**Evidence For Policy Design**

**Case 1: Credit Constraints and Entrepreneurship in India**

**Measurement and Outcomes**

This case study is based on “Does the Classic Microfinance Model Discourage Entrepreneurship among the Poor? Experimental Evidence from India” by Erica Field, Rohini Pande, John Papp and Natalia Rigol.

We thank the authors for allowing us to use their paper as a teaching tool.



## Key Vocabulary

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| 1. **Program Theory/Theory of Change:** describes a strategy or blueprint for achieving a given long-term goal. It identifies the preconditions, pathways and interventions necessary for an initiative's success. 2. **Logical** **Framework**: a management tool used to facilitate the design, execution, and evaluation of a range of projects, including large-scale interventions. It involves identifying strategic elements (inputs, outputs, outcomes, and impacts) and their causal relationships, choosing indicators, and acknowledging the assumptions and risks that may influence the success and/or failure of the intervention. 3. **Indicators**: metrics used to quantify and measure specific short-term and long-term effects of a program. Choosing proper indicators for desired program outcomes is an important step in being able to determine the overall success of the intervention. 4. **Outputs:** what an intervention produces or provides to program participants. They are direct products of program activities/inputs and may include services delivered by the program. Outputs will be tracked through monitoring and process evaluation. 5. **Outcomes:** effects or changes that are anticipated to occur as a result of the intervention. These consequences of the intervention can be intended or unintended, positive or negative, as well as short-term or long-term. It is important to think of each type of possible outcome. |

# Introduction

**Credit Constraints & Entrepreneurship**

Credit constraints on small businesses[[1]](#footnote-1) in developing 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 developing countries across the world. Empirical studies suggest that the existence of borrowing constraints for small and medium-sized enterprises can lead to up to 60 percent losses in productivity in developing nations.[[2]](#footnote-2)

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.[[3]](#footnote-3)

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. By 2008, microfinance institutions (MFIs) had an estimated 130-190 million borrowers worldwide, and outstanding microfinance loans stood at more than $43 billion. [[4]](#footnote-4)

Microfinance institutions working under the “Grameen model” limit the risk of entrepreneurial lending to borrowers without collateral and credit history. 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, 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 enforcing fiscal discipline in clients, and therefore are assumed to be essential elements of microcredit contracts.

It is conceivable, however, that such strict repayment obligations inhibit entrepreneurship by making it impossible to use the loans for longer-term investments that are higher in return. Put differently, by encouraging less risky investment choices, immediate repayment obligations may be placing yet another credit constraint on micro-entrepreneurs.Could there be something wrong with the current delivery model of microcredit that impedes the entrepreneurial aspirations of the poor?

## Immediate Repayment Obligations

Credit constraints are assumed to be a key factor restricting small business expansion, and therefore have motivated the promotion of microcredit as a development policy. The thinking behind this is that if business growth is inhibited by the lack of credit, financial inclusion should enable the poor to create income-generating activities by engaging in micro-entrepreneurship. However, evidence emerging from rigorous research suggests that MFI activity has a limited impact on the average income growth of clients and micro-entrepreneurs,[[5]](#footnote-5) despite concurrent evidence of relatively high returns to capital in small-scale enterprises in developing countries.[[6]](#footnote-6) Why is this so? One possibility could be that the immediate repayment obligations of the classic microfinance contract – widely held as important for limiting default – 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.

## The Grace Period Intervention

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.) In this case study, we assume that the real interest rates for grace-period loan recipients and standard loan recipients are the same. The impact evaluation measures whether a grace period schedule leads to changes in the number of new businesses being launched, profits, and other outcomes such as repayment rates. We will use this intervention to guide our discussion on the initial steps in designing a program evaluation.

# Section 1: Needs Assessment

You are charged with evaluating the two-month grace period invention. The evaluation should consider all the ways in which providing a two-month grace period could change the behavior of clients. Before discussing the evaluation, we want to conduct a very basic needs assessment to ensure than the intervention has been appropriately designed.

### Discussion Questions

1. What are the pros and cons of the immediate repayment that is typically required by MFIs?

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

1. What was the main goal of implementing the grace period intervention?

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

1. Who do you expect to benefit from the grace period intervention?

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

# Section 2: The Logical Framework

When setting up an evaluation, you need to think through *all* the likely effects of the program, including the intermediate effects that will lead to your overall goal. The data that you collect will be aimed not only at providing evidence on whether the intervention was successful but also to understand *why* it was successful.

A logical framework is a tool used by organizations across the world to help inform and strengthen the design of an intervention and the associated evaluation. This process provides a structure to think about the channels through which the intervention can cause change, the proper selection of indicators to accurately measure the impact of the intervention, and the identification of possible threats to the success of the program.

Multiple impacts can be difficult to interpret so for this case we have selected one program theory hypothesis to evaluate. Specifically, let us focus on one main intended result of the intervention: increase in business profits. The hypothesis we are therefore evaluating is that participation in the grace period intervention will lead to an increase in business profits.

Note that the ultimate long-term goal of this intervention is to help MFI clients break out of the poverty cycle through the sustained higher business profits. However, for the case, we will focus on the medium-term goal of increasing business profits.

# Section 2.1: Program Theory

## Discussion Topic 1: From Input to Impact

The input is already identified for you as the grace period intervention (and the associated inputs for the MFI to offer this program). As mentioned above, we have also predefined the intended impact as “Increase in Business Profits.” We will now identify the program theory of how the program would lead to the impact.

## Discussion Topic 2: The Outputs

As defined in the key vocabulary, outputs are what an intervention produces or provides to program participants.

### Discussion Questions

1. Identify the output(s) of the project. Write the output(s) in the first empty column, third row of the logical framework.

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

## Discussion Topic 3: Outcomes

### Outcomes are effects or changes that are anticipated to occur as a result of the intervention.

### Discussion Questions

1. What is the difference between outputs and outcomes?

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

1. Work with your group to make a list of possible *outcomes* that you expect will result out of the grace period intervention.

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

1. What primary outcome is the direct result of the identified program output and would lead to our overall program impact of increasing business profits? How do you expect behavior to differ between the microfinance clients who had to repay their loans after two months and those that had to begin repaying immediately? Discuss with your group and once you have agreed on a primary outcome, record it in the logical framework in the “Outcomes” row in the “Program Theory” column.

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

# Section 2.2: Assumptions

There are a variety of underlying assumptions to the program theory that will enable the success of the program. Identifying the assumptions at each step of your program theory is a valuable way of ensuring that potential threats to the success of your program are taken into account. Gathering evidence on whether the assumptions hold is very important because it can help you understand whether the logical chain of your program theory is correct. This information can be important in knowing *why* a program worked and whether a program would have a similar impact if replicated elsewhere or at a different point in time. In other words, you would severely lessen the relevance of your study for replication and scale-up of the program if you do not carefully consider the assumptions of your program theory and whether these assumptions actually hold true.

### Discussion Questions

1. What are the specific assumptions made at each step in the program theory? Discuss and record the assumptions that are needed in order to successfully rise from each level in the logical framework’s “Assumptions” column.

Tip: Think of assumptions as threats to achieving your outcomes and ultimate impact.

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| 1  2  3  *8*  *10* |

# Section 2.3: Indicators and Data Sources

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| Example Box - High Repayment Rates– An Indicator for What Exactly? |
| The importance of identifying the correct indicators MFIs have historically reported very high rates of repayment, often greater than 95 percent.[[7]](#footnote-7) Such high repayment rates are often cited as evidence of the success and viability of making loans to the poor. Moreover, MFIs tend to make the argument that the high repayment rates indicate that people have very high returns to their loans. Discussion Questions You are told that microfinance institutions boast upwards of 95 percent repayment rates. Assume that this information is trustworthy and that repayment is measured under the same definition across the MFIs in your country.   1. What reasons could there be for MFIs to have such high repayment rates?  |  |  | | --- | --- | | 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |  |  1. Do you think that high repayments rates are a good indicator for supporting the claim that microcredit clients have very high returns to their loans?  |  |  | | --- | --- | | 1  2  3  4  5  6  7  8  9  10 |  | |

### Selecting the correct indicator

You have just created a program theory for the grace period intervention. Now that you have a visual map of the expected channels through which change will occur. We now need to determine indicators to track each step of the intervention. Take considerable care to ensure that you identify good and precise indicators. Data collected on these indicators should help you determine if each stage of the program theory actually occurred, and to what degree.

When choosing an indicator keep the following criteria in mind:

1. *The indicator must be* ***measurable*.**
2. *The indicator must be* ***observable*.**
3. *The indicator must be* ***directly related to the output/outcome***.

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.

1. Identify one or more indicators to track for the *program output(s).* Discuss the strengths and weaknesses of each indicator. When you have agreed on final indicators, record it in the “Indicator” column of the logical framework. Also, record how you would collect this data in the “Data Type and Sources” column.

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

1. Now identify one or more indicators to track the *program outcome(s)* identified in the logical framework*.* Again, discuss the strengths and weaknesses of each indicator. When you have agreed on final indicators, record it in the “Indicator” column of the logical framework. Also, record how you would collect this data in the “Data Type and Sources” column.

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| 1  2  3  *4*  *5*  *6*  *7*  *8*  *9*  *10* |

# Concluding Remarks

As you have seen through the group discussion, the logic framework is a useful tool that strengthens the design of an intervention and its associated evaluation by clarifying the cause-and-effect sequence associated with each stage of the intervention. Beyond designing a well-informed intervention, the framework can also be used to monitor the implementation of an intervention. This creates a connection between *designing* a good program and ensuring that this is the intervention that is *actually* implemented. By working through each step of the program theory, additional data can be collected to see if the intended inputs are provided and at the expected levels, if the intended outputs result from these inputs, if the outputs are provided to the correct individuals at sufficient levels to cause the desired outcomes, and if the assumptions are being met. If the data collected at any level indicates that the program theory does not hold true, then this information provides an opportunity to further strengthen the intervention design.

# Addendum: Policy Conclusions

The grace period intervention discussed in this case was a randomized evaluation conducted in Kolkata in 2008 with the results presented in the paper cited on the front page. The authors find that, three years after loan disbursal, households that received the grace period contract had nearly 58 percent higher profits and 20 percent higher incomes than households that received the regular contract. The study also revealed that it was not profitable for the MFI to offer the grace period contract option at the initial interest rate of 17.5 percent (APR) since there was a higher rate of default under this repayment scheme. With such high returns to the contract, however, it seems that VFS ought to have simply increased its interest to cover the rise in the cost of default. The question remains: Why do few MFIs include the grace period contract as part of their loan portfolio and charge a higher interest rate for this option?[[8]](#footnote-8)

To answer this question, we return to the problem of information. In particular, the authors explore whether charging a higher interest rate leads to *even higher* rates of default than those observed in the intervention. Due to randomization, riskiness is an expectation that is equal across treatment and control groups. So the default rates reflect an average level of riskiness in the two groups. If, however, clients were allowed to select which contract they preferred, then it is possible that riskier ones would shift to the grace period contract and less risky ones would shift to the regular contract period thus driving the default rates up under the more flexible repayment option. This is what is known as adverse selection. Additionally, it is possible that the higher interest rate itself may lead to higher rates of default as individuals are less cautious since they will retain a lower percentage of their earnings. This is known as moral hazard. The authors find that indeed for low levels of moral hazard and adverse selection, charging a higher interest rate would not compensate the MFI since the risk of default would also increase.

But even if it is not profitable for the MFI to offer the contract at a higher interest rate, is it possible that it would be socially beneficial to offer this contract? In other words, would everyone be better off if the government were to subsidize the MFI for its loss due to the rise in defaults thus allowing the MFI to offer a contract at the 17.5 percent interest rate and enable clients to reap the benefits of a more flexible repayment? The authors contend that, under certain assumptions, longer grace period contracts appear to improve the welfare of clients by more than the cost to the government. In fact, the Small Business Administration (SBA) in the United States allows for a grace period in its contracts, posts default rates of 11-13 percent, and is subsidized by the American government. Another option – not explored by the authors – could be to subsidize the existence of credit bureaus which would record information about borrowers and therefore alleviate the lack of knowledge that MFIs often face about their clients which force them to generally rigid repayment contracts. Understanding how to most efficiently and effectively implement the results of this study is still open to discussion but given the proven benefits of a flexible repayment contract, it is certainly a question worth exploring.

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# Logical Framework

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| --- | --- | --- | --- | --- |
|  | Section 2.1 | Section 2.3 | | Section 2.2 |
|  | **Program Theory** | **Indicators** | **Data Type and Sources** | **Assumptions** |
| Impact | *Business profits increase* |  |  |  |
| Outcomes |  |  |  |  |
| Outputs |  |  |  |  |
| Inputs | *Grace Period Intervention* |  |  |  |

1. A business is *credit constrained* if their access to the credit market implies that it cannot exploit some expected income enhancing investment. In other words, it is lacking access to credit at a reasonable interest rate even though it can expect a high return on its investment. [↑](#footnote-ref-1)
2. Hsieh and Klenow (2009). Misallocation and Manufacturing TFP in China and India. *Quarterly Journal of Economics.* [↑](#footnote-ref-2)
3. de Mel, McKenzie, and Woodruff (2008). “Returns to Capital in Microenterprises: Evidence from a Field Experiment.” *Quarterly Journal of Economics.* [↑](#footnote-ref-3)
4. Gonzalez (2010). “Is Microfinance Growing Too Fast?” *Microfinance Information Exchange MIX Data Brief No.5.* [↑](#footnote-ref-4)
5. Banerjee, Duﬂo and Kinnan (2010). “The Miracle of microfinance? Evidence from a Randomized Evaluation.” BREAD Working Paper No. 278.

   Karlan and Zinman (2009). “Expanding Credit Access: Using Randomized Supply Decisions to Estimate the Impacts.” *The Review of Financial Studies*. [↑](#footnote-ref-5)
6. de Mel, S., McKenzie, D., & Woodruff, C. (2008). “Returns to Capital in Microenterprises: Evidence from a Field Experiment.” *Quarterly Journal of Economics*, 123 (4), 1329–1372. [↑](#footnote-ref-6)
7. For example, Kiva - an internet-based organization that pairs private donors with entrepreneurs in developing countries through local MFIs - reports a default rate of only 0.2 percent (www.kiva.org/about/stats). [↑](#footnote-ref-7)
8. The MFI-transparency database for 2012 shows that only 18 out of 144 MFIs (in 15 countries) offered a contract with a length of greater than two months between disbursement and first repayment. The interest rate on these grace period contracts was higher (55% versus 48%; the average APR charged for a two-month grace period (only offered by six MFIs) is 58%). [↑](#footnote-ref-8)