Field Experiments  
[Randomized Controlled Evaluations in Economics]

MF 1.00-3.30pm, W 8.30-9.30am  
Summer 2016

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Course Description

This course is thought for doctoral students who want to learn how to design and run field experiments. It introduces the concept of field experiment as a research methodology, with the main goal of providing students with practical and technical skills to design and implement their own field experiments.

The course provides historical background, it discusses the use of field experiments to test theory as opposed to as impact evaluation tool, and it highlights advantages and main drawbacks of the use of field experiments compared to other methodologies. It also describes the time-horizon of an experiment, from finding the right research question to writing an academic paper. We will discuss in practice how to randomize, run power calculations, piloting, and analyze the data collected in the field. We will talk about finding implementing partners, getting ethical approval, and all possible associated pitfalls.

The course is mainly based on in-depth reading of research articles and other practical material on experiments. We will read about examples (depending on students’ interest) of how field experiments are designed, implemented and analyzed. The course also facilitates students’ presentations of their own research ideas.

The course assignments will be a short proposal outlining the theory, design, and proposed analysis for the field experiment, and a presentation.

Presentation Guidelines: Each student will be expected to make a presentation on his/her proposed field experiment. The presentation should include information on hypotheses being tested, context, preliminary data (if applicable) and experimental design. Presentations can be on projects at any stage. The presentation should be approximately 10-15 minutes, with an additional 5-10 minutes for questions and feedback. Student presentations will be scheduled in the last class.

Proposal Guidelines: The proposal should be about 2-3 pages, and due the last day of class. It will build on the assignments due during the course and the presentation above and should include an emphasis on motivation, theory tested, and experimental design.
Main References (for the entire course):


- Glennester and Takavarasha (2013), Running randomized evaluations a practical guide, book or website http://runningres.com/

Week 1

1. Monday 25th July

Session 1: Why do field experiments?

In this class, we discuss the evolution of field experiments as policy evaluation tools and as a methodology for testing economic theory, describing the history of field experiments. We also discuss which are the main reasons to randomize, which are the main type of experiments implemented, and about the main challenges of carrying out a randomized experiment in the field. Examples are drawn from main welfare programs in US and anti-poverty programs in low-income countries.

Main readings


*Glennester and Takavarasha, Running randomized evaluations a practical guide Chapter 1 -2 -3 (The experimental approach, why to randomize, asking the right questions)

Extra References


Methods


Lab experiments vs field experiments:


2. Wednesday 27th July

Session 2: Anatomy of a Field Experiment: Generating a Hypothesis, Designing a Treatment, and Convincing Practitioners

In this class, we will discuss the time horizon of a field experiment, from conception to implementation to results. This will include:

• Using qualitative work to find and develop testable hypotheses
• Finding field partners
• Convincing and training practitioners within the partner institution
• Keeping the field partner from bailing/not following the randomization
• Pilot testing
• Implementation
• Data analysis
• Disseminating results

Main readings


Extra References


Assignment 1: Write a half page summary of the field experiment you would like to base the class around. Include information on the hypotheses you want to test, the context, and potential partners. Due: Monday August 1st. Send by email or bring in class.

3. Friday 29th July

Session 3: What can field experiments tell us about the real world? Designing Field Experiments to test theory and have external validity.

This lecture will discuss the main critiques to experiments.

Main readings

Critiques and Responses on Field Experiment Methodology


Learning From Field Experiments


Extra References


WEEK 2

4. Monday 1st August

Session 4: Policy Field Experiments vs Testing theory

This lecture will discuss when to use RCTs for policy evaluation and when we test theory from running an experiment. It will also touch base on using experiments vs using structural models to provide policy implications. Evidence is drawn from social protection programs.

Main readings


Extra References


Handbook of Field Experiments (2016) Decision Theoretic Approaches to Experiment Design and External Validity Sylvain Chassang, Abhijit Banerjee and Erik Snowberg
5. Wednesday 3rd August

Session 5: Qualitative Methods

We will discuss about focus group discussions: when qualitative data collection might be necessary, the purposes, methodology and how practically to conduct them.

Main readings


Session 6: Ethics of Randomization and Human Subjects Review

We will also discuss how to get ethical clearance to running a RCT, both from researcher’s university and locally, and which practical problems you may encounter. We will discuss in details informed consent as well.

Main readings


Review:

Assignment 2: Prepare focus group questions to address elements of your research that will be hard to capture through quantitative data. Describe the protocol you would use to collect the qualitative data. Due Friday 5th August. Send by email or bring in class.

6. Friday 5th August

Session 7: Experiment Mechanics: How to Actually Randomize, Measurement of Outcomes, and Power and Sample Size

In this class, we will discuss:
1. How to randomize (which opportunities to take, the level of randomization, which aspects of the program to randomize, and different standard RCT designs)
2. How to design appropriate and innovative behavioral indicators to measure the outcomes of field experiments, and how to design household surveys, when they are necessary.
3. How to do sample size and power calculations [We will be using Stata and/or the software Optimal Design]

**Main readings**

*Handbook of Field Experiments (2016) The Econometrics of Randomized Experiments Guido Imbens and Susan Athey

*Glennester and Takavarasha, Running randomized evaluations a practical guide: Chapter 4-5-6 (Randomizing, Outcomes and Instruments, Statistical Power)


**Extra references**

*Designing Behavioral Indicators and Survey Questions:*


Assignment 3: Calculate sample size needed to detect sizable effects. Submit Stata code, and describe in a short paragraph the rational for your chosen strategy. Due Monday 8th. Send by email or bring in class.

**Week 3**

7. Monday 8th August

Session 8: Methodological Considerations and Threats
This section will discuss methodological concerns when running RCTs, and the main threats to the validity of the results (compliance, attrition, spillovers and evaluation-driven effects).

**Main readings**

*Handbook of Field Experiments (2016) The Econometrics of Randomized Experiments Guido Imbens and Susan Athey


*Glennester and Takavarasha, Running randomized evaluations a practical guide: Chapter 7 (Threats)

*Angelucci, Manuela and Vincenzo Di Maro. “Program Evaluation and Spillover Effects.”

8. Wednesday 10th August

**Session 9: Analysis and Policy Implications**

This section will discuss how to analyze the data collected through the RCT, how to draft a Pre-Analysis Plan, how to evaluate and share results especially with policy makers. We will also touch base on how to draw policy lessons from experimental research.

**Main readings**

*Glennester and Takavarasha, Running randomized evaluations a practical guide: Chapter 8 and 9 (Analysis, Policy Implications)

**Review:**

- Pre-Analysis Plan (PAP) example

**Other References**

Assignment 4: Submit 2-3 pages proposal developed over the course. This should include: research question, testable hypothesis (and mechanisms), description of FGDs, experimental design, power and sample size calculations, list of data you would like to collect, 3 main potential pitfalls in your study.

Assignment 5: Prepare a short presentation.

READING ABOUT RCTS...

http://blogs.worldbank.org/impactevaluations/

http://runningres.com/blog/

https://www.povertyactionlab.org/

http://www.poverty-action.org/blog