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ALGEBRA OF MICROFINANCE: POLICY PERSPECTIVES

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ABSTRACT

Rural credit markets have been at the center of the policy intervention in developing countries over the past sixty years. Many governments supplying cheap credit to farmers and poor people, but these interventions failed, because policy makers have inadequate understanding of the working of rural credit markets. Microfinance institutions working on group based and joint liability. Through group, they solved the problem of monitoring, screening and enforcement. But, still, there are some obstacles present in rural credit market, which do slow the process of reaching the finance to the extremely poor person.

KEYWORDS: *Credit, Joint Liability, Moral Hazard, Market Imperfections.*

INTRODUCTION

Rural credit markets have been at center of policy intervention in developing countries over the past sixty years. Many governments, supported by multilateral and bilateral aid agency, have devoted considerable resource to supplying cheap credit to farmers in a myriad of institutional settings. The result of many of these interventions have been disappointing, and one explanation for this must be that they were based on an inadequate understanding of the workings of the rural credit markets (Hoff and Stiglitz, 1990).

NEED FOR MICROFINANCE

From the viewpoint of basic economics, the need for microfinance is somewhat surprising. The introductory lesson of economics is the principle of diminishing marginal returns to capital. The basic idea of this theorem is that enterprises with relatively little capital should be able to earn higher returns on their investments. Poorer enterprises should thus be able to pay banks higher interest rates than richer enterprises. Money should flow from rich depositors to poor entrepreneurs. But this is not right whether rural credit market is imperfectly competitive and getting information about borrower's characteristic and their project in not casteless. This leads to high risks in rural credit markets and this type of high risks

prevent investors. So there was a need to develop new type of institutions who can address the rural credit markets rigidities. Credit market imperfections lead to many problems. First problem is adverse selection. It occurs when banks cannot easily determine which customers are likely to be more risky than others. Banks would like to charge riskier customers more than safer customer in order to compensate for the added probability of default. But bank does not know who is risky and who is safe. So average interest rates become so high that drives safer customer out of the credit market. The second problem is moral hazard, arises because banks are unable to get correct information that customer are making full utilization of resources. Moral hazard also arises when customer project outcome is realized and banks have not any information about their outcomes. Both problems are made worse by the difficulty of enforcing contracts in regions with weak judicial system (Armendariz and Morduch, 2005).

These problems could potentially be eliminated if banks had cheap way to gather and evaluate information on their clients and enforce contracts. But banks have not any unique solution. In this context, the starting point for microfinance is that new way of delivering loans are needed precisely because borrowers are too poor to have much in the way of marketable assets. In this sense, for generations poverty has reproduced poverty and microfinance is seen as a way to break the vicious circle by reducing transactions costs and overcoming information problems. Group formation is the core of microfinance. By group, microfinance institutions try to address to these basic problems.

WHY GROUP LENDING?

Poor individuals lack formal credit because lenders have little means of screening clients, monitoring the use of funds, or enforcing repayment. In recent years, many development organizations have used group lending to deliver credit to poor individuals. Group lending aims to pass off the screening, monitoring and enforcement of loans to the peers (Banerjee et al. 1994, Diamond, 1984; Ghatak and Guinnane, 1999; Stiglitz, 1990; Varian, 1990, Karlan, 2007). Furthermore, group loans help formal lenders overcomes the prohibitively high fixed cost of delivering small loans.

Group lending mechanisms provide incentives to the borrowers to monitor each other to see who can pay and who cannot. Armendariz de Aghion and Gollier (2000) and Armendariz de Aghion (1999) shows theoretically how peer monitoring alone, with random formation of groups, can help overcome adverse selection problems when monitoring is costly for lending institution itself. Strong social networks have lower monitoring cost, which results in more credit being extended. To enforce lending contracts, lending institutions typically resort to legal options, such as seizing property of the borrower or garnishing wages directly from the employer. In most poor countries, such punishments fail for one of the two reasons, either the legal infrastructure does not support such action, or the borrower has no sizeable assets or wages. De Soto (2000) and Besley and Coate (1995) discuss these issues at length. Group lending purports to overcome these failures by using people's desire to protect their social connections (and social capital) and avoid any possible repercussions. Such repercussions could be economic and result in reduced trading partners for one's business, and social and lead to loss of

friends, or psychological and damage one's self-esteem.

Most recently, La Ferrara (2003) studies kin groups in Ghana and finds that punishment in exacted not only on those who default, but also on the kin of those who default, and that the threat of such punishment induces compliance in the short run. These studies demonstrate that the relationship between social connections and group lending outcomes is complicated and worthy of further study. Dean S. Karlan (2007) find that both cultural similarity and geographic concentration lead to improved group lending outcomes (specially, higher repayment rates savings rates, and returns on savings). There is also suggestive evidence that social connections help groups distinguish between true negative shocks and mere reneging, and that those who have negative shocks are forgiven and thus allowed to continue borrowing.

THE ECONOMICS OF JOINT LIABILITY GROUP LENDING

Generally speaking, microfinance programmes provide credit to the poor, either through joint liability group lending or through individual-based lending. While the latter comes close to traditional banking, involving a direct relationship between the programme and an individual, the joint liability lending approach uses groups of borrowers to which loan are made. Currently, the majority of microfinance borrowers have access to loans through group lending programmes (Lapenu and Zeller, 2001).

With joint liability lending the group of borrowers is made responsible for the repayment of the loan, i.e. all group members are jointly liable. Thus, if one group member does not repay her loan, others may have to contribute so as to ensure repayment. Non-repayment by the group means that all group members will be denied future access to loans from the programme. In this way, group lending creates incentives for individual group members to screen and monitor other members of the group and to enforce repayment in order to reduce the risk of having to contribute to the repayment of loans of others and to ensure access to future loans. Thus, joint liability group lending stimulates screening, monitoring and enforcement of contracts among borrowers, reducing or erasing the agency costs of the lender. Moreover, the group lending structure is also expected to be more effective in providing such activities as compared to the lender, because group members usually live close to each other and/ or have social ties (also referred to as social capital in the existing literature). They are therefore better informed about each other's ctivities. Since joint liability group lending stimulates screening, monitoring and enforcement within the group, and since it improves the effectiveness of these activities due to geographical proximity and close social ties, repayment performance of group loans is expected to be high (Hermes and Lensink, 2007).

Several theoretical models confirms that joint liability group lending leads to more and more effective screening, monitoring and enforcement among group members. Some of these models explicitly focus on the properties of joint liability lending related to mitigating information asymmetries. For example, Stiglitz(1990) and Banerjee et al.(1994), Armendariz de Aghion (1999) models solve the problems of moral hazard and monetoring , while Ghatak (1999,2000) and Gangopadhyay et al. (2005) model deals with adverse selection and screening.

Morduch(1999) argues group lending has many advantages, beginning with mitigation of problems created by adverse selection. The key is that group lending schemes provides incentives for similar types to group together. This type of activities can be instrumented in improving repayment rates, allowing for lower interest rates, and raising social welfare. His insight is that a group lending contract provides a way to price discriminate that is impossible with individual- lending contract. Morduch argues in a case in which two borrowers, one is safe and other is risky. In this case risky types restore the implicit cross-subsidization by safe types, if safe borrower net returns exceed to their wage income. If net returns are less than their money wage, safe type borrower will left the market. So Morduch raise the question, can a group-lending scheme improve on this outcome? If it does, it must bring the safe types back in to the market.

Will the groups be homogeneous or mixed? Since safe types are always preferred as partners (since their probability of failure is lower), the questions becomes: will the risky types be willing to make a large enough transfer to the safe such that both risky and safe types do better together? Will risky types be willing to pay that much? Their expected net gain from joining with safe types is much more. But since probability of success of safe types is greater than probability of success of risky types, the expected gains to risky types are always smaller than the expected losses to safe types. Thus, there is no mutually beneficial way for risky and safe types to group together. Group lending thus leads to assortative matching: all types group with like types.

Sharma and Zeller (1997) finding about group lending programme in Bangladesh show that screening, monitoring and enforcement among relative does not take place or at least less effectives, because relative may more easily collude against lenders institutions and delay repayments. They also find that if borrowers are more credit rationed this increases repayments performance. In other way, this leads to conclusion that group members have more incentives to screen, monitor and enforce if they have no alternative credit source. Lastly they find that groups that were formed using a self-selection (screening) process show a better repayment performance.

Montgomery (1996) argues that BRAC's implementation of group lending can lead to force of borrowers discipline which are unnecessary exclusionary, and which can contradict the broader (social) aims of solidarity group lending. Montgomery's main concern is that group lending can create peer pressure that works against the poorest and vulnerable member of the community. In attempting to keep repayment rates up, Montgomery contends, loan officers put sharp pressure on borrowers to repay, even when the borrowers faced difficulties beyond their control.

THE MODEL

Rural credit market is uncompetitive in its nature, because there are many obstacles present in the market. Generally lenders do not know about the borrowers and this lead to high average interest rates. High interest rate drives out safe borrowers from the credit market. In principle group lending with joint liability can mitigate this problem. The most direct mechanism occurs when customers inform the bank about the reliability of potential joiners, allowing the bank to adjust terms accordingly.

Consider a microfinance institution or bank committed to covering its cost, so that it just breaks even. Assume that the bank introduces the group lending methodology and has no idea about borrower's characteristics. Borrowers, on the other hand, know each other's types. For a simple group lending contract, we make following assumptions-

1. Borrowers know each others well.
2. Suppose that the bank requests that borrowers form two-person groups and that each individual in the pair holds herself responsible for her peer.
3. Each individual has a one-period project requiring Rs. 100 of investment.
4. Individuals try to maximize their expected income without concern risk.
5. The fraction of the population that is safe is $q<1$ and risky is $(1-q)$.
6. A safe borrower obtains a gross return $\underline{y}$ with certainty. Risky borrower obtains a gross return $y>\underline{y}$ if successful, and this occurs with probability $p<1$. If not successful, they earn zero, which happens with probability $(1-p)$.
7. Again for simplicity, we assume that both types have identical expected returns, so that $py = \underline{y}$.

How the group lending does happen? Since borrowers know each other, safe borrowers pair with other safe types and risky borrowers' pair with other risky types. Then the question is emerged, what is the gross interest rate λ (principle plus interest) that the bank should charge in order to break even? Assume that $y> 2\lambda$ so that, who lucky, a risky borrower' can always repay for her peer. Then break even interest rate at Ib can be easily compute. With probability q the bank faces a (safe, safe) pair of borrowers and therefore gets repaid for sure. With probability (1-q), the bank faces a (risky, risky) pair, in which case it is always repaid unless both borrowers in that pair have a bad draw. We denote the probability that bank is repaid in this case as μ. Since the chance that both are simultaneously unlucky is (1-p) (1-p), the chance that one or both lucky is $\mu = 1-(1-p)^2$. Thus expected repayment from a given borrower is-

$$[q+ (1-q)\, \mu]\, \lambda \qquad (1)$$

This expected payment must be equal to the bank's cost of fund c in order for the bank to break even in expectation. Solving for λ gives-

$$\lambda = c/ [q+ (1-q)\, \mu] \qquad (2)$$

This is smaller than the interest rate in the absence of group lending. Smaller interest rate leads to group lending. The risk is thus passed on from the bank to risky borrowers. The bank can thus reduce the interest rate and lure deserving safe types back in to the market. The bank thus effectively price discriminates without needing to know who is safe and who is risky. (Beatriz Armendariz and Morduch, 2005).

POLICY PERSPECTIVE

The paradigm of imperfect information and costly enforcement stands in contrast to the traditional debate on monopoly versus perfect markets. On the one hand, it argues that rural credit markets do not behave like classical competitive markets are supposed to, so that there is not

presumption that they are efficient. On the other hand, both theory and evidence suggest that high interest rates are not necessarily, or even primarily, a reflection of the monopoly power of moneylenders. Rather, rural credit markets behave the way they do because of the problems of the screening, incentives, and enforcement (Hoff and Stiglitz, 1990). Government institutions could not solved to these types of problems. In fact, they may be in a worse position in terms of informational asymmetry, monitoring and enforcement. Then the question: Is there any role for public policy? Greenwald and Stiglitz (1986) have shown that markets with imperfect information give rise to externality-like effects, for which government intervention may be most successful. In the context of credit markets, one externality is the reduction in the information costs brought about by development in other markets. One example is government expenditure on rural infrastructure that reduces farmers' risks will likely reduce the importance of information asymmetries, improve the level of competition, and therefore reduce the distortions in rural credit markets.

In rural credit markets, individual form a small group which is jointly liable for the debts of each member. The group thus has incentives to undertake the burden of selection, monitoring and enforcement that would otherwise fall on the lender. There is, however, an externality in this institutional innovation. An individual who bears the initial cost of organizing such an institution is providing a form of social capital from which all members of the group will be benefit. When this type of externality arises there will an undersupply of socially benefit services, and there is therefore a role for the government to help organize and act as a catalyst in the formation of such institutions.

But the story is not end, in developing and underdeveloped countries, where try to address the credit market imperfections through group lending, many other obstacle emerges in the same time. In recent time, a variety of microfinance institutions enter in to the rural credit market and working as a profit making agency. Their profit argument comes from sustainability of the institutions and it may be right. But the question is: How they intensively reached the extremely poor person or remote areas and what procedure they used to their loan repayment? How their high interest rate is logical? Evidences show that they use unnecessary pressure on borrowers for their loan repayments.

In this scenario, government can play the role of motivator and issued the norms so that microfinance industry runs transparently and efficiently way. Interest rates and impact of microfinance on clients are being issues of debate. High interest rate leads to high operating costs and reduce the profit of microenterprises. Another issue is related to role of microfinance programme in poverty reduction. Evidences show that impacts of microfinance on poor clients are not very great. Root of this cause is financial services which are provided by MFIs. They provide only credit service and not any training so that borrowers efficiently run their enterprises. So, there is need to attention of governmental agency to address of these obstacles and insure the accessibility of credit for every poor people. If this is happen, the problem of financial inclusion will be solved.

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