



## REFLECTIONS ON METHODOLOGY

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# Choosing a Research Design

## LESSONS FROM THE GRAMEEN AMERICA FORMATIVE EVALUATION

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*This post is one in a series highlighting MDRC's methodological work. Contributors discuss the refinement and practical use of research methods being employed across our organization.*

This post discusses the process that we used to select a research design in [the evaluation of the Grameen America program](#), a microfinance model that provides loans to low-income women living in the United States who are seeking to start or expand a small business. The first step was to determine whether it was a strong enough program to study — before embarking on an impact evaluation, we need to be sure that there is something worth evaluating and that the conditions are in place to make the study feasible.<sup>1</sup> For example, in the case of Grameen America, it was important to assess whether participants were receiving loans and persisting in the program before doing an evaluation of the program's effects. Once the study's worth and feasibility were established, we used the information we had gathered to determine the most appropriate research design.

### CHOOSING A RESEARCH DESIGN

The process of choosing a research design is not always easy; each design has particular requirements. The table on page 2 lists several questions that can help guide the decision, given the context of the program and study. The answers show how the options were ruled out in the Grameen America evaluation. Working with Grameen, we considered the following research designs:

- A **longitudinal tracking study** follows study participants over time and collects data to measure their outcomes.
- **Random assignment** divides study participants into a “treatment group” (or “program group”) that is eligible to receive program services and a “control group” that is not eligible. Comparing the outcomes of the groups over time allows us to estimate the impacts of the program.
- In a **regression discontinuity** design, researchers take advantage of a threshold in the program eligibility criteria (for example, a test score or income threshold). Individuals above (or below) the threshold serve as the treatment group and individuals below (or above) the threshold serve as the comparison group. The estimated impact is defined only for individuals very close to the threshold. The validity of the design is based on the assumption that at the threshold, the design is equivalent to a random assignment design.
- **Propensity score matching** is a method for identifying a comparison group that has observed characteristics similar to those of the treatment group.
- A **comparative interrupted time series** uses longitudinal data for a treatment group and a matched comparison group to estimate the effects of an intervention. The analysis compares the two groups' deviations from their baseline trends after the intervention.

<sup>1</sup>See [Diana Epstein and Jacob Klerman](#), “When Is a Program Ready for Rigorous Impact Evaluation? The Role of a Falsifiable Logic Model,” *Evaluation Review* 36, no. 5 (2013), 375-401. [MDRC's Self-Employment Investment Demonstration](#) did this type of up-front work — often called a formative evaluation — and was one of the inspirations here.

## Choosing a Research Design in the Grameen America Formative Evaluation

QUESTION AND ANSWER	DESIGN RULED OUT				
	LONGITUDINAL TRACKING STUDY	RANDOM ASSIGNMENT	REGRESSION DISCONTINUITY	PROPENSITY SCORE MATCHING	COMPARATIVE INTERRUPTED TIME SERIES
<p><b>What is the primary research question?</b> Grameen America and the study’s funder were primarily interested in learning about the program’s effects on poverty. We felt this question could be reliably answered only through a random assignment or quasi-experimental design that included a clear “counterfactual,” or demonstration of what would occur in the absence of the program.</p>	X				
<p><b>Is random assignment feasible?</b> Yes. Although Grameen America was initially reluctant to turn away borrowers as required by a random assignment design, we believed random assignment would be feasible if it was implemented under the right conditions.</p>					
<p><b>Does the program have clear and measurable eligibility requirements that are used consistently?</b> No. Although Grameen America only serves individuals with incomes below the federal poverty line, staff members make the eligibility determination based on self-reported income and assessments that are difficult to measure.</p>			X		
<p><b>Can a valid comparison group be identified?</b> No. We estimated that the program enrolls 90 percent of applicants. Identifying a pool of individuals who are comparable to Grameen America borrowers but who did not receive a loan would be difficult given the presumed difference between borrowers and nonborrowers.</p>				X	X
<p><b>Are the key characteristics of program participants measurable?</b> No. One of the key characteristics of Grameen America borrowers — and a characteristic that is probably tied to their outcomes — is their entrepreneurial nature, which is unmeasurable.</p>				X	X
<p><b>Are historical data — preferably at four or more points in time — available for both the treatment and comparison groups?</b> No. There was no source of data from before program enrollment.</p>					X

We also found through a literature review that there is a lot of debate about the effects of microfinance. Several previous studies of microfinance programs used quasi-experimental research designs — some of which we considered — that were sensitive to statistical assumptions. Others used random assignment, but it was implemented in such a way that there were only small differences in the percentage of treatment and control group members receiving microloans (known as the “treatment contrast”), making the results ambiguous. These studies underscored the importance of using a rigorous design and ensuring that the study is set up to have a large treatment contrast.

## THE RECOMMENDATION

Given the specifics of the Grameen America program, we believed that the non-random assignment designs were not feasible and would not produce a reliable evaluation of the program’s effects on poverty. Only a random assignment study could provide enough rigor in this case.<sup>2</sup>

This recommendation came with the acknowledgment that random assignment can pose operational challenges, and it requires careful design choices. A future Reflections in Methodology post will discuss how the random assignment design was implemented and the numerous adjustments we made to fit the research within the context of the Grameen America program.

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<sup>2</sup>MDRC has used a similar research design selection process in other studies. In several cases, MDRC ended up implementing a quasi-experimental design. Future posts will describe two of these designs — comparative interrupted time series and regression discontinuity — in more detail and provide examples of how they were applied.