J-PAL
ABDUL LATIF JAMEEL POVERTY ACTION LAB

CASE STUDY 2: CREDIT CONSTRAINTS AND ENTREPRENEURSHIP IN INDIA

Theory of Change and Measuring Outcomes

This case study is based on: Erica Field, Rohini Pande, John Papp and Natalia Rigol "Does the Classic Microfinance Model Discourage Entrepreneurship among the Poor? Experimental Evidence from India" *The American Economic Review* 103, no. 6 (2013): 2196-2226.

J-PAL thanks the authors for allowing us to use their paper as a teaching tool.

KEY VOCABULARY	
Hypothesis	A proposed explanation of and for the effects of a given intervention. We can think of this as a claim to be tested. Hypotheses are intended to be made prior to the implementation of the intervention. e.g. *Giving textbooks to students will improve student learning*.
Theory of Change	Describes a strategy or blueprint for achieving a given long-term goal. The theory of change identifies the preconditions, pathways, and interventions necessary for success.
Logical Framework[1]	A management tool used to facilitate the design, execution, and evaluation of an intervention. It involves identifying the inputs, outputs, outcomes, indicators and impact of an intervention. A logical framework is used to establish the causal relationships between these elements and the assumptions and risks that may influence the success and failure of the intervention.
Assumption	A precondition that underpins a theory of change or model. An assumption cannot be directly observed or verified e.g. *When students read textbooks, they learn from them*.
Input	An activity carried out as part of a program or intervention e.g. *Textbooks are given to schools*.
Output	A step in the planned implementation of a program or intervention – a.k.a. a direct result in response to the inputs e.g. *Students receive textbooks through schools*.
Outcome	A change or impact caused by the program that is being evaluated e.g. *Increase in student learning levels*.
Intermediate Outcomes	Observable changes or impacts caused by the program that are not the ultimate outcome of interest, but necessary along the way to achieving a final outcome e.g. *Increase in students who have passing test scores for the semester*.
Final Outcomes	Changes or impacts that are of ultimate interest to researchers and/or program implementers; these are often the overall goals of a program e.g. *Increase in high school graduation rates*.
Indicator	An observable metric used to measure an outcome e.g. Student test scores.
Instrument	The tool used to measure an indicator e.g. A set of test questions

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[1] These definitions of hypothesis, theory of change, and logical framework are based on those in Module 5.1: Theory of Change from Glennerster and Takavarasha's *Running Randomized Evaluations*. http://runningres.com/case-studies

To better understand measurement and the theory of change concept. Specifically, to understand the importance of theory of change in deciding what research questions to ask, what data to collect, and what outcomes to measure.

SUBJECTS COVERED

Theory of change, defining a hypothesis, selecting indicators, measuring outcomes, and measuring the impact of a program or policy.

INTRODUCTION

Credit constraints on small businesses in low and middle income countries are widely considered to represent a key factor limiting successful entrepreneurship. Credit is a vital aspect of growing economies, whether it is used to finance fixed capital (for new start-ups or the expansion of existing production lines) or to acquire working capital (to purchase raw materials or inventory used in the production of final goods). Unfortunately, the lack of well-functioning credit markets has been a widely cited phenomenon in low and middle income countries across the world.

It is possible that banks would refuse to lend to poorer customers if they observed high rates of business failures or a lack of entrepreneurial ability leading to risky or unprofitable investment choices. But there is significant evidence that entrepreneurs – in particular micro-entrepreneurs, those with less than US$1,000 in capital stock – are capable of displaying exceptionally high rates of return, up to 63 percent per year, when given grants in the form of cash or equipment[2].

So, why don't banks offer loans to small enterprises, when the expected returns are so high? First, banks lack information about the risk profile of borrowers because neither a credit history nor a record of income can be provided. It is therefore prohibitively costly for large banks to determine whether a borrower is one who is likely to default on a loan. Second, most of these small entrepreneurs lack collateral – which would insure banks against their default – because they are too poor to provide marketable assets and because the collection of assets in case of default cannot be legally enforced.

MICROFINANCE

It is in this environment that microfinance made its mark. Microcredit, or the provision of credit to the poor, has spread rapidly since its beginnings in the late 1970s. Microfinance institutions working under the "Grameen model" limit the risk of entrepreneurial lending to borrowers without collateral and credit history.

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[2] de Mel, McKenzie, and Woodruff: "Returns to Capital in Microenterprises: Evidence from a Field Experiment" *Quarterly Journal of Economics*, 123 (4), 1329-1372.

Therefore, they provide financial services in areas that regular banks do not. To this end, they adapted the structure of their debt contracts focusing on two main conditions for loans. First, unlike banks, most MFIs lend to groups rather than individuals (especially groups of women), thus giving clients an incentive to both select responsible group members and monitor each other's activities, since they all share responsibility. Secondly, MFIs rely on early initiation of repayments and frequent collection of debt; the standard microfinance contract strictly enforces repayment obligations starting a week after the loan is taken. Group liability and immediate repayment are widely accepted as key factors in limiting default, and therefore are assumed to be essential elements of microcredit contracts.

According to the Microcredit Summit Campaign (2012), the number of very poor families with a microloan has grown more than 18-fold from 7.6 million in 1997 to 137.5 million in 2010. However, evidence emerging from rigorous research suggests that MFI activity has a limited impact on the average income growth of clients and micro-entrepreneurs[3], despite concurrent evidence of relatively high returns to capital in small-scale enterprises. Why is this so?

DISCUSSION TOPIC 1

1. What are some possible contributing factors that might explain why microcredit has a limited impact on the average income growth of clients?

2. Review your list. Can you suggest interventions that might reduce or mitigate these contributing factors? What are policy options for making microcredit more profitable for entrepreneurs?

IMMEDIATE REPAYMENT OBLIGATIONS

The immediate repayment obligations of the classic microfinance contract may inhibit entrepreneurship by making high-return investments too risky. Investments that promise higher returns may require a longer time horizon before they can yield profits. Take, for example, a village clothing vendor, selling pre-made garments from the city market for a small but immediate profit. If she started to make the clothes herself then the potential returns would be much greater, but the time horizon to see these returns would be longer. In other words, the profit she makes from each garment would be higher, but it would take longer to make the clothes and therefore longer to earn back the initial investment of the sewing machine and raw fabric. If microfinance clients must start repaying their loan within two weeks of disbursal, they might be unwilling to invest in such longer-term investment opportunities, even if those opportunities are more profitable.

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[3] Banerjee, Duflo, Glennerster, and Kinnan : "The Miracle of Microfinance? Evidence from a Randomized Evaluation" NBER Working Paper N°18950, May 2013.

To evaluate this hypothesis, a research team partnered with Village Financial Services (VFS) — a MFI operating in Kolkata, India — to test the impact of offering an alternative debt contract. The microfinance clients in the program's intervention group received a contract that contained a two-month grace period before repayment began. The comparison group of clients received a contract that required them to initiate repayment two weeks after receiving their loan, as is standard practice.

(Note that we are comparing two groups of microfinance clients who received different contracts, rather than comparing program participants to non-clients.)
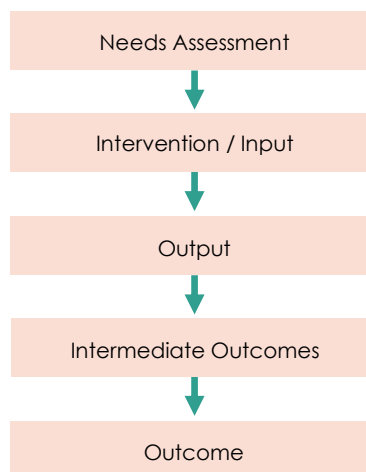
DISCUSSION TOPIC 2

1. We will now discuss how an impact evaluation of this program might be conducted. What is a hypothesis that an impact evaluation of this program would test?

   (**Reminder**: A hypothesis is an explanation of and for the desired effects of the intervention. For example, the hypothesis of a different intervention might be "*Giving textbooks to students will improve student learning.*")

2. What are the intermediate outcomes this program is seeking to change? (In other words, what are its short-term goals?) What are the final outcomes the program is seeking to change? (In other words, what are its long-term goals?)
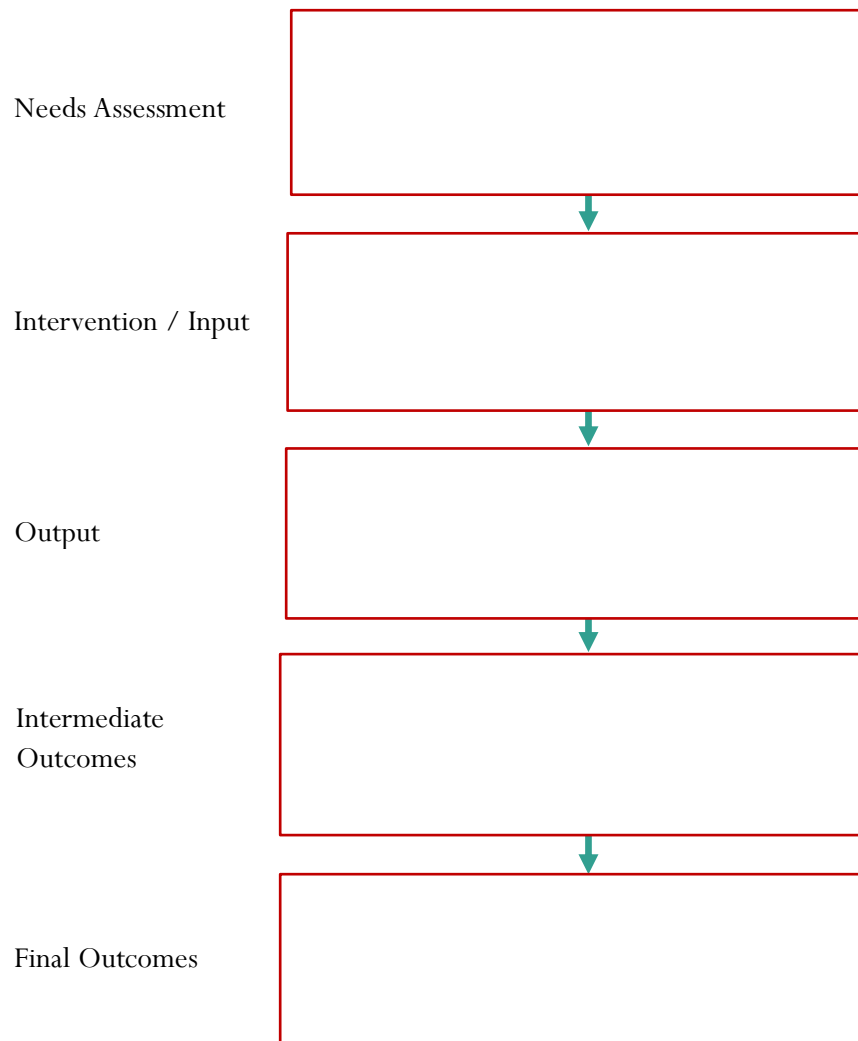
THEORY OF CHANGE

A theory of change (ToC) identifies the causal link between the intervention and the final outcome.

Needs Assessment

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Intervention / Input

↓

Output

↓

Intermediate Outcomes

↓

Outcome

DISCUSSION TOPIC 3

1. Using the table below, draw a causal chain (a theory of change) that connects the intervention to your expected intermediate and final outcomes.

Needs Assessment

Intervention / Input

Output

Intermediate Outcomes

Final Outcomes

2. What are the necessary conditions/assumptions underlying this Theory of Change? What needs to occur or be present for this chain to work?

MEASUREMENT: INDICATORS AND DATA COLLECTION

The ideal data collection plan measures indicators at every stage of the theory of change. Before deciding which data to collect, you need to:

1. Clearly define the inputs, outputs, and outcomes you are targeting
2. Identify the ways the intervention is thought to affect the outputs and outcomes

Defining a main hypothesis and theory of change at the beginning of an evaluation is a crucial step that will help you determine what data/information to collect.

For each step of the theory of change, you must identify indicators (what to measure) and instruments (tools for data collection, a.k.a. methods for measurement). If possible, you should also collect data to validate the assumptions underpinning your theory of change.

It may be more difficult to identify a good indicator for some outcomes versus others. Some indicators will also be harder or more expensive to collect information on than others. Through identifying possible indicators, you will be able to select the best and most feasible ones for your evaluation.

For every type of data and at every step of measurement, is important to consider the participants' response process and how this and other factors may affect measurement.

DISCUSSION TOPIC 4

1. Which indicators would you measure at each step of your theory of change? In other words, what are possible indicators for the inputs, outputs, intermediate outcomes, and final outcome(s)?

    a. How would you find out whether the intervention itself is operating as planned? (a.k.a. What are indicators for inputs and outputs of the program?)

    b. How would you measure intermediate outcomes as described in your theory of change? (a.k.a. What are indicators for intermediate outcomes?)

    c. What should you measure in order to assess whether the intervention has an impact? (a.k.a. What are indicators for the final outcomes?)

2. How would you collect data for these indicators?

3. What challenges might arise during the data collection and measurement processes?

INTERPRETING THE RESULTS / DISCUSSION TOPIC 5

Keep in mind when discussing the questions below that an impact evaluation is not a "thumbs up" or a "thumbs down" about a program – whatever the results are, valuable information can be gained and critical questions should continue to be asked.

1. Imagine that the study finds that there is no impact of grace period on investment or profit. How do you interpret these results? As an MFI director, how would you react to these results?

2. The real study by Field et al. found that the program raised the default rate slightly, but allowed entrepreneurs to invest more in their businesses, resulting in long term economic gains. How do you interpret these results? As an MFI director, how would you react?

REFERENCES AND FURTHER READING

Abhijit Banerjee, Dean Karlan, and Jonathan Zinman: "Six Randomized Evaluations of Microcredit: Introduction and Further Steps" *American Economic Journal: Applied Economics 2015, 7(1): 1 – 21*.

Erica Field, Rohini Pande, John Papp, and Natalia Rigol: "Does the Classic Microfinance Model Discourage Entrepreneurship among the Poor? Experimental Evidence from India" *The American Economic Review* 103, no. 6 (2013): 2196-2226.

Rachel Glennerster and Kudzai Takavarasha: *Running Randomized Evaluations: A Practical Guide*. Princeton: Princeton University Press (2013). pp. 181-183.

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