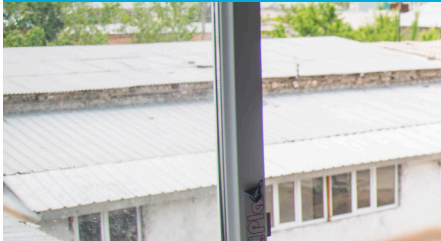




Terwilliger Center for Innovation in Shelter



Shelter Innovation Highlights

A series on building and expanding inclusive housing markets • June 2017

In brief

- Habitat for Humanity partnered with Oxfam Novib to conduct impact evaluations of microfinance initiatives with LOK Microfinance in Bosnia and Herzegovina and Enlace in El Salvador.
- The methodology, based on Oxfam Novib's rights-based poverty survey, the "World Citizens Panel," assessed the effects of the interventions based on a theory of change developed by Habitat.
- The study employed both treatment and comparison groups in order to determine the counterfactual.
- Challenges in the analysis of the projects' outcomes included the makeup of the control groups, the data included in the factual, and the domains in which impacts were assessed.

Alternatives to the RCT: Measuring impact in affordable housing programs

Introduction

A key challenge for development practitioners is assessing the impact of the programs they implement and support. In order to do this, they need to have a reasonable measure of the counterfactual – that is, what would have happened to the participants without the intervention?

In recent years, there has been increased acceptance of the need to demonstrate the effectiveness of development programming, yet rigorous scientific methods of evaluation can be problematic to implement in the field. For example, randomized control trials, or RCTs, are considered by some researchers to be the "gold standard" in assessing development interventions, but others believe that, like other methods, RCTs have strengths and weaknesses. There also are a number of challenges in carrying out RCTs. RCTs can be expensive and time-consuming, as they involve large sample sizes that must be followed over a significant period to assess results. They can also involve ethical and logistical issues related to preventing the control group from accessing the treatment.¹ Some economists have expressed concerns that RCTs are not the magic tool they are often seen to be; issues related to reliability, to determining causality and to generalizability remain.²

To study the effects of their work while avoiding some of these potential pitfalls, some organizations have used alternative methods of designing impact evaluations, including the use of secondary data, matching, phased implementation of projects, and retrospective questions to compare the outcomes of their interventions with a counterfactual scenario. This brief introduces the methodology used by Habitat for Humanity's Terwilliger Center for Innovation in Shelter in partnership with Oxfam Novib to assess two housing finance initiatives: one in Bosnia and Herzegovina and the other in El Salvador.

Project

The Terwilliger Center selected two microfinance institutions to which it has provided advisory services in designing and implementing housing microfinance products with nonfinancial construction technical services to be participants in an impact study to measure the effects of the products and services on their housing microfinance clients. One of the financial institutions, LOK MCF, is located in Bosnia and Herzegovina, and the other, Enlace, is located in El Salvador.^{3,4} The Terwilliger Center appointed Oxfam Novib to design the impact study based

on its previous experience with conducting impact studies for international development programs.

IMPACT STUDY METHODOLOGY

Purpose and research questions

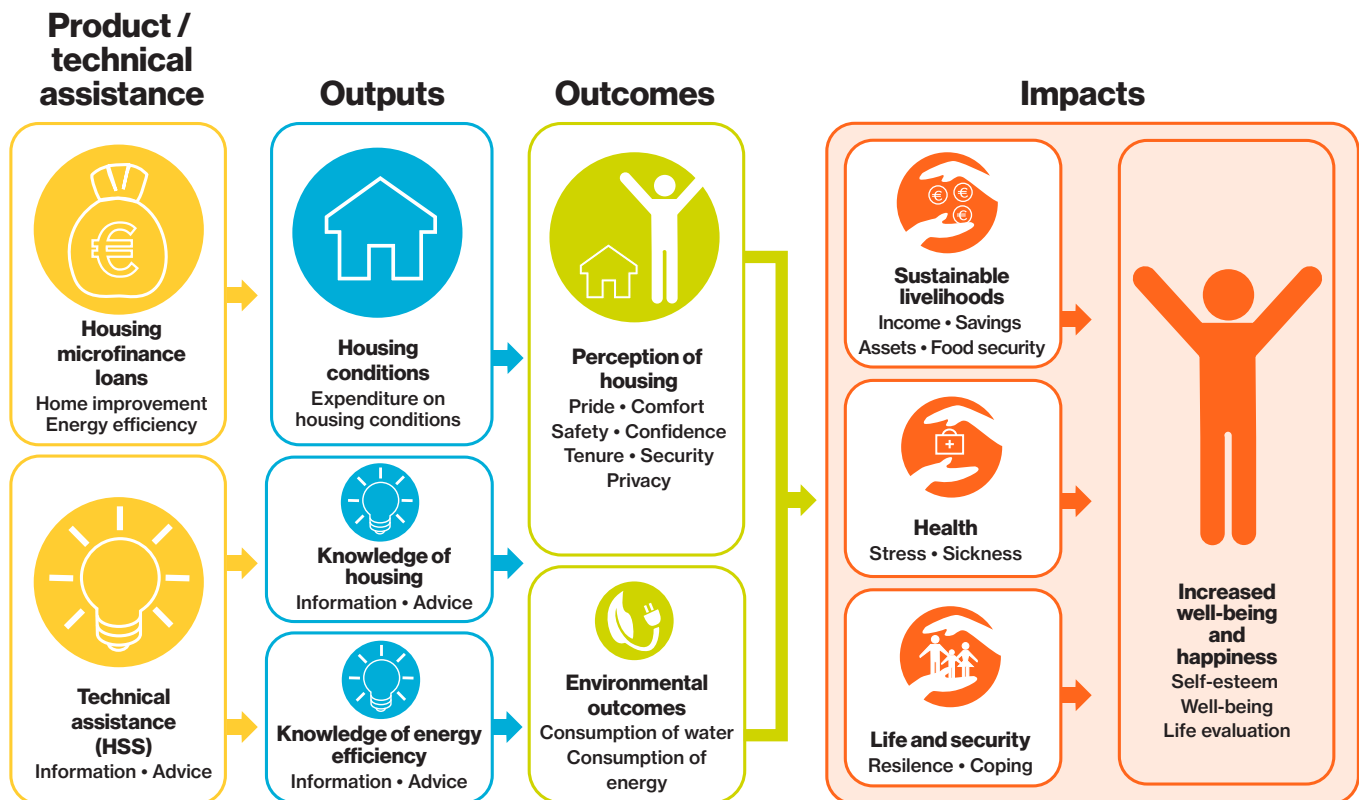
In both Bosnia and Herzegovina and El Salvador, the Terwilliger Center sought to measure achieved changes in the lives of housing microfinance clients. The central research questions were:

What is the social impact, at the client level, of:

- *The housing products and construction technical assistance provided by LOK MCF?*
- *The housing products provided by Enlace?*

To determine the expected impacts to be measured, the Terwilliger Center developed a theory of change, which explicitly stated the assumptions that the organization had about the expected results. The theory of change used in the LOK impact evaluation can be seen in Figure 1.

Figure 1: Theory of change used in the LOK impact evaluation



Sample

Sample sizes were 408 in the Enlace study and 501 in the LOK study. Each sample was divided into a target group and a control group that were compared to assess the impacts of the loans. Sizes of the target and control groups were 251 and 250, respectively, for LOK, and 251 and 157 for Enlace. A breakdown of 250-250 for the target and control groups was found to be appropriate to find significant results. Participants were chosen using a simple random sampling.

In both studies, the target groups were made up of individuals who received a loan in 2011. The control groups for the two studies were made up slightly differently but followed the same principles: The Enlace control group was made up of clients on the waiting list to receive a loan in 2015, while at LOK, the control consisted of clients who had received a loan no longer than six months before the study was implemented. The requirements to qualify for the loans were identical in 2011 and in 2014, when the studies were implemented. Structuring the target and controls in this way helped to ensure that, if a selection bias existed toward people who are more interested in housing loans, it would be consistent for both the target and control groups.

The sample also included those who had dropped out and were no longer active clients, either because they had repaid the loan or because they had defaulted and been removed. These clients were included for two reasons: 1) because they would presumably be affected differently by the loan, and 2) to account for potential future dropouts in the control groups.

Data collection tools

The survey was adapted from Oxfam Novib's rights-based poverty survey, the "World Citizens Panel."^{6,7} The panel employs a multidimensional impact approach, which assumes that factors beyond income play a role in determining poverty. It considers both economic and social dimensions of poverty.⁵ The survey took the form of a multiple choice questionnaire, which asked respondents to rate and comment on various aspects of their livelihoods.

Questions from the overall panel were selected to measure the expected outputs, outcomes and impacts of the loan products for participating households based on Habitat's

Key terms

Sample: A finite part of a statistical population whose properties are studied to gain information about the whole.

Generalizability: The degree to which the results of a study based on a sample can be said to represent the results that would be obtained from the entire population from which the sample was drawn.

Treatment group: The portion of the sample that receives the intervention.

Control group: The portion of the sample that does not receive the intervention.

Counterfactual: A measure of what would have happened to beneficiaries in the absence of the intervention.

Selection bias: The selection of subjects in such a way that proper randomization is not achieved, thus the sample obtained is not representative of the population intended to be analyzed.

theory of change. The questions focused on changes in housing conditions and clients' knowledge about their housing (the expected outputs), changes in perception of housing and energy/water consumption (the expected outcomes), and changes in livelihoods, health, security, empowerment, and perceptions of overall well-being and happiness (the expected impacts). Some survey questions were altered to better suit the contexts in which the studies were conducted.

Data collection methods

Data were collected for the Enlace study by local Habitat for Humanity International volunteers and for the LOK study by loan officers. This provided an advantage in that the data collectors spoke the local language and had an understanding of local contextual factors. A smartphone application was developed to assist in data collection, and those collecting the data were trained by a local consultant and received a manual that included explanatory notes and instructions for each question in the survey.

Data analysis and synthesis

Before analyzing the data, the researchers conducted a quality check by cross-checking respondents' answers to ensure that they were realistic when compared with their answers to other questions. In the case of an unrealistic answer (e.g., the number of people working in the household is higher than the total number of people in the household), the answer was not included in the analysis.

The researchers aggregated some of the data in order to create more meaningful variables. The statistical program STATA 13 was used to make the calculations. The researchers also used propensity score matching to calculate impact and to account for some differences in the demographics of the target and control groups.

Ethical considerations

Researchers emphasized to respondents that their participation was completely voluntary, and reserve sample lists were available to account for those who opted not to participate. All respondents were guaranteed anonymity. Furthermore, the structure of the control groups in these studies avoided the ethical dilemmas involved in denying service to some participants in order to measure the counterfactual.

Limitations

Issues of reliability:

The studies used the recall method in order to establish a baseline, and they considered only a small number of indicators. Because the method relies on the memories of respondents, it can sometimes provide unreliable information. For future studies of this type, the number of indicators should be strengthened, and the data obtained should be triangulated with additional client data from the institutions.

Additionally, in the LOK study, those collecting the data (the loan officers) were affiliated with the study's implementers. While this offers some benefit, as they are familiar with the local context and with the product being evaluated, it also might lead respondents to provide more positive feedback in hopes of pleasing the institution. The study sought to mitigate this risk by assigning loan officers to collect data only from outside their usual areas and by

Examples of survey questions

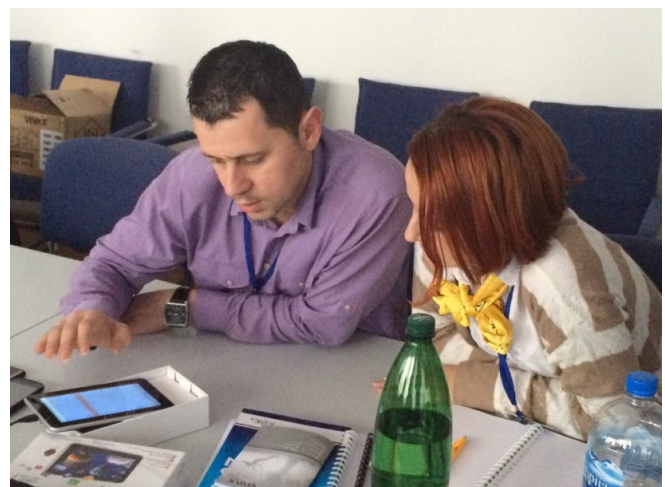
Did the energy consumption of your house change over the past 12 months?

Below are six statements about your housing with which you may agree or disagree. Please be open and honest in your response.

- I feel confident in my house.
- I have enough privacy in my house.
- I have a beautiful house.
- I have enough space in my house.
- I feel safe at my house.
- I feel proud about my house.

In the past three months, how many household members were unable to participate in normal daily activities because of illness (including yourself)?

In the past 12 months, has there been any change in the total value of the combined savings of all members of your household?



Researchers practice using the mobile data collection tools during a training session.

having the local consultant conduct quality checks of the data.

Control group:

Enlace's control group was made up of clients on the waiting list to receive a housing loan, which controlled for some unobserved bias (e.g., interest in housing loans), but, because of practical considerations, the waiting list also included some candidates whose loan applications would ultimately not be accepted. Enlace estimated that approximately 80 percent of the waiting list would ultimately receive the housing loan.

In the LOK study, it was not possible to use future clients (i.e., those on the waiting list) as a control group because of LOK's quick loan processing time and short waiting list. As a result, clients who had recently received a loan (within the past six months) were included in the control group. Thus, in this case, the control group had already received the loan and associated technical assistance and may already be achieving some of the outputs and outcomes outlined in the theory of change.

Although this made it difficult to measure differences in short-term outcomes, the researchers still expected to be able to measure differences in the impacts, which were viewed as occurring over the long term and were not expected to have affected the control group at the time of the study.

Factual:

Another limitation of the current studies is that the initial factual data collected about respondents was limited to the fact that they were clients who had received (or would soon receive) a housing loan. Future studies could be strengthened by incorporating additional client data from the institutions, along with additional qualitative observational data. Including this data would help the

studies target their analysis on areas of impact that relate specifically to each client's situation, rather than assuming similar impacts for all members of the target group. This would help to prevent impacts of the home improvement loans from being obscured, since the impacts are likely to be modest, and since respondents are likely to be affected by high levels of outside stressors in their daily lives.

Propensity score matching

Propensity score matching aims to correct for potential bias that occurs when conducting observational studies, which, unlike experimental studies, do not include a means of maintaining an identical control group. The method involves matching units from the treatment and comparison groups based on similarities in observable characteristics in order to control for potential biases in the observed impact of the treatment. The impact of the intervention can then be assessed based on the average difference in outcomes between the two groups.

In the case of the Habitat study, subjects from the treatment and comparison groups were matched based on sex, location, age, level of education, marital status, ethnicity, regional office and household size.

For additional information regarding propensity score matching, the Inter-American Development Bank has published a useful document that can be found at idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35320229.

Conclusions

Overall, despite the limitations outlined above, the method yielded useful information about the housing loan programs the Terwilliger Center had designed with Enlace and LOK, and was conducted with reasonable reliability and with much less expense than a randomized control trial. The methods and tools used to conduct the impact studies, along with the lessons learned through implementation, may offer valuable guidance and insights for development practitioners at Habitat and elsewhere, and could be applied to study the impacts of a variety of development initiatives.

Impact evaluations should also produce findings that are helpful for those designing the products and running the program. For example, after the study in Bosnia and Herzegovina, LOK is partnering with the Terwilliger Center to collect additional counterfactual data from new clients during spring 2016, with the aim of strengthening some of the findings from this study. This counterfactual study also could be used as a baseline measure for future studies of the impacts of LOK's products. Going forward, Enlace might choose to ask additional questions about the study's finding that clients in the target group were more likely to skip meals because of insufficient funds, and might propose additional investigation to find the reasons for this outcome in order to address it. To read the findings of the LOK and Enlace impact studies, please visit habitat.org/impact/our-work/terwilliger-center-innovation-in-shelter/publications-videos.

About Habitat's Terwilliger Center for Innovation in Shelter

The Terwilliger Center works to enhance the supply and demand sides of housing market systems through a two-pronged approach: Mobilize the flow of capital to the housing sector and serve as facilitator and adviser to market actors. In addition, the center advances the knowledge around housing markets by conducting research studies, creating publications, developing tool kits and scheduling public appearances that foster impact in the sector.

For more information, please visit habitat.org/TCIS.

Acknowledgments

The Terwilliger Center for Innovation in Shelter would like to acknowledge the collaboration and commitment of Enlace and LOK MCF to conduct the impact evaluations of their housing microfinance products. The Terwilliger Center for Innovation in Shelter also acknowledges the expertise of Oxfam Novib in assessing the impacts of the programs using its unique, rights-based assessment tool, the "World Citizens Panel."

Endnotes:

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This document was produced by Habitat for Humanity's Terwilliger Center for Innovation in Shelter.

- Writer: Brooke Estes
- Editors: Sheldon Yoder and Sandra Prieto
- Contributor: Dan Simpson

