

Impact of microcredit

3ie Synthetic Reviews – SR 003

Protocol

April 2009

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Funding: 3IE

1. Background for the review

Over the past two decades, microfinance activities have spread across the globe, reaching tens of millions of poor households with tailored financial services. Current estimates vary between 133 and 190 million microfinance borrowers worldwide. This growing importance has resulted in a vast number of research and evaluation studies, including impact studies.

Microfinance is not the panacea for the poorest, but for millions of poor and very poor households it can constitute a potentially powerful tool for development and an escape from the poverty trap. In the literature, claims and supporting evidence can be found of microfinance –with or without complementary services– resulting in a range of positive effects, from income growth and consumption smoothing effects to gender and social empowerment. At the same time, concerns about the independence of some of the impact studies commissioned by microfinance organizations¹, as well as unease with important blind spots like employment effects (Balkenhol, s.d.), limited macro-economic impact (Honohan, 2004) and an increasing body of evidence on the negligible and even negative effects (mainly on the extreme poor) and lack of rural outreach of microfinance are some of the more recent critical signals emerging in the debates (e.g. Dichter and Harper, 2007).

The amount of studies addressing the role of microfinance in development processes at micro and meso scale, as well as more specific studies addressing the impact of credit on livelihood processes and small enterprise development has increased substantially over the years. One of the first comparative studies addressing effects of microfinance using quasi-experiments was Hulme and Mosley's (1996) *Finance against Poverty*, bringing a new critical voice to the debate by showing the limitations of microfinance in bringing about poverty alleviation. Subsequently, more and more quasi-experimental and regression-based analyses have followed (e.g. Pitt and Khandker, 1998; Khandker, 2003)². More recently, randomized controlled designs have been used to assess particular aspects of microcredit activities (e.g. Giné and Karlan, 2008).

Microfinance can best be described as a field of intervention rather than a particular instrument. Initially, microfinance usually meant microcredit for working capital and very small investments, but increasingly it has been broadened to include savings/deposits, (a limited range of) micro-insurance and payment services as well as a somewhat broader range of credit products for more substantial investments. In this study we will only focus on *microcredit activities*, constituting the bulk of microfinance activities across the globe.

Microcredit is not a discrete and homogenous 'treatment' and the level of heterogeneity among microcredit interventions across the world is probably higher than in most interventions studied within the framework of systematic review protocols. On the independent variable or 'treatment' side of the equation we should distinguish between the impact of credit as such and the loan contract³:

- loan size (the amount of money lent);

¹ The microfinance sector counts an increasing number of mid-size and big microfinance organizations many of which continue to depend (in part) on development assistance, private capital and other sources of finance to fund their growing portfolios.

² USAID founded a special group called 'Assessing the Impact of Microenterprise Services' (AIMS) which among others focused on quasi-experimental impact analysis of microfinance.

³ Including the aspect of delivery mode used to solve the critical transaction cost problem.

- loan contract and delivery mode (type of lending instrument (e.g. group contract versus individual contract), degree of client or other actor participation in client selection and enforcement, collateral requirements, articulation with other financial services such as savings, loan period, interest rate, etc.)⁴.

On the dependent variable side we can distinguish between different levels of effect:

- outreach: access and coverage of microcredit activities;
- individual, enterprise-level and (intra-)household-level effects;
- community and regional effects.

According to Hulme (2000) impact assessment of microfinance activities is particularly challenging as researchers not only have to address the classical attribution problem, but also the more finance-specific issue of fungibility. Fungibility refers to the fact that particular funds cannot be exclusively tied to particular expenditures and as a consequence that additional funds from credit inevitably become interchangeable with other monetary flows. Fungibility can be perceived as a client strategy. The client uses the loan for the most pressing needs at hand; investing the money in small business activities, buying school materials for a client's children or paying existing outstanding loans (etc.). It has been argued that this 'smoothing' effect of microcredit has been one of its strengths. As a result however, fungibility increases the difficulty of being able to attribute certain changes to credit.

To our knowledge no systematic review of microcredit activities has been conducted. Instead, one can find a substantial number of synthesis studies which discuss a set of microfinance interventions which are intended to generate claims on impact with a certain degree of external validity, e.g. with respect a particular portfolio of a donor organization. However, most of these studies are limited in terms of depth of empirical assessment, attribution of impact to microfinance, and/or the external validity boundaries of particular contexts. Moreover, methodological principles regarding comprehensive searches and principles of selection, coding, extraction and aggregation are often lacking in these studies. Examples of studies with cross-intervention perspectives on impact are for example Hulme and Mosley (1996), Snodgrass and Sebstad (2002) and EBI (2008).

2. Objectives of the review

This study can be characterized by three aspects. First, the application of systematic review protocols is quite a novelty in the field of microcredit⁵. In addition, the causal relationships between microcredit and certain outcome variable are likely to be more complicated and diffuse than in many other interventions. Finally, there is not a lot of experimental evidence available at the level of primary studies.

In light of these elements this study will pursue the following objectives:

- to develop a comprehensive map of impact studies of microcredit activities;

⁴ At this point we (still) consider these aspects as independent variables. However, we might change this perspective during the study if we decide to focus on the loan and loan size effect only. In that case we will look for evidence on how loan contract and delivery mode condition (i.e. as moderator variables) the effect of loans on outcome measures.

⁵ We were not able to find an existing systematic review on microfinance or microcredit. However, this might change when we start the search process.

- (for a specific selected microcredit modality) to attempt to perform a meta-analysis on selected outcomes⁶;
- (for a specific selected microcredit modality) to develop a synthesis procedure on selected outcomes based on the realist notion of context, mechanism, and outcomes;
- to answer the question: (for a selected microcredit modality) under what circumstances does microcredit lead to certain results?

3. Methodology

Division of labor within the review team

Jos Vaessen will be responsible for coordinating the review study. In addition, together with Irlen Janssen and Sara Bonilla he will carry out most of the activities in the research process such as the search activities⁷, coding, extraction and synthesis. Johan Bastiaensen will provide inputs on the microfinance literature, especially with respect to current debates on results. Ruslan Lukach will provide inputs on (statistical) synthesis procedures and (where necessary) on the interpretation and coding of statistical evidence in primary impact studies. Frans Leeuw will act as an internal referee and guards the overall quality of the process.

Criteria for inclusion and exclusion of studies in the review

Types of studies

We expect to find a substantial diversity in methodological approaches underlying impact assessments. In contrast to a number of policy fields in developed countries (e.g. health, education, crime and justice), policy interventions in developing countries, including microcredit interventions, have not been widely studied on the basis of experimental and quasi-experimental approaches. In the case of microcredit, we do not expect to find many studies that are based on a randomized design approach. Yet, we do expect to encounter a substantial number of high-quality studies using quasi-experimental, econometric and other approaches⁸. The evidence base will evidently determine the prospects for the type of (statistical or non-statistical) aggregation.

We will consider multiple methodologies for inclusion in subsequent analyses: randomized designs, quasi-experimental designs and regression-based approaches and other studies that fulfill the following minimum requirements:

- include relevant outcome variables measured for a representative sample of clients⁹, and;
- include some type of (qualitative/quantitative) analysis on the extent to which changes in these outcome variables can be attributed to microcredit.

We will exclude purely qualitative studies.

⁶ See below for further discussion on delimitation.

⁷ Where needed Leonne Portz from the Maastricht University Library will provide support on search activities.

⁸ Quality of course depends on more than methodological design alone. Credible designs do not guarantee high-quality analysis and results.

⁹ At least an ex post measurement of relevant outcome measures for a sample of clients only.

Studies must be published later than 1980. We will only consider documents written in English.

In addition, we will only consider studies that concern microcredit initiatives in low and middle income countries.

Types of interventions

We will focus on studies that explicitly discuss effects, results, outcomes or impacts of microcredit at different levels. We will only take into account studies that focus on microcredit, which should clearly distinguish effects of this component from other financial services such as savings.

Types of target groups/clients

Microcredit organizations across the globe cover heterogeneous groups of clients. We will not exclude studies on the basis of client characteristics. However, we will carefully code studies according to client characteristics (see below).

Types of outcomes

We distinguish between three levels of effect:

- outreach: access and coverage of microcredit activities;
- individual, enterprise-level and (intra-)household-level effects;
- community and regional effects.

We will limit ourselves to studies that analyze individual, enterprise-level and (intra-)household-level effects. Depending on the amount of evidence available, specific outcomes will be selected for in-depth analysis (see search strategy). Examples of outcomes analyzed in primary impact studies are school enrolment, women empowerment and income volatility.

Assessment of study quality

We will assess the quality of studies looking at:

- the clarity with which methodology and results are described;
- methodological standards: e.g. construct validity of variables, sample size, quality of attribution analysis;
- data quality issues¹⁰

Search strategy for identification of relevant studies

The search strategy will consist of two phases. First a broad search round will cover all sources cited below as well as additional useful sources. This round will provide a first broad overview of microcredit impact studies. Subsequently, we will do a second more focused search on a particular credit modality (e.g. group-based lending schemes) and type of outcome (e.g. cash flow stabilization). We add this second search round because we want to claim to be as exhaustive as possible in this more focused search.

The decision on delimitation will depend mostly on the amount of studies available which are based on randomized and quasi-experimental designs.

¹⁰ Broadly concerning two aspects: whether the study addresses issues of data quality, and the quality of the data in itself.

We will use three parallel search strategies: database searches of published literature, internet searches for published and unpublished research, and manual searches of books. In addition, in all three cases we will use back-referencing from recent studies to identify additional relevant studies.

Database search of published literature

The following databases will be initially included in the search process:

UM library network

- EBSCO Business Source Premier
- Econlit (EBSCO)
- Econpapers
- IBSS (EBSCO)
- JSTOR
- PsycINFO (EBSCO)
- SocINDEX (EBSCO)
- Source OECD
- ISI Web of Knowledge

External:

- JOLIS: <http://jolis.worldbankimflib.org/e-nljolis.htm>
- BLDS: <http://blds.ids.ac.uk/>
- Googlescholar: <http://scholar.google.nl/>

To the extent that the previously mentioned databases do not cover microfinance-related journals, the following journals will be screened separately:

- African Development Review
- Development in Practice
- Journal of Development Entrepreneurship
- Journal of Development Studies
- Journal of International Development
- ESR Review (previously Journal of Microfinance)
- Microcredit review
- Savings and development
- Enterprise Development and Microfinance (previously Small Enterprise Development)
- World Bank Research Observer
- World Bank Economic Review
- World Development

Relevant portals and institutions (internet)

Initial searches will include the following sites. When during the search process new relevant sites will be discovered, then those will be included as well.

Portals

CGAP: www.cgap.org

Microbanking Bulletin: www.mixmbb.org

Microfinance Gateway: www.microfinancegateway.org

Microfinance Network: www.mfnetwork.org

SEEP: <http://www.seepnetwork.org>

Multilateral and bilateral and non-governmental donor organizations

African Development Bank, Asian Development Bank, DFID, EBI, Inter-American Development Bank, USAID, World Bank.

Research institutes, foundations and networks

Center for Global Development, Grameen Foundation, IDS, IDEAS, IFPRI.

Manual search of articles in books

We will search the tables of contents of books on microfinance for relevant chapters. Examples of books that will be included in the search are Hulme and Mosley (1996), Robinson (2001) and Dichter and Harper (2007).

Book collections from Maastricht University as well as other university libraries in The Netherlands will be searched.

Document selection and retrieval

Selected search results from the different search processes eventually will be stored in Endnote. Documents will be coded in Excel.

Description of methods used in primary research

We briefly describe the most common methodological approaches used in impact studies on microcredit. We distinguish first of all between randomized (experimental) designs and quasi-experimental designs. The idea of (quasi-) experimental counterfactual analysis is that the situation of a participant group (receiving benefits from/affected by an intervention) is compared over time with the situation of an equivalent comparison group that is not affected by the intervention. Several designs exist of combinations of ex ante and ex post measurements of participant and comparison group. A third category concerns regression-based approaches and a final category refers to approaches which we define for our purposes in this study.

1 Randomized designs

In the randomized design there is usually one variable of interest and a number of underlying determining factors. The subjects of the study are chosen in such a way that the underlying factors are randomly distributed in both treated and control groups.

2 Quasi-experimental designs

In the quasi-experimental design the aim is to find ways of using non-comparable groups, groups whose composition is not strictly controlled (or randomized). In most cases matching instead of randomization is used.

Pipeline approach

In this approach one takes advantage of the fact that intervention outreach is phased. Actual participants are compared with prospective participants with the underlying logic that due to (self-) selection processes both groups are on average similar.

Propensity score matching

Propensity score matching implies that selecting a comparison group similar to the treatment group is based on an aggregate propensity score because units must be compared across a high-dimensional set of underlying factors.

Cohort design

In the cohort design the separate groups are chosen from the same population in different time periods (for example different generations). The big advantage of this design is that it does not require creating artificial experimental groups.

Ex ante - ex post measurements

The most valid quasi-experiments are those where the treatment group and the control group are both measured before and after the experiment. That is, for each group, there is both a pre-test and a post-test. So there are four measurements: a measurement on each group beforehand and a measurement on each group afterwards.

Ex post only measurements¹¹

In the ex post only quasi-experimental setting the treatment group and the control group are both measured only after the experiment.

3 Regression-based approaches

Cross-section data

Cross-sectional datasets are based on observing a number of subjects (e.g. individuals, households, enterprises) at one particular point in time, or without taking time into account. Further analyses or regressions based on cross-sectional data usually imply comparing the systematic differences among the subjects or groups of subjects.

An important aspect of regression-based approaches concerns the issue of how and to what extent possible problems of endogeneity are addressed (e.g. arising from self-selection of clients). Endogeneity occurs when an explanatory variable is correlated to the error term, resulting in a biased estimate of the effect on the dependent variable. Instrumental variables techniques or difference in difference techniques (see below) can provide (partial) solutions to endogeneity.

Panel data (cross-section plus multiple observation points in time)

The purpose of using panel data is to capture longer time periods and a sufficient number of different events to control for various variations in underlying factors in time.

Regression discontinuity

In the regression discontinuity designs, participants are assigned to program or comparison groups solely on the basis of a cutoff score on ex ante measures of the underlying factors. Individuals just below or above the cutoff score are likely to be largely similar on other aspects, making the cutoff score a useful criterion for assignment to either program or comparison group.

4 Other approaches

We also consider other studies that fulfill the following minimum requirements:

- include relevant outcome variables measured for a representative sample of clients, and;

¹¹ Other variations are also possible, such as ex post measurements of treatment and comparison groups and ex ante measurement of treatment group only.

- include some type of (qualitative/quantitative) analysis on the extent to which changes in these outcome variables can be attributed to microcredit.

We will exclude purely qualitative studies.

Criteria for determination of independent findings

Studies might report results on multiple outcome measures. Each study will receive a separate code. If statistical aggregation (e.g. through meta-analysis) is possible (see below) we will appropriately address the issue of statistical independence in case of multiple outcome measures per study (e.g. in case of meta-analysis following Lipsey and Wilson (2001)).

Details of study coding categories

In the first search round, studies will be classified and coded using the following criteria:

Study characteristics:

- authors and institutional affiliation
- peer-reviewed yes/no
- country/region of study
- date of publication
- name of microfinance organization(s)
- type of methodological design
- techniques used
- sample size(s)

In addition, in the first round, we will record the outcome variables.

After the decision on delimitation and a subsequent second search round for studies (see search strategy), included studies will be coded on the basis of the following more detailed characteristics.

Treatment characteristics:

- loan size: the amount of money borrowed.
- loan contract and delivery mode: type of lending instrument (e.g. group contract versus individual contract), collateral requirements, articulation with other financial services such as savings, loan period, interest rate, etc.)
- the characteristics of loan size and contract are associated with type of microfinance organization which will be an important variable to be coded in the review process.

Client characteristics:

- gender, income level, main income activities, other outstanding loans, credit history, use of loan, level of indebtedness, etc.

(Other) moderator variables:

- microfinance program integrity¹², gender relations, regional and socio-cultural characteristics, etc.

Outcome variables:

- individual/household income, seasonal variance in income/expenditures, gender and social empowerment, etc.

¹² Performance of the microfinance organization (e.g. quality of service delivery) can also affect outcomes.

All selected studies will be independently coded by two reviewers and subsequently discussed. For guidelines on coding (and extraction) the reviewers will consult Lipsey and Wilson (2001).

Statistical procedures and conventions

Data will be extracted and recorded in an excel-file by one reviewer. Subsequent data analysis will be performed in excel and SPSS or STATA.

Statistical aggregation through meta-analysis roughly depends on the following aspects:

- the number of impact studies based on randomized or quasi-experimental design that report one or more effect sizes on outcome measures as income growth;
- homogeneity in 'treatment'; or sufficient studies on impact of microcredit with similar 'treatment' characteristics; given the diversity in 'treatments' in microcredit activities (see above) grouping studies under the same type of treatment is likely to be challenging;
- homogeneity in outcome measure; or sufficient studies reporting effect sizes on the same type of outcome measures; outcome measures are likely to diverge between studies (e.g. income stabilization, income growth, consumption growth);
- homogeneity in type of target group; between studies the characteristics of clients, their enterprises and their families might differ substantially.

We expect to find a good number of (quasi-) experimental studies on microcredit. However, large heterogeneity in 'treatment', outcome measures and client characteristics might make it impossible to perform any meaningful meta-analysis.

Alternatively, we will use the realist notion of context, mechanisms and outcomes, or the CMO principle (Pawson and Tilley, 1997) as a format for synthesis. Van der Knaap et al. (2008) discuss a systematic review process which combines Campbell standards of systematic review with the CMO principle as a basis for aggregation. In other words, first high-quality and relevant studies from the population of available evidence are identified and subsequently CMO principles are applied to the selected studies. In our case, information on context, mechanism and outcomes is covered by the variables described above: treatment characteristics, client characteristics, (other) moderator variables and outcome variables.

Broadly, we will follow these steps in the synthesis process:

- second search round for specific microcredit modality and additional coding of all selected studies;
- selection of studies based on experimental and quasi-experimental designs (designs 1 and 2 in section on methods used in primary studies);
- extract relevant variables (see above);
- synthesize results using meta-analysis and/or;
- synthesize findings into a specific CMO theory (or theories) to explain under what circumstances (aspects of) microcredit leads to certain results.

If insufficient studies or information on CMO principles are found, then we will repeat the exercise with all studies of designs 1 to 4 (see section on methods used in primary studies).

In addition, we will explore alternative options for statistical analysis / aggregation. For example, we might use an aggregation procedure that builds on dichotomous and/or ordinal outcome data. In its simplest form, changes in

dependent variables will be coded as positive, not significant or negative. At the same time moderator variables will be coded and recorded. For example, effects of moderator variables might be recorded as positive or negative. We will then consider whether it might be feasible and meaningful to develop some type of regression model (e.g. logistic regression model) per type of outcome measure.

Treatment of qualitative research (see above)

4. Timeframe

Activities	Products (including dissemination)
End of February: piloting of search protocol, inclusion and exclusion criteria, and coding	
March: first search round and coding	
April: delimitation, second search round and coding	Submit draft report outline to 3IE
May: extraction of data	Present methodology and preliminary findings at the Oslo colloquium
June: synthesis analysis	
July: report writing	
July: report writing	August submit draft report to 3IE

5. Plans for updating the review

Plans for updating the database on impact studies and/or amplifying the database by including additional levels of analysis will be discussed with colleagues at the Institute of Development Policy and Management at the University of Antwerp. In addition, we will discuss the project and intermediate results with microfinance experts at the First European Research Conference on Microfinance, June 2-4. Brussels.¹³

6. Acknowledgements

We would like to thank 3IE for funding this study.

7. Statement concerning conflict of interest

The researchers involved in this study have no vested interests in the findings of this review nor any incentives to represent findings in a biased manner.

8. References

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¹³ This study will not be formally presented at this conference. However, several team members will be present at the conference and will discuss this study informally with colleagues.

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