

What is micro-credit? Why do poorer people need micro-credit? Discuss how the Availability of credit might be able to help someone move out of poverty. Make sure to Discuss empirical evidence as well.

Introduction

Micro-credit, and component of micro-finance, is a financial innovation that is being provided to the often rural poor of the world's developing countries. NGOs in certain countries have taken to lending small sums of money to those in poverty, allowing millions access to credit for the first time. The exact structure of these institutions and loans varies; some NGOs can be merely lending institutions while others have expanded further into micro finance and offer depository schemes. Though loans they provide vary in term and interest rate, depending on the NGOs objectives and sources of capital; they maintain common characteristics of being short term, requiring regular repayments and often being under the market interest rates. In order to overcome the risks involved in issuing loans to those with little collateral and low income, creative methods of securitization are used e.g. collateral, group lending or even village wide loans. Of course a wide range of lending institutions leads to varying success; some are more successful in improving the social capital of the population by servicing a wider range of incomes, while other NGOs will take a different path focused on financial sustainability. Micro credit is seen as the answer to many of barriers to formal lending, while this may be the case, empirical studies are yet to provide a conclusive evidence of its use as a tool to tackle poverty.

Why do people need it?

If financial services have the capacity to alleviate poverty, why have so many been excluded from it until now? The answer is that there are much larger credit market imperfections amongst rural credit markets than conventional markets¹, due to increased problems associated with adverse selection and moral hazard. It is these additional risks which, until the advent of micro-credit, have prevented formal lending. This lack of formal lending forced those in need of credit to suffer the effects of credit rationing and informal lenders, at their own expense.

Adverse selection, specifically asymmetric information, prevents lenders from being able to discriminate between high and low risk clients, while limited liability prevents lender being able to sufficient recoup losses in the case of default. Suppose there are 2 households, one with high

¹ 1573, Micro Finance Promise

risk and high payoff investment and one with a low risk, low payoff investment. If the markets were perfect, then the lender would separate them into two groups with two different interest rates respective of their risk. The rural credit situation implies this is not the case, lenders lack sufficient information to differentiate between the two types. Due to this, the lender will place both borrowers in one risk group, and charge an interest rate accordingly. This rate will be below the rate a perfect market would allocate for a high risk borrower, but above that of the low risk; meaning the low risk investor is forced out of the market. Knowing that only high risk client remain lender will compensate further by increasing interest rates to those of the high risk market.² The second part of adverse selection comes in the form of limited liability. Limited liability implies that that the lender has little wealth to put forward as collateral and as such there is little way for the bank to recoup their costs in the event of default, lender will assume this incentivises risky behaviour as there is little cost to the borrower.

With these two concepts in hand we can create a model which better defines adverse selection. Assume there are two projects, H, high risk and L, low risk; both require 20000 in loans at a 10% interest rate. We also assume that there is limited liability

Project H has a 40% chance of success, but if it is successful it will yield 100000; while project L has 100% of yielding 30000.

The expected return for the lender from project L is: $(1 \times 22000) - 20000 = 2000$

The expected return for the lender from project H is : $(.40 \times 22000) - 20000 = -11200$

This situation causes the lender to prefer project L

The expected return for the borrower form project L is: $30000 - 1.1 \times 20000 = 8000$

The expected return for the borrower form project H is : $.40 \times (100000 - 1.1 \times 20000) - .75 \times 0 = 31200$

This situation means project H will be preferred by the borrower, with the value .75x0 representing limited liability, i.e. no collateral lost by borrower

This produces a conflict of interest, as the lender would prefer safer investments be undertaken; but because of limited liability the borrower prefers riskier projects. Due to asymmetric information the lender cannot differentiate between the two, and will assume that all borrowers will peruse project H and adjust interest rates accordingly. This can be solved if comparable collateral could be raised, as this would offset the large losses incurred for the bank under project H, or there was some way to enforce the borrowers to peruse project L regardless of their risk preferences. Formal banks may be reluctant to accept what little collateral that could

² 6, Can group lending overcome adverse selection problems

potentially be offered by the poor, such as labour or small pockets of lands, as they cannot effectively convert it into the capital required to cover the cost³.

There are also moral hazard problems which occur after the transaction. There is always the risk of involuntary default where unexpected events, such as droughts or disease, may prevent the lender from repaying. There are also incentive problems arise through limited liability. This occurs when the lender has lent to a borrower without sufficient collateral. The borrower may have sufficient incentive to run off with the loan and not pay back the lender if he knows the lender will have difficulties in reprimanding him. Using a similar calculation with the same returns as investment L, assuming a 50% chance of not being caught:

Expected return from repayment: $30000 - 1.1 \times 20000 = 8000$

Expected return from cheating: $.5 \times 30000 - .5 \times 0 = 15000$

Under these circumstances the investor would cheat as limited liability means the only risk he bears from cheating is that of being caught and having to give back the body of the loan.

These market imperfections have been the main cause in the restrictions of formal lending. Prior to the use of micro credit, they caused poor borrowers to be faced with the problems of credit rationing and informal lending which have come about to address the problems of moral hazard and adverse selection. Informal lending implies that the lender may be someone like a local landlord, with deeper local knowledge than formal lenders. With this they are more able to discriminate between risk types, as well as being able to generate higher returns from any potential collateral. This may place informal lenders in a position of monopoly power, allowing them to charge high interest rates. They may also use high interest rates to allow for cheap collection of collateral, in situations where the borrower has no choice but to accept the high interest rates. ⁴

Another negative by-product of market imperfections is credit rationing; where at a given interest rate a borrower would like to borrow more, but is refused by the lender. This occurs when the lender wishes to avoid the risks associated with higher interest rates. By keeping interest rates low he will attract safer investments; even if he cannot tell safe and risky investments apart and chooses randomly, the presence of both will reduce the overall risk of default and thus deal with the problem of asymmetric information. Lower interest rates also deal with moral hazard by increasing the opportunity cost associated from running off with the loan, incentivising repayments as borrowers will wish to continue to borrow on the market

³ P534, Debraj

⁴ 544, Debraj

rates. Though low interest rates may seem like a positive effect, credit rationing will reduce the potential for poverty alleviation, as it provides less credit than the market equilibrium dictates.

What are the benefits of micro credit?

With the barriers to formal lending outlined, how does micro credit overcome these problems, and more importantly, what is its effects on poverty? Micro credit NGOs have applied a number of new securitization methods to overcome the former problems, including group lending, dynamic incentives, regular repayment and have even found ways of allowing borrowers to offer practical collateral.

Of all the methods mentioned, the most widely referenced method used to overcome the market imperfections is group lending. Under group lending individuals in a community are lent money but they voluntarily form groups for repayment, under the condition that if one defaults then then all members of the group will be penalised by paying some form of joint liability payment. The logic behind this measure is that local communities will be able to overcome the problem of asymmetric information. Even under a single interest rate, safer borrowers will group with other safe borrowers, as it is the only way to mitigate the cost of joint liability. This method of peer selection allows formal lenders to save on the costs of screening clients⁵. In doing so banks to develop greater scale, by shift much of the risk and cost onto the borrowers. Defaulting under group lending also produces forms punishment formal lenders cannot enforce, such as social seclusion, which can replace the need for collateral as the cost of defaulting. ⁶ NGOs have also realised that female borrowers have less risk of default and as such have begun specifically targeting them for loans; due to reasons such as low mobility making apprehension easier and lack of alternative income making default less likely.⁷

Group lending is not the only practice that ensures the success of micro credit. Dynamic incentives and regular repayment, both extensions of the group lending model, also play a role. Dynamic incentives outline a system of over increasing loan sizes, offered upon the successful repayment of the previous loan. Such policies can cause huge increases in the opportunity costs of default or running off with the loan, thus reducing the problem of moral hazard. Dynamic incentives face two huge limitations though, the first being that the reductions cannot be exponential, there is a clear limit to the interest rate the banks can drop to. Increasing competition also makes the role of dynamic incentives redundant, where over time the interest

⁵ 3, Can group lending overcome adverse selection problems

⁶ 1575, The micro finance promise

⁷ 1583-1584, The micro finance promise

rates will naturally be competed down to their market level. Micro credit NGOs will also structure regular repayments, designed to give early signs of potential default and weed out undisciplined borrowers. These policies lock out potential borrowers who are reliant on periodic incomes or run a high risk of short term shocks. NGOs have also developed effective collateral substitutes, by requiring small deposits by the borrower. Its size depending on whether the loan is lent to a group or individual as well as the total size of the total loan and is returned upon successful repayment.

The most successful example of micro credit is that of the Grameen bank; which defined the group lending approach. Established by professor Yunus of the University of Chittagong, he wanted to design a credit delivery system for the rural poor and in doing so alleviate many social problems. The figures which Grameen produce speak for themselves, as of 2010 they operate with an 11% return on investment and 100% financial sustainability with 1.7 billion dollars in assets. The most impressive though is that these figures are obtained with an average loan size of \$143 (USD) at an interest rate of 20%, lower than those of traditional banks, with average repayment rates above 90%.⁸⁹ Bank Rakyat Indonesia provides another direction for micro finance. Rakyat set out to be financially sustainable, unlike Grameen which at times required subsidies to cover costs; targeting those who were still impoverished, but on a higher income than Grameen's clientele. In doing this they could afford to lend to individuals who could offer up varying forms of collateral using methods like dynamic incentives to ensure compliance. Much like Grameen, it boasts impressive figures, ranking as Indonesia's second largest bank in terms of assets.¹⁰

Does Micro Credit Reduce Poverty?

To answer this question we need to look at empirical data, and use intuition to determine causality. Like most other increases in rural income, micro credit should follow an intuitive method of poverty relief. Increasing income via credit access should increase consumption, and increasing demand for education and children as well as leisure¹¹. Such a simple concept is open to swift criticism; empirics have shown that there is no clear relationship between fertility and access to credit¹². As many of the loans are lent to women, we can also expect an increase in female employment and as such increase the opportunity cost of bearing children, levelling out

⁸http://www.grameen-info.org/index.php?option=com_content&task=view&id=632&Itemid=664

⁹ 1577, The micro finance promise

¹⁰ <http://www.bloomberg.com/news/2010-12-28/indonesia-stocks-adaro-energy-astra-agro-bank-central-asia.html>

¹¹ 1597, The Micro Finance Promise

¹² 32, The Impact of an Integrated Micro-credit Program on Women's Empowerment and Fertility Behaviour in Rural Bangladesh

fertility rates. This is by no means a bad thing; increasing female empowerment may address social effects of poverty which are not reflected in conventional forms of measurement. Even when data show a correlation between credit and increased education¹³, it fails to outline causality, it may be that those who receive credit are those who are more likely to pursue education.

An empirical study by Burgess and Pande, on a government lead policy of rural financial service expansion in India, found that this premise did hold; expanding credit reduced poverty. They found that a 1% rise in rural credit translated to a 1.52% reduction in the proportion of the population under the poverty line, and over the 39 year period from the start of the program in 1961, saw a 14% reduction.¹⁴ The cause of this reduction cannot simply be credited to micro credit expansion, but also a policy of prioritizing business and enterprise loans and capping interest rates below those of urban lenders. The results were not merely reflected in poverty figures but a rise in the rural wage. The data also produced another disturbing trend; that after the government program finished; there was no further expansion of services into new rural areas¹⁵. This trend reflects the potentially high cost of micro credit, with an estimated 40% default rate by the end of the program, means it may not be a viable method of poverty relief¹⁶. A prophecy which has to some extent been fulfilled, with the advent of a micro credit crisis in India, caused by increased penetration of private microfinance firms interested solely in profit.¹⁷

Another question that has to be dealt with is, what do the poor use their credit for? Broadly speaking we can classify it as either consumption or investment. The incentives for investment are obvious, increased income and a better quality of life; yet in rural areas consumption smoothing plays a significant role. Rural incomes are not only low but also uneven, especially for agriculture, due to the effects of commodity prices and seasonality¹⁸. Credit is an easy method by which to smooth consumption; so rural poor will take out loans that can be repaid, but with no intention of investing. Studies have shown that these patterns of investment do not reflect a clear link to poverty reduction¹⁹. In the cases examined by the study, the only occasions here the issuing of credit translated to increases in household income were those issued for productive means; recommending monitoring of loan usage to achieve poverty alleviation. Comparing the outcomes of this study with that of the India case, we may find a more explicit

¹³ 7, The Impact of Group-based Credit Programs on Household Welfare

¹⁴ 793, Do Rural Banks Matter?

¹⁵ 784, Do Rural Banks Matter?

¹⁶ 793, Do Rural Banks Matter?

¹⁷ 11, The Indian Microfinance Crisis

¹⁸ P105, Income Smoothing and Consumption Smoothing,

¹⁹ 20, Does Micro Finance Reduce Poverty in Bangladesh?

explanation for the poverty alleviation documented. Conflicting empirics are a common occurrence in Micro credit, outside of data collected by banks there is a large expense involved in gathering the required data, and even then varying regulations and lending types make comparisons difficult²⁰. More recent studies have become even more critical about the role micro credit plays in poverty reduction; citing the interest of for-profit NGOs as the cause. This surge of micro credit in certain regions may be wrongfully assumed to cause development, causing much needed funds to either be absorbed into the lending process or allocated elsewhere.²¹

Conclusion

It is clear that the credit markets of the poor suffer from crippling imperfections developing into both adverse selection and moral hazard problems; caused by lenders incapacity to observe risk and borrowers incapacity to offer effective collateral. Microcredit appears to offer a way out, using methods adapted specifically for their clientele they have created group liability and incentives to ensure repayment and overcome the risks which once prevented formal lending. However studies on the effectiveness of micro credit have cast doubt on its use as an effect tool for poverty relief. Evidence is often inconclusive or contradictory; despite the existence of a number of successful micro finance NGOs, empirical evidence offers no specific model by which to base micro finance on, or conclusive examples of channels by which it affects poverty.

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²⁰ 1586, the micro finance promise

²¹ 75, What is the evidence of the impact of microfinance on the well-being of poor people?

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