

## MICROFINANCE MECHANISM: A LITERATURE REVIEW

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### **ABSTRACT**

*This paper provides a brief survey of literature on theoretical insights of microfinance mechanism and empirical findings on microfinance. This paper finds that the theoretical mechanism provides interesting results for mechanism design while the empirical evidence of the impact of microfinance is mixed.*

**KEYWORDS:** *Microfinance, Rural Credit, Finance*

**JEL Classification Codes:** *G20, G21, G28*

### **INTRODUCTION**

Robinson (2001) defines microfinance as the provision of small-scale financial services- primarily credit and savings- to people having low or no income. Ledgerwood (1999) also defines microfinance in a similar manner. According to him, microfinance refers “to the provision of financial services to low-income clients, including the self-employed. These financial services generally include savings and credit; however, some microfinance organizations also provide insurance and payment services”. Thus, microfinance involves the provision of financial services such as savings, loans, and insurance to poor people living in both urban and rural areas who are unable to obtain such services from the formal financial sector. Microfinance operates on the principle that a group of individuals is more bankable than a single individual, and hence many microfinance programs deal with a group of borrowers/ savers, formed on a voluntary basis, rather than dealing with individuals. These groups are known as solidarity groups. Microcredit or provision of small and tiny loans to solidarity groups forms a substantial part of microfinance programs in developing countries. Microcredit is often uncollateralized, as the poor are without many tangible assets to pledge as collateral.

Microfinance today is a revolutionary movement that has spread globally, claiming over 200 million clients by the end of 2011, 124 millions of whom were among the poorest when they took their first loan (State of the Micro Credit Summit Campaign Report 2015). These microfinance institutions saw its dawn through the microcredit institutions first initiated by Nobel Laureate Professor Muhammad Yunus from Bangladesh. In the 1970’s Prof. Yunus, started making small loans to the local villagers, despite of the already tried and failed methods of the state run banks. Prof. Yunus believed that his poor clients would pay back the loans reliably if guided adequately. His work was thus recognized as ‘visionary’ in this movement. This, later on, led to’ the birth of the Grameen Bank in 1983. Grameen Bank makes small loans (microcredit) to the impoverished without requiring collateral. and the initial success of it in alleviating poverty brought the concept of microfinance into the global limelight. The main innovation’ of Grameen Bank is the concept of “Group Lending”.

The innovative ideas of Grameen Bank changed the whole paradigm of lending to the poor, by making use of "group lending", in the absence of collateral requirement. Grameen Bank model and its various modified versions have been replicated all over the world as a means to provide access to financial services to the poor and marginalized people. Apart from the Grameen Bank, the other successful microfinance institutions (MFIs) which offer alternative microfinance models are: Banco Sol of Bolivia, the Bank Rakyat Indonesia (BRI), the Bank Kredit Desa (BKD) of Indonesia, the Village banks started by the Foundation for International Community Assistance (FINCA) in many parts of the world and Self-Help Groups (SHGs) in India.

This paper first discusses some essential features of microfinance, explaining theoretical arguments behind the innovative mechanisms of microfinance. Then the paper provides a review of the empirical literature on microfinance focusing only on three important issued developmental impacts of MFIs, issues of sustainability and the impact of MFIs on the informal financial sector.

## **ESSENTIAL FEATURES OF MICROFINANCE MECHANISM**

The most essential features of microfinance mechanism are group lending, dynamic incentives, regular repayment schedules and targeting women. In the following subsection, we discuss each one of these features.

### **Group Lending**

Group lending refers to "arrangements by individuals without collateral who get together and form groups with the aim of obtaining loans from a lender" (Armendariz de Aghion and Morduch, 2005). There are three main types of group lending: Grameen type, BancoSol type, and SHG type. Under the Grameen type, two members of a group of five are first offered a loan, then to the next two, and then to the fifth.

In the BancoSol type of group lending, loans are made to all group members (in a group of three to seven members) simultaneously, while in "Self-Help Group" (SHG) type group lending mechanism, a commercial bank is linked to an SHG of 10-20 members (usually women) and the bank extends uncollateralized loans to the group as a whole and not to its individual members, leaving it for the SHG to decide how best to use the loan. In all these three types of group lending, all members take joint responsibility for repayment of the loan and if one member ever defaults, all in the group are denied subsequent loans. Thus, fellow group members act as guarantors and monitors; and their motivation is fueled by the promise of future access to credit if all group members repay the loans.

Thus, in group lending, the group as a whole is jointly liable for repayment. The notion of joint liability is built on the assumption that group members have private information about one another (as groups are voluntarily formed by members of the same community) which is not available to the lender. The lender attempts to use this 'social capital' shared by the group members in lieu of collateral.

When lenders cannot distinguish inherently risky borrowers from the safer borrowers, the problem of adverse selection occurs. The adverse selection may lead to credit rationing because it induces lenders to charge everyone high-interest

rates to compensate for the possibility of having very risky borrowers in the portfolio of borrowers. This may drive the safe borrowers out of the credit market, leading to credit rationing. Group lending with joint liability can mitigate this inefficiency. Group lending can also mitigate the problem of moral hazard faced by lenders while lending to individuals. This happens through the following channels.

### **Assortative Matching**

Both Morduch (1999) and Ghatak (1999) showed that group lending schemes provide incentives for the formation of groups having similar risk profiles, i.e. safe borrowers will form a group with other safe borrowers and the risky borrowers will be left with no alternative but to form groups with other risky borrowers. This is called assortative matching which can be obtained as an equilibrium solution in a peer selection game facing a group lending contract (Morduch, 1999; Ghatak, 1999). Ghatak (1999) shows how this sorting process can be instrumental in allowing for a lower interest rate in group lending compared to individual lending, thus improving repayments, and raising social welfare. His insight is that a group-lending contract provides a way to price discriminate that is impossible with an individual-lending contracts. Thus, the risk is passed on from the bank to the risky borrowers. The bank can reduce the interest rate and bring safe borrowers back into the market, thus reducing the extent of credit rationing (Armendariz de Aghion and Morduch, 2005).

### **Mitigating Moral Hazard**

Moral Hazard in lending, according to Aghion and Morduch (2005), refers to situations where lenders cannot serve either the effort made, or action taken by the borrower, or the realization of project returns. The authors assume that borrowers have no collateral therefore they are protected by limited liability. Moral hazard problem is of two types: ex-ante moral hazard and ex-post moral hazard. Ex-ante moral hazard relates to the idea that unobservable actions or efforts are taken by the borrowers after the loan has been disbursed but before the realization of project returns. Ex-post moral hazard refers to difficulties that emerge after the loan is made and the borrower has invested; e.g., the borrower may decide to take the money and run once project returns are realized. Group lending with joint responsibility induces peer monitoring: each borrower will monitor her peer as she is jointly liable for repayment of the loan. "Thus, joint liability makes lending sustainable for the lender by inducing peer monitoring and overcoming enforcement problems associated with ex-post moral hazard.

### **Dynamic Incentives**

A dynamic incentive, also called "progressive lending" is another important feature of microfinance. According to Armendariz de Aghion and Morduch (2005), "progressive lending" is the practice of promising larger and larger loans for groups and individuals in good standing." Progressive lending schemes increase the opportunity cost of non-repayment and thereby discourage strategic default. Also, the incentives of working hard strengthen if the customers know the inherent risk of losing a good relationship if defaults.

### **Regular Repayment Schedules**

MFI's involve weekly, biweekly or monthly repayment schedules depending on the loan size allowing customers to repay loans in manageable bits. Since most of the MFI's lend to the poorer households who tend to take smaller loans, the repayment installments are usually weekly. Weekly repayment creates an early warning system about emerging problems (Aghion and Morduch, 2005). Regular repayment schedules screen out undisciplined borrowers. However, weekly repayments necessitate that the household has an additional income source on which to rely. Thus, insisting on weekly repayments means that the bank is effectively lending partly against the household's steady, diversified income stream, not just the risky project. An additional means used by microlenders to secure repayments is a system of making repayment public. The public repayments heighten the ability to generate social stigma as an inducement for the individual borrowers to repay loans and also reduce opportunities for fraud.

### **Targeting Women**

Another innovation of microfinance is the targeting of women and creating opportunities for poor women. Armendariz de Aghion and Morduch (2005) illustrate the various potential advantages of serving women from microlender's viewpoint. The first advantage is purely financial: Women are often more conservative in their investment strategies and are often more easily swayed by peer pressure and the interventions of loan officers- making women more reliable bets for banks worried about repayment. The next two advantages pertain to institutions pursuing social objectives-namely, aiming resources to women may deliver stronger development impacts as women tend to be more concerned about household welfare needs such as children's health and education than men. Also, women are overrepresented among the poorest of the poor and are too often oppressed by prevailing social norms. Microfinance is thus seen as a road to "gender empowerment."

## **REVIEW OF THE EMPIRICAL LITERATURE**

While the empirical literature on microfinance is vast: in the short review, we focus only on three issues: Development Impacts of microfinance, Issues of Sustainability and MFI's and Informal Financial Sector

### **Developmental Impacts of Microfinance**

According to UNCDF (United Nations Capital Development Fund) (2004), microfinance plays three key developmental roles. It helps very poor households meet basic needs and protects against risks; it is associated with improvements in household economic welfare, and it helps to empower women by supporting women's economic participation and so promotes gender equity. Microfinance has become a poverty reduction tool in many developing countries, along with that of financial inclusion of the poor. According to Littlefield et al. (2003), Microfinance allows poor people to protect, diversify, and increase their sources of income, the essential path out of poverty and hunger. Shaw (2004) found in her study of South-eastern

Sri Lanka, that semi-urban microfinance clients are negatively impacted by poverty. Such an impact can be counteracted with supplemental funding combined with non-financial interventions which are capable of influencing low-income microfinance clients to select higher value goods and services. At the macro level, the results of Imai et al. (2012) confirmed that microfinance loans per capita are significantly and negatively associated with poverty, taking into account the endogeneity associated with loans per capita from MFIs. A country with higher MFI gross loan portfolio per capita tends to have lower poverty after controlling for the effects of other factors influencing it. Therefore, when MFIs understand the needs of the poor and try to meet these needs, microfinance projects can have a positive impact on reducing the vulnerability, not just of the poor, but also of the poorest in the society. However, based on randomized evaluations of microfinance in Hyderabad, India, Banerjee et al. (2015) found that microfinance has little or no impact on poverty. Despite some commentators skepticism of the impacts of microfinance on poverty, studies have shown that microfinance has been successful in many situations.

Another key objective of Microfinance interventions is to empower women. Women are considered less mobile, more risk-averse than men and more conservative in their choice of investment projects thereby creating a reputation of reliability. This is confirmed by D'espallier et al. (2011) who state that "a higher percentage of female clients in MFIs are associated with lower portfolio risk, fewer write-offs, and fewer provisions, all else being equal". Serving women seems to accord well with both maintaining high repayments rates and meeting social goals. Miller and Rodgers (2009) in their study of Cambodia, also make this point by arguing that anything that improves the economic well-being of the women will affect household bargaining power. With greater power, women bargain for a greater share of the household resources to be allocated toward expenditures that improve the health and well-being of children. In addition to the economic power of the women, the presence of a microfinance project like delivering health education is likely to impact the community as a whole. The presence of microfinance institutions in communities significantly improves the health of children (Deloach and Lamanna, 2011).

Rai and Ravi, (2011) found 'similar result in their study of microfinance borrowers in India. The borrowers were required to purchase health insurance once they get a loan. According to them, women who are borrowers make significantly more use of health insurance than non-borrowing women who have obtained insurance through their husbands. Thus, access to microfinance may empower women.

Littlefield et al. (2003) state that accesses to MFIs can empower women to become more confident, more assertive, more likely to take part in family and community decisions and better prepared to confront gender inequities, However, they also opine that just because women are clients of MFIs does not mean they will automatically become empowered. Adams and Mayoux (2001) argue that credit alone is not enough to bring meaningful change to women; empowerment "also depends on how far the microfinance programs are able to build on group organization to enable people to organize on other issues". On the other hand, some found that women are subject to discrimination by lenders. Agier and Szafarz (2012), who exploited data provided by a Brazilian MFI encompassing over 34,000 loan applicants, found a "glass ceiling" effect i.e., women face harsher credit conditions than men when it comes to loan size, though access to credit is gender-blind.

According to Morduch (1999), MFIs creates self-employment which affects households in many ways. There is an income effect, pushing up consumption levels and, holding all else the same, increasing the demand for children, children's

education, and leisure. But with increased female employment, having more children becomes costlier, pushing fertility rates downward. The need to have children help at home (to compensate for extra work taken on by parents) could decrease schooling levels, and, most obviously, leisure may fall if opportunity costs are sufficiently increased. Also, the participation in programs of MFIs which advocate family planning and stress the importance of education may bring shifts in attitudes. Thus, while consumption and income levels ought to increase, the effect on fertility, children's education, and leisure is not clear (Morduch, 1999). Same is argued by Maldonado and Gonzalez Vega (2008), who states that the demand for education relies on parent's motivation, income constraints, and competing demands for children's time.

Littlefield et al. (2003) argue that one of the first things that poor people do with new income from microenterprise activities is to invest in their children's education. Studies show that children of microfinance clients are more likely to go to school and stay longer in school than for children of non-clients. Among the examples they give is of FOCCAS (Foundation for Credit and Community Assistance), a Ugandan MFI whose client households were found to be investing more in education than non-client households.

### **Issues of Sustainability**

As mentioned before, one of the key roles microfinance has to play in development is in bringing access to financial services to the poor, to those who are neglected by the formal banking system. 'This is the social mission of MFIs. The key challenges facing MFIs that are affecting their social mission are seen to be an over-emphasis on financial sustainability over social objectives, and the failure of many MFIs to work with the poorest in the society.

Therefore, the common criticism of the current operational procedures of MFIs, for instance, peer group self-selection and the drive for self-sustainability, is that they end up working with the moderately poor and marginalizing the poorest of the poor. Hermes and Lensink (2011) illustrate the financial systems approach and the poverty lending approach (social objective) of the MFIs. The financial systems approach stresses the importance of being able to cover the cost of lending money out of the income generated from the outstanding loan portfolio and to reduce operational costs as much as possible. The poverty lending approach concentrates on using credit to help overcome poverty, primarily by providing credit with subsidized interest rates. Aiming at financial sustainability goes against the goal of serving large groups of poor borrowers as poor cannot afford higher interest rates. Thus, there is a trade-off between sustainability and outreach (Hermes and Lensink, 2011).

The claim that "reaching the poor with microcredit will establish a sustainable economic and social development" is criticized by Bateman and Chang (2012). They argue that while the microfinance model may well generate some positive short-run outcomes for a lucky few of the 'entrepreneurial poor', the longer run aggregate development outcome very much remains unclear. According to Morduch (2004), there is a greater need for the MFIs to carefully design services that meet the needs of the poor and this can only be done when MFIs understand their needs and the context within which the poor are working. Sustainable MFIs can become a permanent feature of the financial landscape, growing rapidly to reach significant scale without reliance on donor funding (Littlefield et al., 2003).

## MFIs and Informal Financial Sector

There is a widespread evidence that MFI clients borrow from other informal sources as part of their financial management strategy. They borrow from informal sources for various reasons such as to maintain high repayment rates with MFIs and to become eligible for larger loans in the future; unavailability of seasonal working capital from MFIs etc.

According to Jain and Mansuri (2003), a microfinance program may have a “crowding-in” effect on informal lenders. This “crowding-in” effect might be strong enough to raise the interest rates in the informal sector under certain circumstances such as tight repayment schedule of microfinance which induces borrowers to borrow from moneylenders to repay MFIs loans. As the borrowers of MFIs increases, the demand for funds from moneylenders may increase because of already mentioned reasons. Increased demand for the fund will increase moneylender’s interest rate. A similar argument is analyzed by Mallick (2012). He addresses the linkage between the MFIs and moneylenders’ interest rate in northern Bangladesh. He found that moneylender interest rates increase with MFI program coverage. Higher MFI program coverage increases the moneylender interest rate in the villages in which loans are invested in productive economic activities than consumption.

On the other hand, MFIs are often compared with the moneylenders for charging high-interest rates on loans they provide. The criticism for charging high-interest rates is partly due to MFIs which transformed into private commercial corporations (Rosenberg et al. 2009). By looking at the data, Rosenberg et al. (2009) found that operating costs are much higher for tiny small loans of MFIs than for normal (formal) bank loans, so sustainable interest rates for small loans have to be significantly higher than normal (formal) bank loans.

## CONCLUSIONS

In this brief survey of the literature, we have discussed some theoretical insights of microfinance mechanism and some empirical findings on microfinance. While the theoretical mechanism provides interesting results for mechanism design, the empirical evidence of the impact of microfinance is mixed.

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