3ie Replication Programme

Programme Description

February 9, 2012, Revised January 7, 2015, Revised June 7, 2016, Revised November 17, 2016, Revised March 13, 2017

Background

The International Initiative for Impact Evaluation (3ie) seeks to improve the lives of poor people in low- and middle-income countries by providing and summarizing evidence about which development interventions work, when, why, and for how much. In addition to providing and summarizing such evidence, 3ie seeks to improve the quality and reliability of evidence that is produced and used for development policy making. To this end, 3ie established the Replication Programme for impact evaluations of development policies and programmes.

The scientific method has always emphasized the importance of replication, and very few researchers will deny the benefits—both direct and indirect—of replication to the search for knowledge through data analysis. The benefits to individual researchers from conducting replications have been limited, however, except in those few cases where the replication gains a high profile by uncovering major faults in a highly influential or widely cited study. Few journals have a policy that encourages the submission of replications.

3ie's replication programme is designed to increase the conduct of internal replication studies, specifically of impact evaluations of development programmes. In order to mitigate the incentive to replicate studies only to expose mistakes, the 3ie replication programme provides incentives for replication by funding researchers to undertake replications and publishing the completed replications through the 3ie website and working paper series.

3ie defines internal replication as the re-analysis of the original data and, in some cases, the validation of the data analysis by using different data sources for the same population. The 3ie programme does not include external replication—replications of interventions in different settings to assess the external validity of an impact evaluation of a particular intervention. Please see "Quality evidence for policymaking: I'll believe it when I see the replication" for additional information.

Objectives

The primary objective of the replication programme is to improve the quality of evidence available for development policy making and programme design. For impact evaluations that have valid and robust findings, the replication programme will lend additional credibility to these findings for use in policy making. For impact evaluations that have invalid or non-robust findings, the replication programme will help to encourage further analysis before the evidence influences policy. More specifically, the replication programme seeks to:

- Verify the findings, and examine the robustness of findings, in selected influential, innovative, or counterintuitive impact evaluations of development interventions;
- Improve the incentives of researchers to conduct careful and responsible data analysis.

Additional advantages of the programme include:

- Increasing the incentives of researchers to maintain transparent databases, codebooks, transformation files, and statistical analysis files;
- Encouraging further analysis of existing datasets;
- Providing research consulting opportunities for researchers interested in impact evaluation of development programmes.

Programme features

This document outlines the features of the programme for the replication of published studies.

Candidate studies list

Candidate studies for replication must be impact evaluations of social and economic development programmes in low- and/or middle-income countries. According to the [3ie Principles for Impact Evaluation](#), high-quality impact evaluations measure the net change in outcomes amongst a particular group, or groups, of people that can be attributed to a specific programme using the best methodology available, feasible and appropriate to the evaluation question(s) being investigated and to the specific context. Social and economic development programmes have, as their primary purpose, the improvement of a population's quality of life, whether they are financed by public agencies, NGOs, or private institutions; for example programmes aimed at improving health, education, employment, access to credit, infrastructure, and reducing income-poverty.

Depending on the replication window, the candidate studies list is developed in a number of ways. In some instances, donors request the studies they rely on most for policy making decisions to be replicated. Other times donors are interested in replication studies within a specific field of interest. In other instances, 3ie develops the candidate studies list based on a crowdsourcing effort with policymakers, researchers, and development professionals. In these instances, anyone may submit suggestions for the candidate studies list.

When applicable, the candidate studies list is published on the replication programme page of the 3ie website. As studies are selected for replication, they are moved to the replications list. The replications list includes all studies selected for replication along with the status of the replication updated regularly. The status section will include notation for when replications cannot be conducted due to the unavailability of the data or computer codes.

All final replication reports will be considered for posting in 3ie's [Replication Paper Series](#) (RPS). Original authors will be given the opportunity to reply to any papers chosen for posting in RPS.

Communication and notification policy

Due to the sensitive nature of replication research, it is important to conduct these studies in an open and constructive manner. A key aspect of 3ie's replication programme is the [Replication Notification and Communication Policy](#). All 3ie-funded studies must follow this policy, which sets 3ie's expectations around results sharing, results presentations, and language within the replication study.

Replication process

3ie-funded replication studies follow a set of processes designed to encourage a collaborative and supportive environment for replication research. While the Replication Notification and Communications Policy describes much of the replication researcher requirements, 3ie also employs an extensive review process for all of the studies. 3ie's replication process is separated into: the replication plan, the push button replication, the pure replication, the draft final replication report (DFRR), the revised final replication study, and the replication paper series.

The replication plan ensures that replication researchers adhere to a pre-specified set of robustness checks. While researchers sometimes deviate from these plans, posting the plans to 3ie's website ensures those deviations must be explained. Internal and external reviewers comment on the initial replication plan. An internal reviewer and External Project Advisor (EPA) review one replication study throughout the life of the research. The internal reviewer, EPA and applicant scorers all submit comments for incorporation in the replication plan. Original authors are invited to submit comments on the initial replication plan. However, they are not considered to be referees and their comments do not need to be incorporated into the revised replication plan. Those comments must be received by 3ie within four weeks of receipt of the initial replication plan for guaranteed consideration. Ultimately, the internal reviewer decides on the comments to be sent to the researchers. 3ie requires replication researchers to address these comments before resubmitting their final replication plan for review and, upon approval, posting to the website.

Push button replication represents the first step in the replication process. During this process, replication researchers confirm the validity of published results by running the existing code on the original data. All push button replication reports are internally reviewed. Upon approval of the pure and push button replication reports, they are sent to the original authors for their optional comments. Push button replication reports will ultimately be posted on 3ie's website and some will be included on the Open Science Framework platform. More information can be found in 3ie's [Push Button Replication project document](#).

Due to the sensitive nature of replication work 3ie considers the pure replication, where replication researchers attempt to reproduce the original results using the same data and methodology, to be particularly important. 3ie requires replication researchers to share their pure replication results with the original authors and 3ie. 3ie also requires that there be a clear demarcation between the push-button replication and pure replication. This initial study report is reviewed internally and externally.

3ie also invites original authors to provide comments to the replication researchers, with the two research teams encouraged to openly discuss the work. 3ie considers the pure replication to be part of the replication researchers' work, so they ultimately decide what comments to incorporate from any discussions with the original authors.

After replication researchers complete their pure replication and robustness checks, they submit their draft final replication report (DFRR) to 3ie. Replication researchers must submit a DFRR with clear and separate sections on the push button replication, pure replication, measurement & estimation analyses, and theory of change analyses. 3ie gathers internal comments on the DFRR from 3ie staff. Additionally, 3ie solicits external DFRR comments from both the EPA and an additional external referee.

When internal and external reviewers agree that the replication researchers have adequately incorporated DFRR comments, the paper is reviewed for inclusion in RPS. If the RPS managing editor determines the paper meets the minimum quality requirements, 3ie sends the replication paper out for copy editing along with optional original author response. Original author responses that arrive within 45 days of notification will be posted simultaneously with the replication paper in RPS. Original authors are welcome to write a response at any point for review by RPS staff and inclusion in the RPS.

Replication contracts

The contracts for replication studies are fixed-price contracts. 3ie disburses funds based on replication researchers meeting the five deliverables in the replication process. 3ie's replication programme requires supporting budgets at the proposal stage to ensure that the fixed-price charged for the goods and services is justified based on the qualifications of the researcher(s) and the scope of the replication study. 3ie recognizes that the nature of research is such that the actual time spent may turn out to be less than or greater than the amount stated in the proposal budget. What we monitor is the quality of goods and services provided for the fixed price.