

**“Microfinance and Poverty Reduction:
The problematic experience of Communal Banking in Peru”**

By Ana Marr¹

As a response to many partial and over-simplistic theoretical and empirical studies, this paper presents a more comprehensive analytical framework for assessing the success of microfinance in achieving its dual objective of financial sustainability and poverty reduction. By giving centre stage to the study of group dynamics and using principles of social psychology and imperfect information, the paper argues that microfinance has not only not solved the original problems of information asymmetries between borrowers and lenders but also, in its pursuit of financial sustainability, is destroying the very foundations of these schemes by disrupting the social fabric of communities, creating more poverty and excluding the poorest and most vulnerable from any given group.

Keywords: Microfinance, Poverty, Information Asymmetries, Latin America, Peru

JEL codes: G14, G23, G32, O12, O17, O54

Introduction

The supposed success of joint-liability lending schemes in developing countries has generally been attributed to their ability to mitigate asymmetric information problems between lenders and borrowers, hence increasing access to financial services for people with no traditional collateral, leading to potential positive impacts on poverty reduction. However, existing theoretical and empirical studies tend to be partial and over-simplistic in their analysis of these issues.

Theories of asymmetric information in credit markets, on the one hand, specialise in particular aspects of group lending schemes, e.g. screening of borrowers, peer monitoring, auditing, and enforcement of sanctions, and are largely based on overly simple assumptions about group behaviour. With regard to theories about group formation or the screening of potential members, Ghatak (1999, 2000) concludes that a self-selection process leads to a positive assortative matching, i.e. groups self-select members of the same risk type, forming *homogeneous* groups. The strength of this conclusion is however weakened by the assumptions that underlie the model: it is assumed that members have *perfect* information about one another, or that they can raise this information *without costs*. This risks making results tautologous.

Aghion and Gollier (2000) extend the analysis allowing for the presence of imperfect information amongst borrowers. They find that despite a non-assortative outcome, group lending improves market efficiency. Their conclusions are also based on unrealistic assumptions: that potential group members know in advance the costs involved in the auditing of loan usage and those involved in repaying for defaulters. As the full extent of these costs can only be assessed during group interactions, assuming perfect *ex-ante* knowledge limits the usefulness of this study. Most importantly, the model fails to analyse the implications of forming *heterogeneous*

¹ This paper is an extract of the author's PhD research thesis, funded by the Economic and Social Research Council, United Kingdom; and undertaken at the School of Oriental and African Studies, University of London. Contact address: a.marr@odi.org.uk

groups: given the fact that moral hazard can arise in this kind of environment, a process of post-screening may lead to similar market inefficiencies thought to have been resolved, i.e. exclusion of 'safe' borrowers from credit markets.

Issues of moral hazard and peer monitoring have, in turn, been analysed largely in isolation from screening (and other) processes. Stiglitz (1990) and Varian (1990) pioneered theoretical studies in these areas but their models were based on strong and highly restrictive assumptions: (1) that information is perfect and costless amongst borrowers; (2) that peer monitoring is costless; and (3) that alternative credit sources are absent. Aghion (1999) and Conning (2000) allow for costly peer monitoring but incorporate an additional assumption: that borrowers can costlessly impose credible social sanctions on strategic defaulters to secure loan repayments. Besley and Coate (1995) examine the role of social sanctions under the limited assumptions of perfect information amongst borrowers, while Diagne (1998) presents a model of incomplete information and finds that peer pressure works only because of potential defaulters' intolerance of *passive* social sanctions, suggesting that *active* social sanctions impose costs on borrowers that diminish the effectiveness of joint-liability contracts.

When not restricted by unrealistic assumptions of perfect information and costless undertaking of group-related duties, these theoretical models rely on sets of incentives that are expected to induce individual behaviour into carrying out these group duties and achieve high loan repayment rates. Incentives usually include social sanctions, costs of paying for defaulters, and renewal of credit if prompt repayment is made. Most importantly, these incentives are expected to work due to a simplistic assumption about individual behaviour: that people minimise costs given that other factors remain unchanged, as if group members were insulated from context, culture and social forces. Crucially, these theoretical models ignore the fundamental fact that incentives cause important impact effects on people, which lead them to take action in order to reduce costs and/or transfer risks to other group members and microfinance officers. It is hence the complexity of social relationships that develop amongst joint-liability group members, and between them and officers, that it is vital to acknowledge and deal with in order to assess the power of microfinance in achieving financial sustainability and poverty reduction.

Empirical impact studies, meanwhile, focus almost exclusively on the end-use of credit when assessing poverty impacts, largely overlooking the impacts arising from group interactions, suggesting with this that the internal dynamics of groups are neutral in influencing final poverty impact effects. Analytical frameworks have evolved alongside developments in theories on poverty, household dynamics and enterprise growth. Chen *et al* (1996) develop a model on household economic portfolios which is based on the concept of non-separability between the household's production and consumption functions. Along similar lines, Chen (1997) analyses impacts at the *individual* level including an examination of a 'relational' pathway, which aims at assessing changes in participation in groups; this, however, focuses on impacts of microfinance services on borrowers' relationships *outside* the joint-liability group. Other conceptual frameworks emphasise specific aspects of wellbeing such as gender empowerment (Goetz *et al* 1996), impacts on productivity, technology and employment (Hulme *et al* 1996), children's nutrition and schooling (Khander 1998), food security (Zeller *et al* 1997) and riskiness and vulnerability (Cohen *et al* 2000).

Very few empirical studies deal with aspects of group dynamics. Montgomery (1996) finds some anecdotal evidence of high social costs of imposing sanctions within groups, while Copestake *et al* (1998) assess reasons for joining or not joining group-based programmes, Wydick (1999) suggests that social sanctions are weakly enforced between friends, and Painter *et al* (1999) look at the effects of membership turnover on loan-size growth rates. Although useful, these studies limit the analysis to particular aspects of group interactions and fail to incorporate the complete set of group duties that people are compelled to undertake when participating in joint-liability systems (i.e. screening, peer monitoring, and so on), ignoring with this some fundamental channels of impact effects on the welfare of participants and the financial sustainability of these schemes.

The paper is divided into six sections. Section one presents our proposed analytical framework for the study of microfinance impacts, while sections two to five elaborate on key research findings of specific aspects of group dynamics, i.e. group formation or screening period, peer monitoring, peer auditing, enforcement of sanctions and post-screening period. Section six contains concluding remarks.

1. Analytical Framework

This section presents a more realistic and comprehensive analytical framework for the study of poverty impacts of group-based microfinance schemes². The central idea in this framework is that, in order to capture the full costs and benefits of microfinance, the analysis ought to focus on the *essence* of what constitutes joint-liability microfinance schemes and, hence, make the study of group dynamics central to the investigation concerning the power of microfinance in resolving informational problems and alleviating poverty.

Figure 1 shows the model of impact chain envisaged for the present study of microfinance impacts. The model improves on existing conceptual models in three distinct aspects. Firstly, it presents a *dynamic* understanding of the impact process, as it portrays a continuous path of mutually influencing effects between the group dynamics and the poverty impacts. Secondly, it highlights the underlying *causes* of impacts, tracking and elucidating how changes in people's behaviour and their poverty-reduction strategies determine the ultimate impacts on poverty. Thirdly, it brings to light *ex-post determinants* of impacts as it links poverty impacts with contract compliance and helps develop an understanding of how the resulting effects on group dynamics feed back into the microfinance organisation which, in turn, modifies its policies and practices, further affecting group dynamics and poverty impacts.

To elaborate on the analysis of group dynamics more specifically, this conceptual framework, based on principles of social psychology (see e.g. Tuckman *et al* 1977, Baron *et al* 1999, Myer 2001), identifies five stages in the development of microfinance groups in the context of key duties and activities that group members are induced to undertake in order to achieve overall financial and organisational sustainability. As sketched out in figure 2, microfinance groups typically start interactions during a *formation* period in which a screening process takes place. Once

² For a full analysis of this conceptual framework see Marr (forthcoming 2002).

formed, groups gradually evolve over the three years of their intended life and go through three typical stages of development: a *learning* period during which people gain knowledge about rules and members' personal traits; a *critical* period whereby unresolved problems and potential conflicts usually lead to significant changes in intra-group interactions; and a *consolidation* period during which new resolutions can result in the success or failure of the microfinance group. The length and presence of each of these periods are obviously not clear-cut issues, as groups may jump one particular period or never reach the next expected developmental stage.

The validity and usefulness of this analytical framework have been tested empirically during field research undertaken by the author in Peru during 2000-2001. Nine groups were randomly selected from a Communal Banking programme called *La Chanchita*. This microfinance programme works with groups of around 20 people each; groups have an operative life of three years after which time they disintegrate or begin another phase of three years; and it targets poor and disadvantaged segments of the population. The sample of active group members is 180 and the total number of people interviewed for this study is approximately 350, which includes members who exited the programme before its end, new members who entered existing groups, control group participants, microfinance officers and senior managers, some household members, and key informants in the local communities. Groups were selected from the shanty towns of Lima and rural communities of Cusco, and methods for collecting information included quantitative and qualitative tools such as surveys, in-depth interviews, focus groups and participatory observation, in order to obtain a comprehensive understanding of the internal dynamics of groups and to crosscheck information.

2. Group Formation or Screening Period

Research findings of the process of group formation or *screening* period reveal that microfinance schemes start off as fragmented and heterogeneous groups, implying that information about colleagues' defaults risks is imperfect. In effect, information levels vary across group members and according to specific aspects of group members' lives. Several sub-groups of people were found within each larger group of around 20 members; amongst these sub-groups, varying information levels prevailed: in sub-groups composed by family members, for example, high information levels about one another were observed, while in sub-groups of neighbours who live very far from each other, low levels of information were prominent. The extent of information levels about members' intrinsic characteristics can be summarised in table 1, which highlights the main aspects of group participants' lives that are relevant for assessing future behaviour and responses during group interactions.

Table 1: Initial information levels

		Low 0%-25%	50%	High 75%-100%	Total
Business Management	Count	67	50	26	143
	% within	46.90%	35.00%	18.20%	100.00%
Household Management	Count	87	33	23	143
	% within	60.90%	23.10%	16.10%	100.00%
Timely loan repayment	Count	58	55	30	143
	% within	40.60%	38.50%	21.00%	100.00%

Willingness to honour debts	Count	60	55	28	143
	% within	42.00%	38.50%	19.60%	100.00%
Responsibility with duties	Count	58	54	31	143
	% within	40.60%	37.80%	21.70%	100.00%
Exposure to risks	Count	62	55	25	143
	% within	43.70%	38.70%	17.60%	100.00%

Note: Results show highly statistically significant Pearson Chi-Square values for each row assessed individually, i.e. less than 0.01, except for Business Management which shows Pearson Chi-Square=0.033

Source: Author's field research in Peru; 2000-2001

One striking finding is that initial information levels are generally superficial across participants. Table 1 shows that around only one fifth of group members have a relatively high degree of knowledge about colleagues, all of whom reported to possess information as high as 75% at most, i.e. none cited perfect information of 100% about any of the aspects considered. Initial knowledge is particularly low on aspects of members' household management (i.e. usage of household income flows and assets, expenditure patterns, and extent of conflictive relationships within household members), and exposure to risks (i.e. members' vulnerability to risks such as those resulting from high numbers of dependent household members, illnesses in the family, and unsafe workplace and household environment).

Various reasons associated with institutional deficiencies, local market changes and actual screening processes help explain these outcomes. The realities of setting 'institutional financial sustainability' as a principal objective in this microfinance organisation mean that officers tend to allocate little time to the process of screening. Pressures on officers' time for achieving high loan portfolios appear to produce strong incentives for officers to form groups very quickly, in order to start disbursing loans as soon as possible and hence attain their personal performance targets. As present performance criteria take into account financial indicators only, officers place little importance on information levels amongst group members, degree of group cohesion, types of prior mutual relationships and actual poverty levels, leading to cases of highly fragmented groups being formed.

The increasing supply of microfinance services in Peru contributes to the present difficulties in attracting potential participants to these Communal Banking (CB) schemes. During the period of 1994 to 2000, the number of microfinance organisations (MFOs) in Peru has almost doubled, from 19 to 37, many of which are major competitors of the CB programme (SBS 2000). The implication of this is that, in many instances, officers do not have any other option but to help form groups composed of people who live in highly dispersed geographical areas and who possess very little knowledge about one another.

Most importantly, the formation of heterogeneous groups responds to the fact that people's eligibility criteria do not necessarily coincide with those of the MFO. While MFOs oblige potential participants to self-select members who will be able and willing to repay loans, people have much more diverse criteria. Four broad areas where the eligibility criteria deviate from that of MFOs were identified when investigating participants' motivations for selecting group members.

Within sub-groups of close relatives, one prominent factor in self-selection criteria refers to the use of loans. In these groupings, members are selected for their readiness to hand over their MFO loans to another relative (usually the one who invited them to participate in the programme) when required. For this purpose, it would not necessarily matter to the selecting participant whether her relative fulfils the MFO's criteria, as long as she complies with the unwritten agreement between them. Their loyalties lie firmly within the household and the extended family, sometimes to the detriment of fellow group members' and even MFO's objectives.

Within sub-groups of participants whose strongest ties relate to mutual support in times of need, a major principle for their eligibility is whether the person is considered to be in need of cash. Questions on debt capacity and timely loan repayment take a minor place in their eligibility, as they might have never before borrowed from any financial organisation or are used to the flexible conditions that go with borrowing from friends and relatives only. One prominent sentiment within this group is the expectation of the MFO regulations being contingent on participants' economic situation at the time of implementation, particularly when the MFO's self-proclaimed objective of reducing poverty is noted. In this context, members' self-selection criteria emphasise compliance with an institutional objective which, in practice, has been belittled by the overpowering goal of achieving financial sustainability. Clashes with other sub-groups' underlying objectives will also test MFO priorities when members of the needs-based group fall behind on loan repayments despite their high willingness to honour debts.

Amongst members that have binding ties related to patron-client relationships, a fundamental criterion for selection refers to their reciprocal outstanding debts in terms of political favours and money. In these cases, the selecting participant is usually in a position of power within the group and can ignore MFO eligibility criteria without difficulties. One aspect of these types of selection motives relates to paying back old debts: participants invite people to whom they owe money and request them to consider MFO loans as part of their debt payments. In this arrangement, the inviting participant pays for the MFO loans borrowed by her colleague; no further information is hence collected about this member's intrinsic characteristics, since she is participating in the group only to recover outstanding debts.

A fourth identifiable broad criterion for self-selection refers to the need to reach the minimum number of people to start a group – usually 20 persons. In some cases, particularly in urban and semi-urban areas, participants find it hard to select 20 potential members to start the group and have to resort to inviting people they hardly know and with whom no previous relationships exist. Although these participants are likely to fulfil basic MFO requirements, their weak links with colleagues further endanger the group's cohesiveness. Their 'hidden agendas' as well as those of other group members become clear as events unfold over the life of the group, where participants start negotiating aspects of their own agendas with those of their colleagues within the framework of the MFO's objectives.

The implications of forming heterogeneous groups with significant proportions of people who know little about colleagues' key features are that MFOs will have to rely heavily on members' *access* to information and set incentives to increase participants' *willingness* to share that information with officers and group colleagues. We will see

in the following sections whether all this is possible to attain, and note the impact effects that they cause on group members.

3. Peer Monitoring

One extraordinary finding about peer monitoring is that the extent to which participants undertake this duty is significantly low³. Table 2 shows that over the lifespan of groups, more than half the members claim to have undertaken no monitoring whatsoever and of the ones that carried out some degree of monitoring, none undertook this task to an extent larger than 50%. Moreover, results are statistically insignificant when comparing yearly behaviour, which implies that the degree of peer monitoring is consistently low at every stage of group development.

Table 2: Extent of monitoring over time

			YEAR				Total
			1	2	3	4	
Extent of Monitoring	None (0%)	Count	65	50	18	11	144
		% within	57.50%	51.50%	45.00%	64.70%	53.90%
	A little (25%)	Count	27	22	15	5	69
		% within	23.90%	22.70%	37.50%	29.40%	25.80%
	Regular (50%)	Count	21	25	7	1	54
		% within	18.60%	25.80%	17.50%	5.90%	20.20%
Total	Count	113	97	40	17	267	
	% within	100.00%	100.00%	100.00%	100.00%	100.00%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.561(a)	6	0.272
Likelihood Ratio	7.898	6	0.246
Linear-by-Linear Assoc	0	1	0.99
N of Valid Cases	267		
a 2 cells (16.7%) have expected count less than 5. The minimum expected count is 3.44.			

Some quantitative variables help explain these outcomes. These are presented in table 3 in the form of results of an econometric model devised for this purpose. Three variables are particularly worthy of close examination: one referring to the transactions costs of monitoring and two representing the microfinance scheme's incentives to monitor. Indeed, econometric results show that the transaction costs that participants endure when undertaking peer monitoring is the most important variable in explaining degree of monitoring, i.e. $t=9.0$. Further investigation reveals precise costs in terms of time and monetary expenditure. For nearly 60% of participants, monitoring took between 1 and 7 days of their time, while one person dedicated as much as two weeks to raising information during peer monitoring. Taking as the benchmark the time devoted to compulsory meetings (i.e. 6-9 hours per year, or the maximum length of time that members expected to dedicate to the programme), time-

³ To calculate the extent of monitoring in a given year, group members were asked to specify the number of fellow members (and their respective loans) they monitored that year, e.g. in a group of 20 members, a monitoring of 25% means that members monitored approximately 5 colleagues and only one set of the 4 sets of loans usually lent in a year. The variable scale is devised as: 0%=No monitoring or "none"; 25%=little extent of monitoring or "a little"; 50%= middle-range extent of monitoring or "regular"; 75%=significant extent of monitoring or "a lot"; and 100%= full monitoring or "always".

related costs of monitoring are calculated to be between 3 and 60 times higher. In terms of monetary costs, compared to an appropriate benchmark (the MFO interest rate of US\$0.27 per day), daily monitoring are up to 163 times more expensive. These are evidently extraordinarily high costs to bear and hence appear to represent the most important constraint on the task of peer monitoring.

Table 3: Regression on factors explaining extent of monitoring

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.646(a)	0.418	0.399	0.7741		
(a) Predictors						
ANOVA(b)						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.375	8	13.172	21.979	.000(a)
	Residual	146.827	245	0.599		
	Total	252.202	253			
(a) Predictors; (b) Dependent Variable						
Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.94E-02	0.079		0.244	0.807
	Initial knowledge on monitoring	0.242	0.052	0.249	4.659	0
	Systems of mutual guarantees	3.97E-03	0.048	0.004	0.082	0.934
	Reasons for monitoring	0.173	0.052	0.175	3.344	0.001
	Cumulative loan amount	7.34E-02	0.052	0.072	1.422	0.156
	Cost of monitoring (transaction costs)	-0.465	0.051	-0.458	-9.035	0
	Locality (urban, semi-urban, rural)	5.40E-02	0.05	0.057	1.086	0.279
	Whether the member belongs to the Central Committee or not	-5.79E-02	0.035	-0.088	-1.657	0.099
	Member's status (first joiner or later joiner)	0.11	0.09	0.065	1.23	0.22
(a) Dependent Variable: Extent of Monitoring						

Typical MFO's incentives to monitor, on the other hand, are crucially ineffective in encouraging higher levels of monitoring. These are represented in the econometric model by the variables 'systems of mutual guarantees' and 'cumulative loan amount', which in both cases are statistically insignificant. The first variable signifies the attempt to enhance peer monitoring through the re-structuring of groups into sub-groups of 2-3 members who become mutual loan guarantors. Lack of effectiveness in this case relates to poor enforcement, methods of sub-group selection, and lack of systematic re-structuring across groups: when an untoward event occurs, lines of liability are not always respected (sometimes no-one becomes responsible and sometimes the whole group does); sub-groups tend to be composed of close relatives with a strong interest in avoiding monitoring and penalties; and, even in other types of

sub-groups, liability tends to be avoided because systems are not introduced on an equal basis across groups. The variable ‘cumulative loan amount’ refers to the MFO promise of progressively larger loan amounts to prompt repayers. Its ineffectiveness is largely caused by the above-mentioned increasingly large supply of microfinance services in Peruvian communities. Indeed, as participants perceive that they can gain access to other financial institutions, the promise of larger MFO loan amounts loses its power to encourage higher levels of peer monitoring.

Most importantly, this research has found that information gathered through peer monitoring is distorted, hidden or simply not volunteered in the process of transferring this information to group members and officers. A fundamental reason for this is that participants’ interactions when carrying out monitoring are ruled by *deep-seated power structures*. These power structures originate from the types of relationships that group members sustain with their peers prior to joining microfinance schemes, the bases for which are diverse and not necessarily related to issues of borrowing and lending.

In the previous section, we have learnt that there are various identifiable types of prior relationships which form the basis for participants’ self-selection criteria; these are primarily related to social ties arising from blood connections, patron-client relations, pro-poor community associations, and neighbourhood and business proximity. In effect, only 4% of all participants have prior relationships based on issues of borrowing and lending, i.e. they are members of common ROSCAs. All this means that the vast majority of participants are unfamiliar with financial issues when they first join the programme. When these group members are then confronted with an alien way of relating to one another – in this particularly case, monitoring colleagues’ loans, investments, returns, risks, and so on –, they tend to react very strongly and may resort to acts of intimidation, threats and even physical abuse in order to repress information about their financial affairs. This is eloquently evidenced by a (representative) commentary made by one of the participants:

“I told group members about the Ochoa family’s comings and goings and that I’d seen that they had just bought a big truck with their loans to take their maize to Puno. Two weeks later, someone stole my pigs from my *chacra*. [my little patch of land]. I know that it is that family taking revenge on me. They think they can do anything in the group and no-one should say anything.”

(Transcription 58: fieldwork in Huayllabamba, Cusco, 2000-2001)

What this testimony is telling us is that the problem lies perhaps not so much in limitations on *raising* information stocks: this person had obtained information about this family’s use of loans and she is not complaining about the costs of raising information. The problem seems to be related, rather, to costs involved in the *sharing* of information. It is, therefore, in the transmission of information to others that people react very strongly to repress information. This is a very interesting proposition because it means that the information is accessible but is going to be *repressed, distorted, hidden or not volunteered* because of the costs involved in the sharing of information and because the loyalties of people may lie elsewhere – that is, not in support of the interests of the MFO. This proposition also raises the question of how effective the MFO is in providing the structures and incentives for a harmonious exchange of information. Two related issues help explore this question: the legitimacy

of loan usage and the types of communication structures set up by these microfinance schemes.

On the issue of what constitutes legitimate uses of MFO loans, a prominent problem is institutional ambivalence in clearly defining valid loan usage. In practice, therefore, officers sometimes inform group members that it is legitimate to use loans for consumption purposes, while at other times they forcefully disseminate the idea that loans should be used for investment in income-generating activities only. The root of this ambivalence is that MFOs (and officers) are struggling to achieve simultaneously the two somewhat contradictory objectives of financial sustainability and poverty alleviation, whereby loan usage for consumption-smoothing purposes can be justified by poverty-reduction arguments but not necessarily by financial sustainability arguments. An important consequence of this is that officers tend to change the definition of legitimacy in loan usage, particularly when running into problems of loan recovery, making the task of peer monitoring more difficult to accomplish as group members become highly confused by the 'moving target' to be monitored.

A more fundamental explanation of limited levels of monitoring is that the communication structures in these microfinance schemes are generally ineffective, leading to various coordination and motivation losses. In monthly General Meetings, where group members and officers convene to exchange information, lines of communication are overwhelmingly centralised in the Credits Committee (i.e. members who compose the group's central committee, plus the guiding MFO officer), making it highly restrictive for group members to communicate sensitive information gathered through monitoring in an open and democratic way. Deliberations in meetings are often fuelled by tensions arising from disparate agendas, wherein the interests of the centralised power usually prevail, with little regard for the stocks of information gathered by colleagues; hence final decisions (on loan disbursements for example) become highly centralised in a few hands.

The consequences of poor channels of communication and centralised decision-making are profound: (1) in the many instances where revealing information leads to reprisals by the members alluded to, the increase in monitors' transaction costs is magnified by the perception that little real importance is attributed to the information; and (2) as revealed information is perceived as not being effectively taken on board and not influencing collective decisions, members become disillusioned and demotivated in their efforts to undertake peer monitoring, because they perceive no benefit in it while they have to bear the costs of undertaking it. In both cases, the demonstration effect in the rest of the group appears to produce a general stagnation and even decline in performance levels, confirming the views of those colleagues who anticipated high monitoring costs and opted for minimal or no monitoring and sharing of information.

The conclusion thus far, is that, with modest levels of peer monitoring, moral hazard continues to represent a serious risk in these microfinance schemes as in more traditional lending contracts.

4. Peer Auditing

Compared to monitoring, the extent of peer auditing is relatively high. Over 60% of participants reported to have undertaken some degree of auditing during their membership length, and nearly a quarter of them carried out this duty at the high level of 75% compared to none at all undertaking monitoring at that level. Despite this positive outcome, research findings show that the *quality* of auditing is remarkably poor and is observed to deteriorate over time.

The primary purpose of auditing is to investigate the causes of loan non-repayment; in other words, its aim is to determine whether the non-payer is *unable* to repay her debts or is *unwilling* to honour them. The quality of auditing is hence measured by the degree to which group members carry out auditing in order to achieve this purpose. Our findings show that auditing quality deteriorates over time, i.e. peer auditing ceases to be a means to find out about the causes of loan non-repayment and it becomes a way to apply pressure on fellow members in order to recover debts. Some quantitative evidence is presented in table 4 below.

Table 4: Whether auditors distinguish between inability and unwillingness to repay

			Group maturity				Total	
			< 1 year	1-2 years	2-3 years	> 3 years		
Differentiation between inability and unwillingness to repay	almost nil	Count	16	4	20	8	48	
		% within	40.00%	4.20%	11.40%	10.50%	12.40%	
	25%	Count	16	48	68	34	166	
		% within	40.00%	50.00%	38.60%	44.73%	42.78%	
	50%	Count	4	24	68	30	126	
		% within	10.00%	25.00%	38.60%	39.47%	32.47%	
	75%	Count	4	20	20	4	48	
		% within	10.00%	20.80%	11.40%	5.30%	12.40%	
	Total		Count	40	96	176	76	388
			% within	100.00%	100.00%	100.00%	100.00%	100.00%

Chi-Square Tests

	Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square	53.083(a)	9	0
Likelihood Ratio	47.915	9	0
Linear-by-Linear Ass	2.821	1	0.093
N of Valid Cases	388		

(a) 2 cells (12.5%) have expected count less than 5. The minimum expected count is 4.95.

In several surveys and in-depth interviews, at various stages of group development, participants were requested to estimate whether they could differentiate between inability and unwillingness to repay when undertaking auditing. Table 4 shows that this distinction deteriorates over time, e.g. while over a fifth of all participants could make this distinction in 75% of audit cases at the early stages of group maturity, only 5% of them could three years after. Most interestingly, participants reveal that they stopped asking questions conducive to identifying nonpayers' fundamental causes of non-repayment as time passed, suggesting that auditing for the purpose of gathering information on borrowers' inability or unwillingness to repay fades away over time, as more pressing issues replace its rationale and importance in relation to other group tasks. Comments made by members of groups' Central Committees are particularly revealing in this regard:

“They are not asked how they used their loans [during auditing], they are only asked how they are going to repay their debts” (Transcription 21: president of “*Velasco Astete*”, group founded in 1997, Cusco)

“We pressure them to repay, not to find out if they can or cannot repay. Besides, they lie to you” (Transcription 16: president of “*Eduardo de Habich*”, group founded in 1998, Lima)

“It is never asked what happened to the borrower, her business or her household; it is only demanded that she should pay up” (Transcription 31: vice-president of “*Iro de Mayo*”, group founded in 1997, Cusco)

An extraordinary consequence of the deterioration in the quality of auditing is that most nonpayers are classified as *strategic* defaulters on loans, i.e. unwilling to repay. This can be observed in table 5 which compares auditing assessments carried out during the present research and those undertaken by the microfinance group on the same nonpayers. During the first few months of group maturity, results of both assessment reports can be seen to be similar. However, as groups evolve, the error gap starts to widen to the point that, by the time groups have over three years of maturity, 80% of audited colleagues are classified as strategic defaulters when the actual figure is 17%. This implies that a large number of borrowers who are unable to repay because they invested their loans in long-term projects (such as agriculture, housing, health or education) or suffered unexpected shocks (such as sudden illness, loss of jobs, theft, crop failure, divorce/separation, business meltdown) are, in practice, classified as strategic defaulters.

Table 5: Contrasting auditing assessments

Group maturity		Research assessment a/			CB assessment			Total
		Unable	Unwilling	Both	Unable	Unwilling	Both	
< 1 year	Count	33	6	1	30	8	2	40
	% within	82.50%	15.00%	2.50%	75.00%	20.00%	5.00%	100.00%
1-2 years	Count	75	19	2	28	59	9	96
	% within	78.13%	19.79%	2.08%	29.17%	61.45%	9.38%	100.00%
2-3 years	Count	111	37	28	2	144	30	176
	% within	63.07%	21.02%	15.91%	1.14%	81.82%	17.04%	100.00%
> 3 years	Count	62	13	1	3	61	12	76
	% within	81.58%	17.11%	1.32%	3.95%	80.26%	15.79%	100.00%
Total	Count	281	75	32	63	272	53	388
	% within	72.42%	19.33%	8.25%	16.24%	70.10%	13.66%	100.00%

a/ Research indicators: To determine auditees' ability/inability to repay debts, aspects included (1) loan usage; (2) returns on their investments; and (3) shocks suffered during the period between loan disbursement and repayment; and to determine auditees' willingness/ unwillingness to repay, areas of research included (1) conflicts suffered within the group; (2) conflicts suffered within the household; and (3) collusion with group or household members.

Partly as a result of this strong bias towards classifying nonpayers as strategic defaulters, MFO officers begin to exercise a more decisive influence on participants' investment decisions and forms of loan repayment. They strongly advise borrowers to invest MFO loans in short-term trading activities in order to repay loans promptly and when participants cannot repay, officers advise them to borrow from any source in order to repay loans in time. This forceful influence on participants' decisions reinforces (if it does not produce) the patterns of old coping strategies. Indeed, we have found that the majority of participants – a staggering 62% – become over-indebted from other sources, as seen in table 6, in order to repay MFO loans promptly, and that markets are beginning to become saturated by small-scale trading businesses.

Table 6: Actual forms of loan repayments

			membership length				Total
			1 year	2 years	3 years	> 3 years	
Forms of repayment	Borrowings from other sources	Count	31	58	29	29	147
		% within	77.50%	57.40%	46.10%	90.6%	62.30%
	Sales h/h assets; by instalments	Count	1	3			4
		% within	2.50%	3.00%			1.70%
	From profits	Count	5	23	11	2	41
		% within	12.50%	22.80%	17.50%	6.30%	17.40%
	From savings	Count	3	15	19	1	38
		% within	7.50%	14.90%	30.20%	3.10%	16.10%
	none	Count		2	4		6
		% within		2.00%	6.30%		2.50%
Total		Count	40	101	63	32	236
		% within	100.00%	100.00%	100.00%	100.00%	100.00%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	56.431(a)	21	.000
Likelihood Ratio	54.753	21	.000
Linear-by-Linear Ass	0.743	1	0.389
N of Valid Cases	236		

(a) 12 cells (37.5%) have expected count less than 5. The minimum expected count is .14.

One fundamental reason explaining all these research findings is that the social cost of *revealing* auditing information is high for group members. As with sharing monitoring information, deep-seated relations of power, kinship connections and friendship associations are fundamental shapers of the extent and quality of information (gathered through auditing) to be shared in group meetings – participants can be observed making subtle movements to position themselves within the microfinance group power structure which is being rapidly moulded as people interact. Two of the most striking and representative responses of what results from these group interactions are encapsulated in the comments below.

“Don’t tell on me, she begged me. And then she said: one day you’ll go through problems like this yourself; if you don’t help me now, don’t complain if I won’t help you later...”

“I am really scared of retaliation. I go with other people to do auditing but only to go along with the rules. Now, I keep my mouth shut”

(Transcriptions of fieldwork interviews in Lima and Cusco, 2000-2001)

The message that these testimonies convey is both strong and disturbing: that participants can suffer truly significantly high costs when revealing information about group colleagues. Behind each of these commentaries there is evidence of cases of verbal abuse and even physical attacks on properties and individuals, which are intended to serve as clear reminders to informants that their loyalties should lie with fellow members rather than with the MFO or the microfinance group. These acts of intimidation and retaliation are, hence, an effective means of influencing participants into distorting information in order to protect or attack group colleagues, contributing to the erosion of the quality of auditing assessments.

Exacerbating the deterioration of audit quality are the deficiencies that exist in the MFO officers' management of information and conflicts. Despite the number of training courses they undertake, officers do not seem to have the tools – perhaps more importantly, the MFO does not provide structures and mechanisms – to manage auditing information and the conflicts that develop during information exchange. One crucial deficiency arises when officers leave problems and disagreements resulting from audit discussions completely unresolved. This has serious implications for individual and group behaviour because participants perceive a lack of benefit in the sharing of audit information with their peers, while they have to endure the social costs that revealing information inevitably brings to them, leading to further deterioration in the quality of auditing.

As groups progress and conflicts escalate, and implicitly acknowledging their ineffectiveness in guiding groups, officers begin to rely very heavily on members of the groups' Central Committees to carry out auditing and make assessments of nonpayers. The problem with this is that these group members do not necessarily have a higher comparative advantage in obtaining information, and very often display stronger vested interests in distorting information and centralising power around themselves. With things becoming even more complicated and because of pressures to achieve high repayment rates, officers contribute to the deterioration of audit quality by strongly influencing the *change of purpose* in the task of auditing: instead of being a means to find out the true causes of non-repayment, it becomes a tool to recover debts.

5. Enforcement of Sanctions and Post-screening Period

If this process is taken to its logical conclusion, it can be inferred that, with low levels of monitoring and a strong bias towards labelling participants as strategic defaulters, these microfinance schemes rely very heavily on the imposition of sanctions to achieve high repayment rates. Moreover, as auditing quality deteriorates over time, the administration of sanctions tends to intensify accordingly. In effect, broad quantitative evidence supports the apparent occurrence of this phenomenon.

Table 7: Types of administered sanctions

		Group's maturity				Total	
		< 1 year	1-2 years	2-3 years	> 3 years		
Sanctions members endure	Group visits to my house/business	Count	7	23	48	8	86
		% within	28.57%	43.48%	31.94%	18.18%	31.62%
	Wasted time chasing debtors	Count	7		11	10	28
		% within	28.57%		6.95%	22.73%	10.30%
	Fines for late repayment	Count	7		27	6	40
		% within	28.57%		18.06%	13.64%	14.71%
	Next loan was suspended/reduced	Count		20	51	12	83
		% within		39.13%	33.33%	27.27%	30.51%
	My assets were confiscated	Count	3	9	15	8	35
		% within	14.29%	17.39%	9.72%	18.18%	12.87%
Total	Count	24	52	152	44	272	
	% within	100.00%	100.00%	100.00%	100.00%	100.00%	

Table 7 reveals two interesting findings: (1) that the types of sanctions which people claim to have endured during their participation in microfinance groups gradually increase in number (up to the end of the third year of group maturity)⁴; and (2) that the joint-liability system appears to be gradually *abandoned* over time, as the use of social collateral (e.g. group visits) in the administration of sanctions loses relative importance in favour of individually-based collateral such as financial and physical collateral. For instance, the suspension or reduction of members' *individual* loans represents around a third of the number of sanctions administered during the later years of group development. More alarmingly, the practice of confiscating participants' assets seems to increase over time: by the end of members' participation in the programme, a staggering 18% of all sanctions involved confiscation of colleagues' personal assets.

In all this process, a further extraordinary finding is revealed: that the poorest and most vulnerable people from any given group are excluded or leave the group prematurely. Table 8 shows that nearly 70% of the group members who leave the programme before its end are classified as 'very poor' according to participants' own wealth ranking. Moreover, they are most likely to leave in vast numbers at the beginning of the programme or when the group has 2-3 years of maturity. As will be discussed later, this phenomenon occurs because the very poor are more likely to fall behind with their debts and equally more likely to suffer sanctions due to their generally lesser ability to negotiate sanctions and loan repayments, greater ignorance about legal and civil rights, and greater propensity to be intimidated by authority.

Table 8: Members who left the programme before its end

		Group's maturity				Total	
		< 1 year	1-2 years	2-3 years	> 3 years		
Members who left MFO	Very poor	Count	80	56	200	52	388
		Column %	100.00%	41.20%	80.60%	48.10%	67.80%
	Middle poor	Count		72	48	52	172
		Column %		52.90%	19.40%	48.10%	30.10%
	Less poor	Count		8		4	12
		Column %		5.90%		3.70%	2.10%
Total		Count	80	136	248	108	572
		Column %	100.00%	100.00%	100.00%	100.00%	100.00%

Chi-Square Tests

	Value	df	As. Sig. (2-sided)
Pearson Chi-Square	125.036(a)	6	0
Likelihood Ratio	148.918	6	0
Linear-by-Linear Assoc	9.867	1	0.002
N of Valid Cases	572		

(a) 3 cells (25.0%) have expected count less than 5. The minimum expected count is 1.68.

Note: Indicators of wealth ranking criteria: (1) Type of household: number of earners, number of dependents, members' gender; (2) Types of economic activities of household earners: income, expenditure, net profits, remittances; (3) Food intake: staple, meat, luxury food; (4) Type of shelter: roof material, exterior walls, type of flooring, electricity supply, cooking fuel, drinking water, toilet facility; (5) Type of agricultural land: area, type of crop, equipment; (6) Types of animals: cattle, poultry, camelids, etc; (7) Equipment and household appliances; (8) Skills of household members: level of education, business and other skills; (9) Borrower's mini-business: income, expenditure, profits, equipment, infrastructure, employment; and (10) Community physical and social infrastructure where the household lives.

⁴ The decline in the number of sanctions imposed on members belonging to groups of over 3 years of maturity may be explained by the post-screening process that effectively selects participants who are most likely to repay their loans on time. This process is discussed later in this section.

Furthermore, the impact effects on exit participants are mainly negative. Evidence in table 9 shows that these excluded colleagues get deeper into debt (particularly with moneylenders) in order to repay MFO loans and, if payments are not settled in time, significant personal and household assets are confiscated. These material losses are magnified by losses in terms of broken social relations with group members which result from often violent confrontations during group interactions. The combined effect is that participants usually end up in deeper poverty than when they started.

Table 9: Forms of loan repayments by exit members

			membership length			Total
			1 year	2 years	3 years	
Forms of repayment	by instalments	Count	4	20		24
		% within	2.40%	22.70%		9.00%
	borrowed from h/h members	Count	28	8	4	40
		% within	16.70%	9.10%	33.30%	14.90%
	borrowed from friends	Count	20			20
		% within	11.90%			7.50%
	borrowed at interest higher than MFO's	Count	48	4		52
		% within	28.60%	4.50%		19.40%
	reduced consumption	Count	4	4		8
		% within	2.40%	4.50%		3.00%
	confiscation of h/h assets/ savings	Count	36	20		56
		% within	21.40%	22.70%		20.80%
	from profits	Count	20	12	8	40
		% within	11.90%	13.60%	66.70%	14.90%
have not repaid yet	Count	8	20		28	
	% within	4.80%	22.70%		10.40%	
Total		Count	168	88	12	268
		% within	100.00%	100.00%	100.00%	100.00%

Chi-Square Tests

	Value	df	Asymp. Sig.
Pearson Chi-Square	111.498(a)	16	0
Likelihood Ratio	114.78	16	0
Linear-by-Linear Association	9.06	1	0.003
N of Valid Cases	268		

(a) 10 cells (37.0%) have expected count less than 5. The minimum expected count is .36.

The post-screening process that results from group dynamics reveals not only that the very poor tend to be induced to leave microfinance programmes, but also that new group members are selected from less poor backgrounds than those of the original participants (see table 10), leading to a consistent diversion from the target population towards better-off segments of society. This implies that the process of post-screening in microfinance programmes appears to be giving rise to the original inefficiencies of credit markets whereby the very poor are being *rationed out* from credit schemes.

Table 10: Members who joined the programme later

			Group's maturity				Total
			< 1 year	1-2 years	2-3 years	> 3 years	
Members who joined MFO later	Very poor	Count	8		44		52
		Column %	10.00%		18.00%		9.20%
	Middle poor	Count	72	72	120	56	320
		Column %	90.00%	52.90%	49.20%	51.90%	56.30%
	Less poor	Count		64	52	52	168

	Vulnerable non-poor	Column %		47.10%	21.30%	48.10%	29.60%
		Count			28		28
		Column %			11.50%		4.90%
Total		Count	80	136	244	108	568
		Column %	100.00%	100.00%	100.00%	100.00%	100.00%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	155.504(a)	9	0
Likelihood Ratio	201.011	9	0
Linear-by-Linear Assoc	14.987	1	0
N of Valid Cases	568		

(a) 1 cells (6.3%) have expected count less than 5. The minimum expected count is 3.94.

Three inter-related reasons help explain all these outcomes: (1) the types of relationships that develop between group members and MFO officers; (2) the role of collective sanctions; and (3) the increasing incentives to default strategically.

On the first explanatory issue, the most important aspect of member-officer relations is that the vested interests of the people involved usually clash and sometimes converge during group interactions, particularly with regard to collective sanctions. This is best explained by discussing in some detail the role of these sanctions.

Collective sanctions are of two kinds: (1) when the whole group is denied renewed access to MFO loans; and (2) when group savings are used as loan insurance. The latter type of collective sanction is remarkably important in explaining the research findings outlined earlier. In these microfinance schemes, participants are obliged to save 20% of every loan amount that is granted to them. As members are not allowed to withdraw savings before the end of the programme, these accumulate over time and signify an important percentage of present loan amounts: halfway through the membership period, the value of a participant's cumulative savings is equivalent to over 70% of her current MFO loan amount. Collective sanction in this case means that group savings are used by the MFO to repay unpaid debts, which implies that all members are punished as they are made to pay for their colleagues' debts.

This type of collective sanction is in fact the most frequently used sanction because it primarily benefits the vested interests of one particular party: the MFO officers. When group savings cover for unpaid debts, the books never go into the red and new loans can be disbursed without delays, leading to attainment of officers' performance targets: MFO loans are paid on time, repayment rates are high and loan portfolios keep growing. As good group savings management is not part of officers' targets, there is no incentive for them to maintain group savings in good health. In fact, the majority of groups under study present serious problems with recovering group savings and a third of them report default rates of around 60%, figures that are not included in the MFO official repayment rates (these report repayment rates of MFO loans only, which, given the practice of loan insurance, are consequently very high, distorting the real financial position of most microfinance groups).

A fundamental danger in employing group savings as collective sanctions is that it has the potential to erode group cohesiveness dramatically. This is because group savings are supposed to act as *collective benefits* too, i.e. the microfinance group is expected

to accumulate and manage members' savings in order to make them grow; in other words, these savings are an essential source of group cohesiveness. Profitable investments of group savings include lending these funds to members and non-members and setting up collective enterprises and communal activities, all of which leads to greater social cohesion and financial strengthening. When these hard-earned group savings are hence used as loan insurance and never recovered – because the MFO does not provide sufficient support to help recover and protect group savings but, rather, leaves participants to recover these savings themselves – a deep distrust starts to emerge between members and officers, leading to the deterioration of group cohesiveness and the crumbling of the joint-liability system.

Exacerbating these negative consequences are: the poor auditing quality (which does not permit a clear differentiation of defaulters, and hence group savings are used for truly strategic defaulters who never intended to pay savings back); the centralised power of group savings management in members of the Central Committees (which is generally unsupervised by officers, with financial accounts rarely reported, leading to cases of mismanagement that go unnoticed as long as MFO accounts are in balance); and the ineffectiveness of sanctions for the recovery of group savings. (Which are effective only under certain conditions - where participants are more ignorant about their civil and legal rights, less able to negotiate a reduction or elimination of sanctions, more inclined to be intimidated by authority and less able to access financial alternatives to the microfinance scheme, they are more likely to accept and be influenced by sanctions to the point of effectively inducing prompt loan and savings repayments. As the poorest and most vulnerable from any given group tend to fall into this category, they are more likely to be sanctioned, although unfairly in many cases, made to repay loans at any cost, or excluded from groups).

Furthermore, using group savings as a collective sanction encourages participants to default strategically, particularly those members who always repay their loans on time. When group savings face imminent loss, participants feel that they are being penalised for good behaviour (i.e. some have repaid on time, even by borrowing from moneylenders; others have agreed to pay penalties for short delays in loan repayment) and begin devising strategies to default on loans in order to make use of their individual savings: (1) some decide to default immediately and let MFOs withdraw their individual savings to repay these debts. By deciding to default strategically rather than repaying loans and risking losing their individual savings if group savings are never recovered, they make sure that their own savings are of some benefit to them. (2) Others decide to exit the group for one cycle and re-enter later. In this way, they can withdraw their individual savings, avoiding a total loss if group funds are not recovered. As potential default risks surge, members become more distrustful of colleagues' future behaviour, cooperative instincts vanish and the cohesiveness of groups rapidly disintegrates. Default risks, in some cases, increase to such high levels that the whole group collapses and, with no savings and broken relations, most participants end up worse off.

In all this process of imposing collective sanctions, the costs and risks suffered by members prompt them to react very strongly against sanctions and refuse to allow group savings to be used as loan insurance. In parallel with this tendency to abandon social collateral, an introduction of individually-based collateral (such as financial and physical collateral) demonstrates a clear intention on the part of group members to

transfer back to the MFO those costs and default risks that MFOs hoped to eliminate when working with joint-liability systems.

6. Concluding remarks

This paper has challenged the validity of two of the basic premises underlying existing theoretical and empirical studies: that microfinance can be a successful *market solution* to resolve credit market failures; and that *solidarity* sentiments prevail amongst the members who constitute microfinance groups. Given these premises, current studies argue that a set of incentives can be devised, without resort to public welfare funds, to correct information asymmetries between borrowers and lenders, and that group members will practice mutual support because they originate from poorer segments of society – demonstrating a tendency in such studies to romanticise the nature of social relations in community-based networks.

Evidence from research undertaken in urban and rural communities of Peru, as presented in this paper, shows that group-based microfinance schemes are often unable to harness local information, and hence resort to inflicting increasingly severe sanctions in order to achieve high repayment rates. These practices, in turn, appear to severely damage group cohesiveness and hit the poorest and most vulnerable the hardest, creating more poverty and undermining the very foundations of these microfinance schemes.

In explaining this phenomenon, it has been pointed out here that raising and sharing private information gathered through peer monitoring and auditing is an extremely difficult exercise, mainly due to the high costs arising from complex social relationships that develop amongst group members and between members and MFO officers. Various factors were found relevant in influencing individual and group behaviour:

- Deep-rooted power structures that originate in members' relationships prior to joining microfinance schemes and which evolve as intra-group relations develop.
- Vested interests of individuals and sub-groups of participants, which clash or coincide with those of MFO officers.
- Institutional incentives to encourage undertaking of group duties, which are heavily based on penalties and sanctions rather than on rewards and prizes.
- Local market dynamism, which tends to diminish the motivation to participate in and remain loyal to these microfinance schemes.
- Overemphasis on achieving the institutional objective of financial sustainability of MFO finances, to the detriment of group-savings finances and poverty alleviation.

Once these factors are taken into account, and when the evolution of microfinance groups over time is analysed, some striking results – absent from traditional theoretical and empirical studies - arise:

- A tendency to abandon the joint-liability system, with individually-based collateral increasingly gaining importance in relation to that of collective sanctions and social collateral.
- The poorest and most vulnerable members from any given group leave microfinance schemes prematurely or are actively excluded, resulting in serious negative impact effects on their wellbeing.
- An inclination on the part of the MFO to move away from targeting poor segments of the population in favour of less poor sectors, meaning that poorer people are rationed out from microfinance markets.

A fundamental reason explaining these outcomes is that the harnessing of local information and the strengthening of group cohesiveness do not seem attainable through the establishment of a set of incentives (or, at least, not through such simple and incomplete incentives as are currently in existence) which are devised with the primary purpose of achieving financial sustainability. In other words, the evidence presented in this study demonstrates that these microfinance schemes can attain high MFO loan repayment rates without resolving the original problems of information asymmetries, but only by imposing greater sanctions, putting at risk groups' collective savings and by targeting less poor segments of the market. The task of harnessing local information and reducing poverty is an intrinsically intractable and complex issue; it does not appear, from the present study, that it can be safely entrusted to organisations run entirely on a commercial basis. It is surely inarguable that public and donor funds should continue to be allocated to the implementation of new types of schemes which would truly help increase wellbeing and market efficiency.

References

- Aghion, Beatriz Armendariz de, and Christian Gollier (2000) "Peer group formation in an adverse selection model". *The Economic Journal* 110 (July), pp 632-643. Blackwell Publishers: Oxford-UK and Malden-USA
- Aghion, Beatriz Armendariz de (1999) "On the design of a credit agreement with peer monitoring". *Journal of Development Economics*, vol.60, pp 79-104. Elsevier: Amsterdam- Lausanne-New York-Oxford-Shannon-Tokyo
- Baron, S Baron; Norbert Kerr and Norman Miller (1999) *Group Process, Group Decision, Group Action*. Open University Press, Buckingham: UK
- Besley, Timothy and Steven Coate (1995) "Group lending repayment incentives and social collateral". *Journal of Development Economics*, vol.46, pp 1-18. Elsevier: Amsterdam- Lausanne-New York-Oxford-Shannon-Tokyo
- Chen, Martha and Elizabeth Dunn (1996) *Household Economic Portfolios*, AIMS: Washington DC, USA
- Chen, Martha (1997) *Assessing the impact of micro enterprise services at the individual level*. AIMS papers: Washington DC, USA
- Cohen, Monique and Jennefer Sebstad (2000) *Microfinance, Risk Management and Poverty*, AIMS paper: USAID: USA

- Conning, Jonathan (2000), "Monitoring by delegates or by peers? Joint-liability loans under moral hazard" William College, Williamstown, MA 01267, USA
- Copestake, James, Sonia Bhalotra, Mike Godwin, Holger Grundel, Susan Johnson and David Musona (1998) *Impacts assessment of the PULSE microfinance programme in Lusaka, Zambia*. Commissioned by DFID, UK. Unpublished paper: Centre for Development Studies, University of Bath: Bath
- Diagne, Aliou (1998) "Dynamic incentives, peer pressure, and equilibrium outcomes in group-based lending programs". Paper presented at the American Economic Association, Chicago, USA
- Ghatak, Maitreesh (1999) "Group lending, local information and peer selection". *Journal of Development Economics*, vol. 60, no.1, pp 27-50. Elsevier: Amsterdam- Lausanne-New York-Oxford-Shannon-Tokyo
- Ghatak, Maitreesh (2000) "Screening by the company you keep: Joint-liability lending and the peer selection effect". *The Economic Journal*, 110 (July), pp 601-631. Blackwell Publishers: Oxford-UK and Malden-USA
- Goetz, AM and R Sengupta (1996) "Who takes the credit? Gender, power and control over loan use in rural credit programmes in Bangladesh" in *World Development*, vol 24, no.1: 45-63. Pergamon
- Hulme, David and Paul Mosley (1996), editors. *Finance against Poverty*, Routledge: London
- Khandker, Shahidur (1998) *Fighting Poverty with Microcredit: Experience in Bangladesh*. Oxford University Press: Oxford, UK
- Marr, Ana (forthcoming 2002) "Studying Group Dynamics: An Alternative Analytical Framework for the Study of Microfinance Impacts on Poverty Reduction" in *Journal of International Development*, Wiley: Chichester, New York, Weinheim, Brisbane, Singapore, Toronto
- Montgomery, Richard (1996) "Disciplining or protecting the poor? Avoiding the social costs of peer pressure in micro-credit schemes" in *Journal of International Development*, vol.8, no.2, pp 289-305. Wiley: Chichester-New York-Brisbane- Toronto-Singapore
- Myers, David G (2001) *Social Psychology*, 7th edition. New York: McGraw-Hill
- Painter, Judith and Barbara Mknelly (1999) *Village Banking Dynamics Study: Evidence from seven programmes*. SEEP Poverty Lending Working Group. USA
- SBS (2000), Superintendencia de Banca y Seguros del Peru. Annual Report of the Peruvian Banking Superintendency
- Stiglitz, Joseph (1990) "Peer monitoring and credit markets". *The World Bank Economic Review*, vol.4, no.3, pp 351-66, Washington DC, USA
- Tuckman, B W and Jensen, M A C (1977) "Stages of small group development revisited". In *Group and Organizational Studies*, 2, 419-27
- Varian, H (1990) "Monitoring agents with other agents" In *Journal of Institutional and Theoretical Economics* 146.
- Wydick, W Bruce (1999) "Can social cohesion be harnessed to repair market failures? Evidence from group lending in Guatemala" In *Economic Journal*, 109: 457, pp 463-75. Blackwell Publishers
- Zeller, Manfred, Gertrud Schrieder, Joachim von Braun and Franz Heidhues (1997) "Rural finance for food security for the poor: Implications for research and policy" In *Food Policy Review* 4. International Food Policy Research Institute: Washington DC