Microcredit: from hope to scepticism to modest hope

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After its introduction in the late 1980s and its fast expansion thereafter modern microfinance, and specifically microcredit, raised the hope that it could combine access to (semi-) formal credit for the poor with financial sustainability of the new microfinance institutions, and that it would contribute to increased micro-entrepreneurial activity, consumer welfare, and the empowerment of women. More recently scepticism about the operation of microfinance institutions and their impact has arisen. Based on the literature, we discuss the possibility of combining outreach to the poor with financial sustainability, microfinance crises, and the findings of recent impact studies. Our conclusion is that microfinance is not a panacea for development, but that it is a tool poor households can use in their fight for survival.

Keywords: microcredit, outreach, financial sustainability, microcredit crisis, impact

MODERN MICROFINANCE, AND MORE SPECIFICALLY microcredit, was one of the most remarkable innovations in development practice of the end of the 20th century. Before 1980 in most low-income countries, banks and other formal financial institutions were hardly present in rural areas and they were not interested in providing small loans to poor people or accepting their small savings. Small loans and savings are administratively cumbersome and thus costly; moreover the recovery of small loans was deemed problematic due to the lack of collateral. In many countries public authorities had tried to remedy the problem by providing subsidized credit targeted at poor households. But a fairly common view was that this policy had failed as locally powerful persons had appropriated the subsidized credit and quite frequently were refusing to repay their loans without being sanctioned. Frequently repayment rates were as low as 40 per cent or even less (see references in Armendáriz de Aghion and Morduch, 2005). In the absence of access to credit from formal financial institutions and of personal savings, poor people who needed credit to cope with negative income shocks or to run small businesses had to request loans from relatives and friends or from local moneylenders. Loans from relatives and friends are commonly small; those from local moneylenders are costly with monthly interest rates of up to 10 per cent or even more.

Modern microcredit had its origins in the 1980s when in different parts of the world new initiatives were taken to provide small loans to people without access

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to formal credit institutions. The best known of these was the Grameen Bank in Bangladesh which after some preceding experimentation by its founder, Muhammad Yunus, was formally set up as a bank in 1983 by a government ordinance. Elsewhere in the world other microfinance initiatives were developed. In India the Mysore Resettlement and Development Agency (MYRADA) started in 1987 with the promotion of Credit Management Groups, precursors of the Self Help Groups, a typically Indian vehicle for microcredit (Harper, 2002).

Since those first initiatives, microfinance institutions (MFIs) have proliferated all over the world. Many microcredit initiatives were set up by NGOs as part of their development activities. In time a number of these NGOs created separate entities for their financial operations in the form of banks or, more commonly, non-bank financial institutions. A number of these new institutions expanded their lending quite rapidly. Frequently the change in legal status combined with the rise in lending was linked with a gradual shift in objectives, from the pursuit of social goals to that of profit. Some observers deplored this shift (see e.g. for India, Fisher and Sriram, 2002).

Meanwhile microfinance became a hype. The first Microfinance Summit in 1997 set an objective of reaching 100 million households by 2005. At the 2006 Summit this objective was raised to reaching 175 million households and getting 100 million households out of poverty by 2015 (see www.microcreditsummit.org). How can the microcredit hype be explained? The core explanation was the hope for a win–win situation. On the one hand modern microcredit aimed at providing financial access ('inclusion') for poor people who previously had been excluded from formal credit. In this way poor borrowers would be able to start up or expand microfirms and this would contribute to an increase in their households' income and consumption. On the other hand microcredit would be provided by financially sustainable institutions; that is, institutions that would be able to cover at least their operational costs, but ultimately their full costs. Financial sustainability of the microcredit providers required the introduction of innovations including, among others, joint liability groups, strict repayment schedules, MFI agents visiting the debtors in their villages, and the promise of new and eventually higher loans if debts were served.

In addition it was hoped that microfinance would contribute to economic growth and poverty alleviation. For donors of development assistance these were very attractive propositions as microfinance offered a channel to promote development combined with the creation of sustainable financial institutions that would make assistance superfluous.

But gradually doubts have arisen on whether microfinance was the panacea for development it had been heralded to be. Some doubts were raised early on, for example by Hulme and Mosley (1996) and Morduch (1999). Symptomatic of more recent criticism are book titles such as *What's Wrong with Microfinance?* (edited by Dichter and Harper, 2007) and *Why Doesn't Microfinance Work? The Destructive Rise of Local Neoliberalism* (Bateman, 2010).

Scepticism has gone in different directions. We discuss three of them here. First there were doubts on whether outreach to the poor could really be combined with financial sustainability of MFIs. The suspicion was that financial sustainability was possible only if subsidies were provided on a continuous basis or if not-so-poor borrowers were accepted as clients. In this view, instead of a win–win situation there was a trade-off between outreach to the poor and financial sustainability. A second line of doubt is linked to the occurrence of microcredit crises. Most prominent was the 2010 crisis in Andhra Pradesh, the heartland of Indian microfinance, which resulted from borrowers' complaints about the coercive loan recovery practices of MFI agents and group peers, of over-indebtedness of many borrowers, and of the allegedly high cost of microcredit. A third line of doubt concerns the impact of microcredit. Recent impact studies have raised doubts on the effects of microcredit on the welfare of the borrowers, on microenterprise activity, and on the empowerment of women, and hence on the capacity of microcredit to lift poor borrowers out of poverty.

In the following three sections we discuss each of these three topics. Our discussion is based on a selective review of the literature; we do not pretend to be exhaustive (which would be impossible in the framework of a short paper). Rather we select studies in order to provide a broad picture of the results achieved and the problems met by modern microfinance. Our discussion leads to the conclusion, formulated in the final section, that microfinance is not the hoped-for panacea for development and that its growth may present dangers both for its clients and for the sector as a whole, but that nevertheless it can be a useful tool the world's poor can use in their fight for survival.

Outreach and financial sustainability

The major attraction of modern microfinance was the prospect that poor people would be offered access to loans (and savings products) provided by formal or semi-formal financially sustainable institutions. Financial sustainability can be defined in terms of current operations: a financial institution is operationally sustainable if its revenues are sufficient to cover its operating costs plus the costs of default. An institution that is not operationally sustainable will need a never-ending stream of grants or soft loans in order to survive. Full financial sustainability covers operational sustainability plus independence from grants or subsidized credit as sources of funds. Financial sustainability is not strictly necessary for an MFI's survival provided it has access to governments' and aid donors' grants or soft loans. But as governments and donors can at any time stop their assistance, financial sustainability is a reasonable objective.

The initial providers of microcredit focused on the provision of loans to formerly non-bankable poor households. As microcredit expanded, increasingly MFIs were set up as for-profit institutions independent from the initial providers, quite often NGOs. Such MFIs stressed profits based on financial sustainability even if this made it necessary to accept not-so-poor borrowers as customers. The rise of rapidly growing for-profit MFIs in many countries suggests that this approach was increasingly dominating the microcredit movement.

Are outreach to the poor and financial sustainability compatible? Or conversely, is there a trade-off between outreach and financial sustainability? The microcredit movement started from the premise that the answer to the latter question was negative, without empirical underpinning. Empirical studies on the existence of a trade-off are based on data sets of MFIs in a number of different countries. Early studies used data on a limited number of MFIs whereas more recent studies use large data sets. Examples of the former were Mosley and Hulme (1998) and Morduch (1999). On the basis of data for 13 MFIs Mosley and Hulme concluded that more financially sustainable institutions had a stronger impact on recipients' income than less financially sustainable ones. Morduch (1999) found that most of the 72 microfinance programmes in his database had crossed the operational sustainability threshold, but 'many fewer' were financially sustainable. The better performers on financial sustainability in his sample were broad-based programmes that served a wide range of clients. The few programmes that focused on 'high-end' clients did not perform better than the other programmes. Morduch also remarked that his study was based on rather big MFIs and that the many MFIs not in his data set were probably performing worse in terms of financial sustainability.

Empirical studies went into a higher gear in 2007 with a paper by Cull et al. (2007). This paper systematically analysed data for 124 MFIs in 49 countries. A basic finding was that the relation between average loan size (standing for outreach to the poor) and profitability was not statistically significant; that is, institutions concentrating on poorer clients were not necessarily less profitable. But the authors qualified this finding by other observations: for example, larger and older MFIs did worse on outreach than smaller and younger ones, which suggests 'mission drift'.

Later studies are based on databases of hundreds of MFIs, most but not all sourced from the Microsoft Information Exchange (known as MIX Market). They come to a range of conclusions, going from a negative link between outreach and profitability (e.g. Hermes et al., 2011) to absence of a link (e.g. Mersland and Strøm, 2010; Quayes, 2011), and even the existence of a positive relation (e.g. Gutiérrez-Nieto et al., 2009; Louis et al., 2013).

Moreover we should keep in mind that the studies we mentioned are based on relatively big MFIs. Apart from them there are many more small MFIs. Casual observation suggests that many of these smaller MFIs are hardly capable of covering their operational costs and have to struggle for survival.

The evidence found in the literature suggests that lasting dependency of MFIs on subsidized credit is not strictly necessary in order to reach poor borrowers. But many MFIs remain dependent on financial assistance. Financial sustainability of MFIs does not come automatically. MFIs pursuing both outreach and financial sustainability need to establish an institutional and operational framework that contributes to a positive balance of revenues and costs.

Micro-credit crises: a case study of Andhra Pradesh, India

In a number of countries microcredit institutions have been confronted with crisis situations. Usually these followed years of rapid growth of the sector, with steep increases in the number of clients and loans. Unwanted by-products of such expansions were the rising indebtedness of MFIs' clients linked with multiple loans, a public outcry over alleged misdemeanours of MFI agents, and complaints about the allegedly high cost of loans. Microcredit crises were observed in Morocco (starting in 2007), Andhra Pradesh, India (first in Krishna district in 2006, and then on a larger scale in 2010), and in Nicaragua (the movement for non-payment, *no pago*, starting in 2011). In Bangladesh in 2007–08 a crisis was averted by the concentrated action of the big MFIs (see Chen and Rutherford, 2013). In this section we concentrate on the crisis in Andhra Pradesh (AP), the heartland of Indian microfinance. We first describe the events leading to the crisis and the measures taken by the state and the union authorities. Subsequently we discuss some of the issues raised during the crisis.

The 2010 microcredit crisis in Andhra Pradesh

In India during the second half of the 1980s a number of NGOs started promoting the creation of Self Help Groups (SHGs), consisting of 10 to 15 members, with the objective of stimulating the economic activities of the members, among others, by mutual savings and credit operations. SHGs could raise their lending by obtaining loans from formal financial institutions. A crucial step was the introduction in 1992 by the National Bank for Agriculture and Rural Development (NABARD) of the Self Help Group Bank Linkage Programme by which NABARD would refinance bank loans to SHGs. This programme expanded quickly and was highly successful in raising outreach to otherwise unreached people.

Separately from the SHG movement a number of MFIs were set up, usually by consolidating the microfinance operations of NGOs in separate institutions such as non-banking financial companies (NBFCs) which increasingly acted as for-profit organizations. Many of these MFIs were using the joint-liability group model for their lending. During the first decade of the present century a number of for-profit MFIs expanded their operations very quickly, mainly financed by bank loans. The frontrunner of this expansion was the South Indian state of Andhra Pradesh. In this state the rapid growth was interrupted by a local crisis in Krishna District in 2006 when the District Collector shut a number of leading MFIs' offices in the district and instructed MFI borrowers not to repay their loans. This crisis was resolved with support from the central bank, the Reserve Bank of India, and the growth of the sector resumed with increased vigour. A symptom of this evolution was that in the summer of 2010 a major MFI, SKS, went public. The initial public offering took place at the end of July 2010 and was hailed as a massive financial success.

As early as June 2010, there had been warnings of actual default rates on microloans being far higher than reported, as defaults were hidden by MFIs replacing older, non-performing loans with new ones. Arunachalam (2011) notes that, starting in August 2010, rising default rates and grievances about coercive recovery practices were already tangible at field level. In late September and October 2010 accounts of MFI borrowers in Andhra Pradesh committing suicide accumulated. In October 2010, the Chennai-based Centre for Micro Finance noted with alarm that in Andhra Pradesh 'the overall rate of indebtedness is extremely high' (Johnson and Meka, 2010: 19). It reported that 84 per cent of households had two or more loans, while 58 per cent had four or more loans.

After reports in local newspapers of rapidly increasing violence (Nayar et al., 2010), the Andhra Pradesh Government on 15 October passed an ordinance to protect borrowers. As the reason for this ordinance it cited 'usurious interest rates and coercive means of recovery resulting in impoverishment and in some cases leading to suicides' (Government of Andhra Pradesh, 2010). The ordinance required MFIs to state their interest rates clearly and register all recovery personnel in each district they operated in. It forbade the charging of interest in excess of the principal (a meaninglessly high limit) and the issuing of multiple loans to the same borrower. Furthermore it specified that MFIs should 'not deploy any agents for recovery nor shall use any other coercive action' (Government of Andhra Pradesh, 2010) and threatened to imprison the managers in cases of breach.

The MFIs reacted by cutting interest rates, challenging the connection between microloans and suicides, blaming a few rogue MFIs for abuses, and denouncing the AP Government's ordinance as a politically self-serving act to protect its own SHG programme (Intellecap, 2010). But the crisis was a catastrophe for the microfinance sector because of the damage to its reputation and the implicit signal it sent out that borrowers would not be forced to repay their loans at any cost. Microfinance in India went into protracted decline. In Andhra Pradesh almost all loans were written off. Elsewhere in India the growth of MFIs came to an abrupt stop; only in 2012 did MFIs start again to expand their operations.

In the meantime the Reserve Bank of India, India's central bank, has issued guidelines for NBFC-MFIs and has set up a licence system. The guidelines include capital requirements and capping of annual interest rates at 10 to 12 per cent above the MFI's borrowing cost. A pending microfinance bill aims to ensure development and orderly growth of the sector.

Issues raised by the 2010 microcredit crisis in Andhra Pradesh

The Andhra Pradesh microcredit crisis of 2010 and the events surrounding it raised a number of wider issues. We briefly discuss three of them: excessive borrowing, coercive loan recovery practices, and allegedly high interest rates. First excessive borrowing became a problem in an environment where several MFIs were operating in the same area and where individual MFIs were frantically trying to expand their lending in order to raise their profits. This resulted in loans being pushed on borrowers who did not really need them, putting an excessive burden on poor debtors and delivering some of them back into the arms of local moneylenders.

A second problem was the coercive loan recovery practices on the part of joint liability group peers and of MFI agents. Joint liability can be interpreted as an expression of solidarity between group members. But it can also lead to excessive peer pressure on debtors who are not capable of servicing their debts. MFI agents may easily be tempted to apply excessive pressure on debtors who are threatening to default as loan recovery is an important element in the evaluation of their performance. The line between justified and non-justified coercion is thin and not easy to draw.

A third issue was the allegedly excessive interest rates charged by MFIs. In many creditor–debtor relations borrowers complain about high interest rates and politicians can gain popularity by subscribing to these complaints. Frequently interest rates charged by MFIs are compared with those applied by banks and invariably the former are higher than the latter. But MFIs aiming at financial sustainability have to charge interest rates that cover their costs, including the cost of their funds, and produce a modest profit. In this perspective interest rates between 20 and 30 per cent found in Andhra Pradesh do not seem to be excessive. In two CGAP papers Rosenberg et al. (2009, 2013) analysed microcredit interest rates applied by MFIs reporting to the Microfinance Information Exchange (MIX). For South Asia in 2006 they found an average cost of lending, exclusive of profits, of almost 24 per cent. Moreover interest charges in South Asia were considerably lower than in other parts of the world. Thus interest rates in the upper 20 per cent range as observed in AP were probably not excessive. Elsewhere in the world some MFIs, including well known ones, charge interest rates in excess of 50 per cent, sometimes hidden by quoting so-called flat rates. It seems quite unlikely that such interest rates can be justified by costs, unless the MFIs in question are very inefficient.

Impact of microcredit

Microcredit was originally targeted at promoting entrepreneurship, improving household welfare and reducing poverty, and empowering women. Approximately 30 years have passed since the first modern microcredit initiatives were started. Meanwhile many new schemes have been initiated. It is therefore natural to analyse whether modern microcredit has fulfilled the promises it had made. The only way to find this out is to make careful empirical impact studies. And indeed thousands of impact studies of microcredit have been made.

The problem with almost all of the impact studies is that they can be criticized on methodological grounds (see Duvendack et al., 2011, for a thorough analysis of the methodologies used in evaluation studies). Specific problems are selection and placement bias. The former refers to the fact that recipients of microcredit may have unobservable characteristics that explain their performance compared with that of non-recipients. Placement bias is present if MFIs start up microcredit programmes in locations where they expect a good performance by recipients; as a result these locations outperform locations without a microcredit programme. One way to correct for these biases is to set up real-world experiments in which recipients of microloans are selected randomly out of a database of candidates for microloans or locations for new microcredit programmes. After the programme has been implemented for some time the 'treatment group' is compared with a control group of non-recipients or locations without a microcredit programme. Such experiments are called randomized controlled trials (RCTs).

The RCT methodology is not perfect. One critique is that findings based on RCT experiments may be valid within, but not necessarily outside, their own environment. Another problem is that, when applied to microcredit, the impact is estimated after a relatively short period of time, usually 1.5 to 2 years after the start of the programme, as the cooperating MFI is not usually willing to wait a long time before starting microcredit for the control group. Nevertheless from a methodological point of view RCTs are attractive to meet selection and placement bias. Therefore we concentrate on the findings of the few available evaluation studies using this methodology.

We consider the findings of four impact studies using randomized placement (Attanasio et al. (2011) on a credit programme in rural Mongolia; Banerjee et al. (2013) on a credit programme in slums of Hyderabad, India; Crépon et al. (2011) on a credit programme in rural Morocco; and Angelucci et al. (2013) on a programme in North Central Mexico) and two studies based on the random assignment of microloans, implemented in Bosnia and Herzegovina (Augsburg et al., 2012) and in the Philippines (Karlan and Zinman, 2011). (All these RCT-based evaluation studies are surveyed by Banerjee, 2013.) We also include findings of a study of the impact of a quasi-experiment, the Million Baht Village Fund programme in rural Thailand (Kaboski and Towsend, 2012). The programme allocated 1 m baht (approximately US$30,000) to individual villages independently of their population. Therefore it can be considered as a quasi-experiment. This impact study is also interesting because households were observed over a period of 11 years, six of them after the programme had been started.

We discuss the impact of microcredit programmes on access to credit, entrepreneurial activity, household welfare, and empowerment of women. We start out with a fairly general finding: microfinance programmes improve access to credit for their beneficiaries, both from microcredit and from other providers. So microfinance loans do not just displace other loans, they add to the total credit flow. For poor households improved access to credit by itself is important. This was emphasized by Collins et al. (2009) in their book *Portfolios of the Poor*. The authors found that for poor households money management is a part of everyday life as they must make arrangements for matching day-to-day consumption with an irregular income flow. In addition they must cope with risks against which they are hardly insured and from time to time they must find the means to cover lumpy expenditure, for example, for a marriage, for a festival, or for the purchase of costly consumer durables. To meet these three challenges they need savings as well as loans. Microfinance may be an important additional source of borrowing provided it is sufficiently flexible. This was confirmed by a case study of Grameen II, the Grameen Bank after the 2001 restructuring: the new borrowing opportunities and savings products proved to be highly successful.

The evidence on the impact of microfinance on other variables is far less clear. We begin with entrepreneurial activity. Most studies found no significant impact on business creation. But the Bosnia and the Mongolia (with group lending, not with individual loans) studies did find a significant positive impact and the Hyderabad study found a minor impact. As to the expansion of existing businesses the studies on Bosnia, Morocco, and Mexico found an increase of scale as measured by business revenues and expenditures. But the study in the Philippines found, if anything, a negative impact on business activity. In the Hyderabad study investment in durable assets was found to have increased significantly. Most studies found no positive impact on profits. The Mongolia study did find a positive impact on profits, but again only with group lending. The Thailand study found some indications that business profits increased in response to the microcredit programme.

We now turn to household welfare. The most obvious indicator is total consumption expenditure. All six RCT impact studies failed to find an increase in total consumption expenditure as a result of microcredit. The Thailand study did find a substantial and statistically significant increase in consumption levels, of the same order of magnitude as the credit injection or even larger. But this increase was limited in time, lasting only four years. However the composition of consumption expenditure was found to have changed. The Hyderabad, Mongolia, and Thailand studies found an increase in expenditure on consumer durables, including home improvements. For non-durable consumption no impact was observed, but expenditure on so-called temptation goods (alcohol, tobacco, meals outside of the household, etc.) did fall. This may have been due to the fact that households gave priority to lumpy expenditures on consumer durables.

Household welfare can also be measured by subjective indicators. This was done in the Mexico and the Philippines studies. The former found generally positive changes, but the latter found a small overall decrease in subjective well-being. Findings on the impact of microcredit on education and health were diverse; both for education and for health two studies found some positive impact. The Bosnia study found that school attendance of teenagers in marginal households with a low education level decreased as they had to work substantially more hours in the household business.

Finally four studies did not find an impact on women's empowerment as measured by the participation of women in household decision-making. The only exception was the Mexico study which found that participation of women in financial decisions slightly increased, but this was from a very high 97.5 per cent initial participation.

The findings as reported here concern average effects of microcredit. For some subgroups the effects of microcredit were more favourable, for other groups less so. The Hyderabad and Mexico studies, for instance, found an increase in business profits of microcredit beneficiaries in the upper tail of the distribution – the best-off households. The Mexico study found limited evidence that microcredit may have negative effects on some subgroups, mainly the poorer ones and those without previous experience of formal credit.

A comparison with findings from survey data is interesting. Probably the most elaborate impact studies not based on RCT methodology, but on survey data are a succession of papers by Pitt and Khandker (1998), Khandker (2005), and Khandker and Samad (2014) on Bangladesh, based, respectively, on one, two, and three surveys covering the same households, except for drop-outs and additional households included in the two follow-up surveys. The most recent paper was based on data for 2,322 households including approximately 800 split-offs of 1,509 households which were included in the three surveys. Khandker and Samad (2014) find that microloans for female household members have a statistically significant impact on household income, but not on household expenditure whereas the opposite is true for microloans for males. But this finding is not robust with respect to the estimation methodology. The authors do find a robust positive impact on non-land financial assets of microloans both to male and female household members. Thus if robustness is taken into account Khandker and Samad's findings are not quite different from those of the RCT impact studies we discussed in this section.

The above findings are sobering. Microcredit has a positive impact on access to credit and this is useful for the poor. But the RCT studies suggest that its impact on entrepreneurship, household welfare, and women's empowerment is limited or non-existent. Of course we should keep in mind that the impact of any programme is dependent on local factors and that most of the findings of RCT impact studies are based on surveys implemented a relatively short time after the start of the programmes. Nevertheless it seems safe to conclude that the hopes originally raised by microfinance were exaggerated. We may refer to a remark made by Hulme and Mosley in their 1996 synthesis of case studies of MFIs that 'such schemes are not the panacea for poverty reduction that has been claimed' (Hulme and Mosley, 1996, Vol. 1: 114).

Conclusion

Modern microfinance has been with us for approximately 30 years. In its early days it did raise high hopes: outreach to the poor combined with financially sustainable institutions resulting in promotion of microenterprise, improvement of household welfare, and empowerment of women. Has microfinance, and more specifically microcredit, fulfilled its promises?

In order to provide an answer to this question in this paper we considered three issues. First, recent empirical research suggests that it is not impossible to combine outreach to the poor with MFIs' financial sustainability. Some research even suggests that profitability is associated with deeper outreach. But many MFIs remain dependent on grants or subsidized credit. Second, like the financial sector at large, the microcredit sector is not immune to crises and their accompanying excesses. Third, RCT-based impact studies show that microcredit institutions do improve financial access for their clients. But their impact on entrepreneurial activity and on household welfare is less clear. Microcredit is certainly not a panacea for development.

Our findings have implications for the future of microcredit. We list three of them. First, rather than constantly repeating the mantra of microenterprise promotion, the microcredit sector should recognize the importance of consumption credit for poor households. Many microloans are directly or indirectly used for consumption purposes. Moreover consumption loans are an important component of household finance, for poor as well as for richer households. Second, measures should be taken to prevent overindebtedness, coercive loan recovery practices, excessively high interest rates, and credit bubbles. Self-regulation by MFIs, for example in the form of codes of conduct, may go some way to assure an orderly development of the sector. But ultimately some form of regulation by the financial authorities is needed to supervise MFIs and to prevent credit bubbles and subsequent crises. In addition a flexible regulation of interest rates and other costs charged by MFIs may facilitate the acceptance of the relatively high costs MFIs have to charge to assure their financial sustainability. Third, MFIs should continue to innovate in order to reduce their costs and to offer credit and savings products adapted to their clients' needs. It is important that regulation of the microcredit sector preserves the scope of MFIs to do so.

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