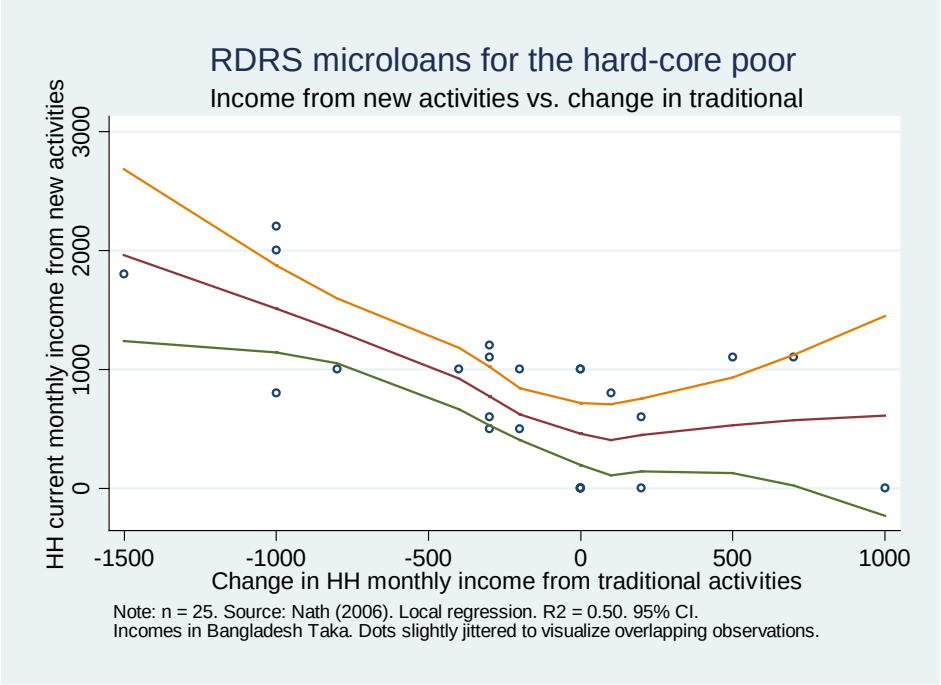
Furthermore, he demonstrated that tied loans (such as for housing or on condition of previous skills training) generated unwelcome transaction costs for both provider and borrowers. Trainees, in about 30 percent of the cases, subsequently saw their loan applications rejected by field staff finding them delinquent on old loans. Housing loans caused dissatisfaction with the imposed design or with the quality of third party-supplied building materials. RDRS' ability to follow up on individual borrowers' projects appeared very limited. Surprisingly, in the face of these obstacles, borrowers were by and large satisfied with RDRS' loan products and notably found the interest rates (15 percent flat; 5 percent for housing loans) advantageous.

In a business expansion perspective, Nath's next object (Nath 2004) were small enterprises pursued by "promising borrowers" close to urban markets. In addition to a variety of insights into the institutional settings of these businesses - pressures for customer credit, inability to deduct credit costs from taxed incomes because trade licenses were not available, women who signed up for loans and then let men run their business -, his interviews revealed above all others the need for flexible credit lines. Nath called them "doorstep credit facilities", some to be linked with doorstep technical services, hinting that they might become a decisive advantage in the competitive microloan market.

Externally defined loan programs

While those studies looked into loan products that RDRS could pretty much fashion by its own perception of the market, by 2006 the hardcore poor support program largely followed a format laid down by RDRS' major financial source, the credit wholesaler Palli Karma Sahayak Foundation (PKSF). Nath (2006) looked into the benefits of small loans taken out by 25 program participants, all of them women. Household incomes had gone up by 48 percent over (retrospectively reported) previous incomes. None of the borrowers (or their husbands) were begging any more. Attention and labor on the new loan-funded activities meant that income from traditional activities decreased - from a mean Taka 1,320 per month to Taka 889 - but that was more than offset by the Taka 1,072 earned newly, thus increasing total income and reducing vulnerability. Although all these borrowers were very poor, they were repaying their loans on time; there was no overdue owed by the interviewees, reinforcing a traditional notion in RDRS that "it is the poor who are honest".

Figure 15: Income changes in hard-core poor households following RDRS loans



Three years later, Nath (2009) followed up with a close look into a loan product that was aimed, on an experimental basis, at a special target group - river sandbar island (char) dwellers for whom farming of leased land would improve livelihoods. The program was too specialized to warrant detailed comment for our purpose. But two of Nath's observations are worth noting: the impact of microloans for very poor households may be measured more easily in terms of reduced labor migration (from about three months to 20 days in the year in this sample), rather than through complex cost benefit analyses. Second, these loans were given on condition that land lessors and lessees produced a witnessed written agreement, a practice that immediately spread to other such transactions outside the project, a step in making contracts more transparent.

Change of format

Nath's repeated contributions had the great advantage of familiarity between researcher and those directly acting on his findings. Format and language were less suitable for outside consumption. Thus, when the condition of the ultra-poor during hunger seasons - the so-called *"monga"* phenomenon in the northwestern region - became highly politicized, the format had to change. RDRS capitalized on the large surveys and a variety of interventions that it was supporting among *monga*-stricken groups. To unfamiliar audiences, it explained the context and its own experience in an attractively designed booklet *"Monga Mitigation in Northern Bangladesh"* (RDRS 2007). Programs with low-interest loans were important, but were by far not the only types of interventions in which RDRS participated. Among the 147,000 families that RDRS assisted under *monga* mitigation programs between 2002 and 2007, 34,000 received loans, compared, for example, to the 82,000 persons given various kinds of trainings.

A similar mixture of poignant, photo-enhanced messages was the recipe for an all-purpose publication the following year. *"Rising to the Challenge of Poverty. Tales from North-West Bangladesh"* (RDRS 2008a) carried only a brief chapter on microfinance, but loans from RDRS were plot movers in several of the stories in the chapters on sectoral programs. These stories are fascinating because they highlight the connections between the projects that the loans enable and the surprising variety of other social roles that borrowers play - in such areas as disaster management, redemption of tribal land, dispute resolution, or shedding the stigma of a former prostitute.

Borrowing that format, but following its own trail, the microfinance program found an authentic voice in *"Starting A New Life. Microcredit for the Ultra Poor"* (RDRS 2008c). The thirty-page booklet offers a bare minimum of program context and figurework. It gives most of the space to "ten successful case studies of women borrowers". It makes its case most strongly with the images of the borrowers shown in their places of work. These portraits are simply beautiful, a kind of visual sociology more powerful than the one-page texts that accompany each of them. The texts string together biographic elements with nutshell loan and project histories. The booklet ends with the last case study; the authors do not attempt an overarching interpretation. The work of interpretation is left to the ten borrowers, who in numerous first-person quotes look back and look ahead.

The evolution of self-observation

The evolution of these studies in the space of less than fifteen years tells its own story about the self-observation of a large NGO. In the early years of the microfinance program, the studies bought it legitimacy by critically evaluating its impact, in line with other, larger providers who were claiming poverty alleviation success through microloans. As the program went through a phase of grievous losses, it opened itself briefly to research into the pattern of default. Soon the management determined that this line of research had little practical value. Apparently, outside researchers would only contribute further complexity, ambivalence and pessimism, rather than guidance or at least a conversation in which researchers and concerned staff found a common language. Increased confidence in self-monitoring, vehicled by the Microbanker application, and the reorganization of impact assessments in a unit away from microfinance shut the door to more conventional research. "Program audits" provided a milder, more easily understood parenthesis around the complexities of borrower lives and livelihoods.

Stories of an optimistic period

Several years later, impact studies or the RDRS microfinance program have seen a small renaissance, in different formats and against a more upbeat backdrop. The visual and biographic style largely replaced quantitative reasoning. With the program turned operationally, then financially sustainable, an air of optimism started blowing from text and images. Impact is demonstrated through the stories of successful borrowers, with no excuse proffered for the fact that they present only the upper tip of the portfolio.

Yet, these case studies are not boastful; they carefully strike a balance between resilience and fragility in the lives of the poor. Tastefully illustrated, they convey beauty. Marking a change of style away from the drabness of the earlier study reports, these newer

publications hold the attention of the reader. They create good feelings for the program and a sense of intimacy with the lives of those it serves. They are in line with an appreciation for stories as drivers of organizational learning (Davies 1996).

The limitations of this kind of self-presentation are equally obvious. Program impact at large is being claimed and illustrated, but not demonstrated in any representative and tested way. The borrower biographies are fascinating each for its own strength and are entirely credible. But the art of synthetic interpretation, looking at several of them together, is scarcely developed. The RDRS credit workers who support the borrowers on an almost daily basis are absent, except for the rare nod from a branch manager commenting on progress. This absence is typical of the narratives of Bangladeshi NGOs, which hardly ever profile their fieldworkers in publications (Ahmad 2002). The reader gets no sense of the rich, collaborative as well as conflictual, interface between lender and borrower. He looks into a bright, polished mirror that reflects some of the people this is all about - the poor in northwestern Bangladesh -, while those who hold the mirror modestly step back.

Data extraction

Microbanker data

The information about borrowers, groups, RDRS staff and business transactions was extracted from MicroBanker[21], an integrated software package for running small banking outlets with a single branch. Until 2011, all 155 branches of the RDRS Microfinance program were administered using the MicroBanker software. Even though MicroBanker supports the group- and collection-based operating model of MFIs, it is not primarily a microfinance software. As such, it is markedly more flexible compared to standard microfinance packages, in particular with respect to product design, reporting, accounting, staff and role management and the variety of supported business transactions. However, to the present day, MicroBanker still is essentially a single-branch software; a rudimentary module for consolidated reporting comes as an add-on. In 2011, RDRS therefore decided to migrate to SouthTech's Ascend, a designated Microfinance software.

The development of MicroBanker started in 1987 at FAO. Today, MicroBanker is maintained jointly by FAO and GTZ at their development headquarter in Bangkok, with regional competence centers in Asia, Africa and Central America, serving around 350 organizations with 1000 installations. MicroBanker was one of the first software packages aimed at small banks within a development context, and RDRS was a pioneer when it adopted the first computerized system as early as 1992, and MicroBanker in 1997. Information technology was instrumental for the turnaround of the Microfinance program: steering a large and diversified credit portfolio is only possible with a sophisticated reporting system, which paper-based information processing cannot provide. Likewise, the present study was possible only because MicroBanker preserves historic information, and allows for read access to its well documented database.

[21] See the official website: http://www.mbwin.net

MicroBanker is based on SQL Server, a relational database management system developed by Microsoft. Every MicroBanker branch corresponds to one database, which holds all information in tables that contain either master, system configuration or transaction data. Every branch database runs independently of all other branches. In particular, all identifiers are only guaranteed to be unique within one branch database.

For the purpose of our analysis, we derive four tables based on several MicroBanker source tables. These tables hold information about loans, staff, groups and branches respectively. In a second step, the data from each branch is appended table-wise to yield one consolidated dataset.

The overall data extraction strategy, and the main sources of information within the MicroBanker database, are summarized as follows:

- The branch identifier and the last day of business is retrieved from the branch parameters table BRPARMS.

- For every loan in the loan account table LNACC we compute for every scheduled installment date (using the loan installment table LNINST) the due amount, the total recovery received up to that day (using the transaction history TRNHIST) minus the respective debit adjustments by considering the transaction types and dates.

- Using this time-indexed table, we compute for every loan in the loan account table LNACC (which also contains all loan master data, of which some is copied to our loan table) the first date where it went above certain delinquency thresholds.

- We then link our loan table to the customer and group using the RELACC table (which relates accounts to staff, customers or groups in the CIF table), and then use the RELCID table to recover the hierarchy from member to group and from group to RDRS organizer.

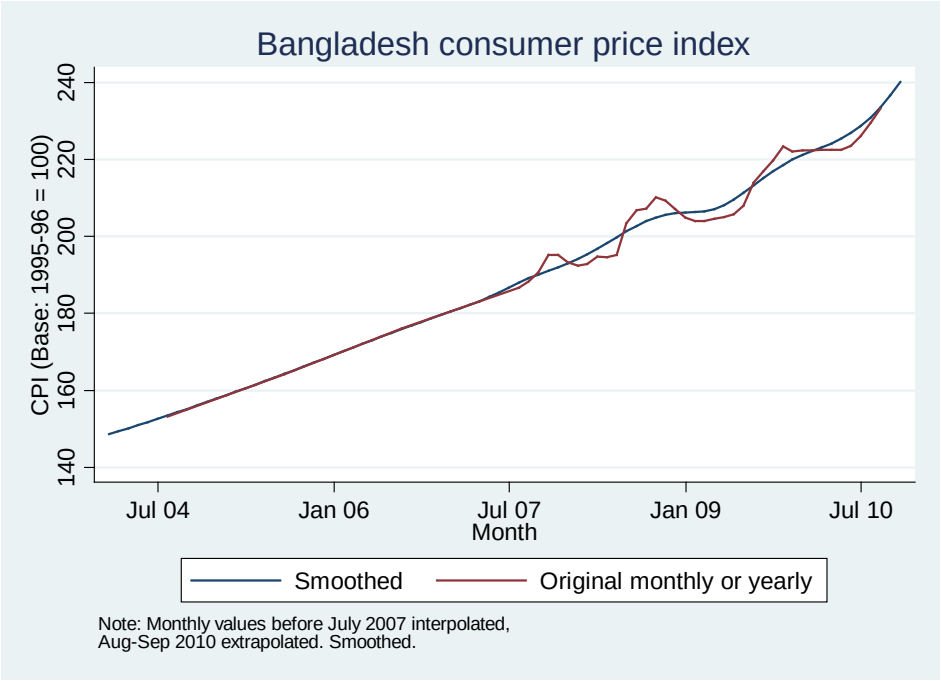
- Finally, we create time-indexed context variables on the group, organizer and branch level. That is, we compute for every month the on-time-recovery rate (OTR) on that respective level, using the TRNHIST, LNINST and LNACC tables as before.

The SQL queries for extracting this data take around eight minutes to complete on an average branch. A more detailed description, including SQL scripts, is available upon request. A detailed documentation of MicroBanker's database structure can be obtained from FAO/GTZ.

Consumer Price Index

Loan principal was inflated to the consumer price level of September 2010, multiplying the amount with 233.539 and dividing by the CPI estimated with a smoothing function for the end of the loan opening month.

Figure 16: Bangladesh consumer price index



Source: Bangladesh Bank (2010)

Borrower sample survey

A one-page interview schedule was designed, pretested and printed in late 2009, with the intention of having all microfinance organizers interview their shares of 500 active borrowers as their branch office quota on the same weekdays (e.g. on consecutive Tuesdays when they would repeat their weekly circuits). Compliance was not controlled, and data collection was displaced several times by other pressing business. Over an 18-month period, organizers in 155 branches turned in more than 76,192 schedules, which is the number of data table records. An unknown number were destroyed in the Thakurgaon Unit. The sections are of uneven quality. The household demographic data is usable only for elementary count information.

The sample is from the population of borrowers active at some point during the period January 2010 through June 2011 and as such is heavily biased to borrowers registered in the most recent years. The overlap with the main loan table, which contains records of all individually recorded borrowers between June 2004 and September 2010, who form the main population of this study, is as follows:

Table 6: Overlap between borrower list from loan file and borrower survey sample

Borrowers:	**In survey sample**		Total borrowers in loan file
In loan file	No	Yes	
No	Unknown (*)	9,400	
Yes	338,370	66,792	405,162
Total survey sample		76,192	

(*) Composed of: Survey questionnaires destroyed; borrowers active 2004-10, but not registered (rare); registered after 30 Sept 2010, but not interviewed.

Descriptive statistics

Loan data

From the original loan file, extracted from the Microbanker database, we excluded:

- Loans taken by groups, without individual borrower identities
- All loans from four of the 155 branches; for these some of the relevant variables were not calculated to the uniform global end-of-observation period, 30 September 2010.

The remaining loan file contains 948,032 records of loans opened in the names of individual borrowers between 13 June 2004 and 30 September 2010.

In models requiring group, organizer or branch office context variables, loans by individual borrowers, but without identity codes for their groups or for their credit organizers, too were eliminated. We call this restricted set our "core sample". It carries 882,922 loan records.

The 948,032 loans are hierarchically subsumed under 405,162 borrowers, 16,026 groups, 912 credit organizers, and 151 branch offices.

Three additional tables contain rates of overdue to principal and rates of recovery on time for combinations of calendar months with groups, respectively organizers and branch offices. These quantities of interest were merged (or near-merged to the nearest suitable date) into loan tables as and when they were needed as covariates. "Loan tables" appear in the plural here. In addition to calculated variables the original loan table was, for certain models, transformed into multi-observation per record tables (for survival analysis with episode splitting) or wide-shape tables (for regressing second-loan characteristics on those of first loans). By contrast, there are no single-standing borrower, group or branch office tables. For example, the gender of the borrower was supplied as a variable in the loan table.

Estimated models have varying observations, as a consequence of overlapping loan periods and/or of missing values. Others are about subsets, given a condition, such as a model of default in last loans, where all previous loans are ignored or selectively passed as calculated context variables to the last-loan records. As a result, sample sizes in output such as annotated charts vary.

Borrower survey

The borrower survey returned an effective sample of 76,192. The overlap with the borrowers of the loan file is detailed above. To mitigate bias in survey estimates, the probability of "being in the survey sample" was computed from a logistic regression on several borrower and group co-variates in the loan file. The probabilities were merged back to the survey data set and their reciprocals used as sampling weights.

Statistical models

Detailed descriptive statistics and essential model estimates are available as supplementary materials.

The workhorse for our key model was the Cox Proportional Hazards Model, a non-parametric flavor of survival analysis for situations when the shape of the hazard function is not known (Box-Steffensmeier and Zorn 2001; Wikipedia 2011). This model was relevant given our assumption that the quality of partnership is reflected in the duration of the business relationship. The model was used to estimate the shape of the delinquency hazard as well as covariate effects on

- time from first loan disbursement to delinquency (in multi-loan, possibly multi-failure borrower careers), defined as overdue of at least 10 percent of the principal.

The model worked with time-varying covariates and episode-splitting.

However, several study findings resulted from purely descriptive summaries of survival data, further detailed by categorical variables of interest (such as year first loan issued):

- time from disbursement of first loan to either repayment of last loan or default (as length of partnership)
- similarly, the lifetime of the borrower group, with the failure event being the last cash transaction on any of the active loans..

Cragg's version of the Tobit model (Burke 2009), with its ability to estimate effects on occurrence and extent separately, was used to investigate

- dynamic incentives: the probability and size of a second loan, given attributes of the first and of the borrower
- the probability and extent (fraction overdue on principal) of default.

We estimated the number of loans disbursed to the borrowers of a group within its fifth years of operation in response to characteristics of the third-year loans. We used a zero-inflated negative binomial model for the purpose (Long and Freese 2006: 394-404).

For borrowers recorded in 2004 and 2005 and still with RDRS in 2010-11, the proportion of durable consumer items from a list of nine was regressed on linked borrower, group and loan variables via Generalized linear models (GLM) (McDowell and Cox 2004). The nine items were investigated for their Mokken scalability (Mokken 1971) in the context of household wealth measurement (Filmer and Pritchett 2001; Filmer and Scott 2008). On the probability weights, see above.

This model has purely descriptive value for the current situation of borrowers observed in 2010-11; we observed neither the selection of households into the program, nor those who dropped out before the survey.

About the authors

Aldo Benini has a dual career in rural development, with a focus on Bangladesh and another on organizations of the poor, and in humanitarian action. In the latter capacity, he has worked for the International Committee of the Red Cross and for the Global Landmine Survey. He has a Ph.D. in sociology from the University of Bielefeld, Germany, based on field research in community development in West Africa.

Between 1983 and 1986, Benini was program coordinator of RDRS Bangladesh. Since 1996, he has assisted RDRS in various advisory capacities.

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Paul von Bünau is a final year Ph.D. student in statistical learning at TU Berlin, working on theory and algorithms for data analysis, in particular in the neurosciences. He has obtained an M.Sc. in Pure Mathematics (group theory) from University of St Andrews (2005) and an B.Sc. in Computer Science from University of Potsdam (2004). Besides his academic research, he also works for idalab, a quantitative consultant boutique, on various projects mainly in the financial sector.

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Mozammel Haque was a mathematics teacher prior to joining RDRS in 1980. Initially working in the then program with the landless as well as in a research unit, he joined the fledgling Microfinance Program in 1992. He worked from the beginning on policy support, monitoring and computerization. Since 1997 he has been responsible for the

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Haque is a post-graduate in personnel management and holds a diploma in research methodology and GIS. He trained as a Microbanker programmer and consulted with FAO in Bangkok. He can be reached at mozammelrdrs@gmail.com.

Bhabatosh Nath has a career in rural development and NGO consulting in Bangladesh. For many years, he worked with BRAC and with Save the Children, in field as well as country headquarter positions. In 1994, he started his own consultancy firm, "Responsive to Integrated Development Services" (RIDS). He has been conducting numerous external program audits for RDRS Bangladesh, particularly in the areas of institution building, federation support, livelihoods and women's rights.

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